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THE ROLE OF SELF- AND FUNCTIONAL CONGRUITY ON ONLINE RETAIL PATRONAGE BEHAVIOR

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Minsung Kim
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DEDICATION

This dissertation is dedicated to

Joong-Chul Kim & Jung-Hee Jee

and

My Andy

ABSTRACT

Three research objectives were determined for this study. The first objective was to explore online store image using both qualitative and quantitative methods to compare traditional store image dimensions and online store image dimensions. The second objective was to explore the relationships among self-congruity, functional congruity, online retail patronage behavior, and the possible moderators between to two types of congruity and online retail patronage behavior. The last objective was to compare the observed relationships based on the second objective between two types of online retailers: General merchandise online retailers vs. Specialty online retailers.

To collect the data, in-depth interviews as well as an extensive online survey was performed. The data were analyzed through a confirmatory factor analysis and a path analysis.

Findings revealed that online store image was defined as six underlying dimensions: Purchase Process and Reliability, Depth and Width of Site Attraction, Cost and Time of Delivery, Price Competitiveness and Communication, Product and Information Availability, and Post-purchase Services. The significant relationships between two types of congruity and online retail patronage behavior were found. First, Self-congruity positively influenced online retail patronage behavior to a slight degree. Conversely, Functional congruity positively influenced online retail patronage behavior to a stronger degree. Consumers' prior online shopping experience was identified as a moderator, such that consumers with higher prior experience used both functional and self related attributes to decide their online retail patronage behavior. Consumers with lower prior experience used mainly functional attributes to decide the online retail patronage behavior. Managerial and academic implications and future research directions based on the findings were offered.

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CHAPTER I

INTRODUCTION

When there is a dramatic change in the way of doing business, the first question that arises is whether traditional operations will still work. As a way of answering the question, numerous theories or business models are tested relative to the change, so that more efficient and fully adapted theories are born.

Today, a new technology is challenging the fundamental basis of traditional retailing. As newly designed terms such as 'one-to-one' marketing, 'customer centric,' or 'cyberconsumers' (Wind and Mahajan, 2001) reflect, the Internet is transforming not only the nature of consumer behavior but also the retail practice of interacting with consumers. Based on this revolutionary change, the examination of consumer online retail patronage behavior is a timely subject for the following reasons. First of all, consumer retail patronage behavior has been an ultimate question for retail practitioners and academics. Therefore, taking a closer look at online consumers' patronage behavior must be a first step toward building an integrated retail patronage model, necessary because of the changes in the retail landscape. In addition, a retail patronage model incorporates a wide variety of retail environment cues as antecedent variables. The online retail environment brings into question the applicability of existing antecedent variables in retail patronage behavior models. Identifying an appropriate set of variables is essential for building an online retail patronage model, and moreover for building an

online and offline integrated retail patronage model. In this regard, this study examines the validity of an existing retail patronage behavior model in the online environment and focuses on the relationship between consumer self-concept and store image and its effect on consumers' retail patronage intention.

Store image is one of the major factors explaining consumers' retail patronage behavior. Work by Martineau in 1958, titled 'The Personality of the Retail Store,' started this area of inquiry. Even though this pioneering study of 'store image' was limited in conceptualization and methodology, it articulated how store image (store personality) plays a role in a successful retail store and introduced the multi-dimensionality of store image. Numerous studies have supported Martineau's point of view: store image conceptualization and the underlying dimensions (Kunkel and Berry 1968; Berry 1969; Lindquist 1974; Oxenfeldt 1974; Mazursky and Jacoby 1986; Keaveney and Hunt 1992), store image differentiation across various types of retail establishments and product class (Doyle and Fenwick 1974; Hirschman, Greenberg, and Robertson 1978; Cardozo 1974), and methodological refinement (McDougall and Fry 1974; Singson 1975; Hawkins, Albaum, and Best 1975; James, Durand and Dreves 1976; Jain and Etgar 1976; Dickson and Albaum 1977; Zimmer and Golden 1988; Steenkamp and Wedel 1991; Wong and Teas 2001). However, the important role of 'store image' in retail studies can be confirmed not only in the productivity of those studies, but also in its causal relationship to a wide array of research issues, such as consumer satisfaction and loyalty, market segmentation, and consumers' retail patronage behavior (Pathak, Crissy, and Sweitzer 1974; Reynolds, Darden, and Martin 1974). As reflected in abundant studies, 'store

image' has been conceptualized, measured, and suggested as having a relationship to other constructs in retailing for over forty years.

Consumer self-concept or self-image has been addressed as another predictor of consumers' retail patronage behavior. Self-concept has been found predominantly in the field of psychology until Tucker (1957, p.139) addressed product symbolism as follows:

> There has long been an implicit concept that consumers can be defined in terms of either the products they acquire or use, or in terms of the meanings products have for them or their attitudes towards products.

Ever since self-concept has been applied to consumer behavior, researchers have agreed on the definition of the construct of "self-concept" or "self-image" as the "totality of the individual's thoughts and feelings having reference to himself as an object" (Rosenberg, 1979, p.7). The conceptualization of self-concept, however, had been under multiple examinations. Some researchers have treated self-concept as a single variable and labeled it as "actual self," "real self," "basic self," or "extant self" to denote that self-concept is the perception of oneself (Bellenger, Steinberg, and Stanton 1976; Birdwell 1968; Green, Maheshwari, and Rao 1969; Grubb and Hupp 1968; Grubb and Stern 1971). Later, "self-concept" adopted multi-dimensional characteristics and has been conceptualized as having two components, the actual self-concept and ideal self-concept, where ideal self-concept is defined as the image of oneself that one would like to see (Belch and Landon 1977; Dolich, 1969). Beyond the two-dimensional conceptualization, Sirgy (1982) referred to actual self-image, ideal self-image, social self-image, and ideal social self-image, where the social self-image is defined as the image that one believes

others hold and the ideal social self-image denotes the image that one would like others to hold.

Even though the interdisciplinary aspect of self-concept research has had a wide variety of application in areas such as socio-psychology, there has been a major research stream explaining consumers' product choice as a function of self-concept and product-image congruity. Four types of congruity have been identified, using the four dimensions of self-concept, including actual self-concept/product-image congruity, ideal self-concept/product-image congruity, social self-concept/product-image congruity and ideal social self-concept/product-image congruity, only the first two types of congruity, actual self-concept/product-image congruity and ideal self-concept/product-image congruity showed a strong relationship toward consumer product choice (i.e. product preference, purchase intention, and/or product usage, ownership, or loyalty) (Bellenger, Steinberg, and Stanton 1976; Birdwell 1968; Dolich, 1969; Green, Maheshwari, and Rao 1969; Grubb and Hupp 1968; Grubb and Stern 1971; Belch and Landon 1977; Sirgy, 1982). The two types congruity involving social self and ideal social self, however, have only been supported moderately in the relationship between self-concept/product-image congruity and consumer choice (Maheshwari 1974; Samli and Sirgy, 1981).

The concept of functional congruity, which is defined as the perceived utilitarian aspects of the store in reference to some ideal aspects, was introduced by the need for a distinction from self-congruity by Sirgy and Johar (1985). Whereas self-congruity is mainly based on the notion of the cognitive matching between value-expressive (or hedonic) attributes of a given product (brand or store) and consumer self-concept, functional congruity is based on the assumption that consumers use utilitarian evaluative

criteria (attributes) for their consequent behavior (e.g. product brand or store preference or attitude formation). Thus, functional congruity as well as self-congruity was suggested as significant predictors for product choice or retail patronage behavior (Samli and Sirgy 1981; Sirgy and Samli 1985; Sirgy, Johar, Samli, and Claiborne 1991).

Besides the direct relationship between the two types of congruity and consumer choice, moderators have also been considered in the consumer choice models. Moderators have included product conspicuousness, product conspicuousness and social class interaction, product personalization, personality, personality and product conspicuousness interaction, type of decision, consumer knowledge, and prior experience (Dolich 1969; Sirgy 1979; Munson 1974; Belch 1978; Dornoff and Tartham, 1972; Mangleburg, Sirgy, Grewal, Hatzios, Axsom, and Bogel, 1998). Consumer knowledge and prior experience were found to moderate congruity and retail patronage behavior (Mangleburg et al.,1998), whereas the role of other moderating constructs on the relationship between self-concept/product-image congruity and consumer choice has been either not supported or simply suggested.

Based on the above discussion about store image and the effect of self-concept/product-image congruity on consumer product choice, this study examines the relationship between consumer self-concept and store image and its influence on consumer retail patronage behavior in an online retail environment.

First, even though Martineau (1958) mentioned the existence of store personality quite early and there are similar characteristics between the two constructs, i.e. store image and product or brand image, self-concept research related to store image (Dornoff and Tatham, 1972; Bellenger, Steinberg, and Stanton, 1976; Stern, Bush, and Hair, 1977;

Sirgy and Samli, 1985, 1989) has been limited compared to product or brand image cases. This study will fill a gap related to consumer retail patronage behavior. Moreover, no study has examined the relationship of self-concept and store image in an online retail environment.

Secondly, in online retailing, the effect of congruity (either self-congruity or functional congruity) on online retail patronage behavior could be much stronger than the effect on brick-and mortar retail patronage behavior. This assertion is based on a distinguishable characteristic of the Internet called 'information-intensiveness,' which gives the chance to transform the conventional one-way marketing activities (i.e. begins with manufacturers, mediated by retailers, and ends with consumers). With greater information intensity, consumers are able to interact with manufacturers and retailers more quickly regarding products or product information and their evaluation, and even consumers are able to generate ideas or take part in new product design so that they initiate the marketing process. These possibilities derived from information-intensive environments have been changing existing marketing communication practices, and furthermore, the interactivity of the Web seems to give consumers much greater control over products and information. This means that consumers select stores, products or product information only when congruity has been achieved between consumers' image of themselves and the image of the stores or products.

As a summary, this study explores the relationship between consumers' perceived congruity and online retail patronage behavior and the effect of moderators in the relationship. Specifically, this study examines two types of congruity, congruity between actual self-concept and online retail image (self-congruity) and functional congruity

referring to how much consumers favorably evaluate utilitarian store image attributes, to identify the relative importance of the two in explaining online retail patronage behavior.

Research Objectives

Even though online retail image and the traditional[*] store image are similar in concept, there are unique dimensions of online store image. A number of research projects have explored online store image dimensions and compared the resultant dimensions with traditional store image dimensions. However, most of them have used rating scales that were borrowed from other relevant constructs, such as online purchase behavior, e-satisfaction, or e-service quality, for the measurement of 'online store image' (Hopkins and Alford 2001; Burke 2002; Reibstein 2000; Zeithaml, Parasuraman, and Malhotra 2002; Szymanski and Hise 2000). In a strict sense, the studies measuring 'online store image' with a borrowed measurement have not depicted the holistic nature of online retail image. Consequently, the following objective was determined for this study.

Objective 1: Explore online store image using both qualitative and quantitative research to compare traditional store image dimensions and online store dimensions.

[*] With the emergence of online retailing, there has been an effort to categorize the total retail industry based on the differences in the channels that consumers meet. Although there are other ways to categorize the retail industry, such as the North American Industry Classification System (NAICS) or 'store based retailing' vs. 'in-home retailing' (Hawkins, Best, and Coney, 2003), this study will use 'online' retail to refer to sales of goods and services where an order is placed by the consumer over the Internet. On the other hand, 'traditional' retail refers to store based retailing or brick and mortar retailing in this study.

Based on previous research, it is reasonable that self-concept should be included in the retail patronage model, when the congruity of retail image and consumer self-concept is considered. Since there is limited research that includes self-concept in store image research, both self-congruity (known to be a significant factor mainly in a product choice model) and functional congruity (suggested to be a significant factor in both a product choice model and a retail patronage model) should be tested together in the retail patronage model. Moreover, beyond the simple congruity/incongruity states, identifying the relationship between self-congruity and functional congruity and their individual effect on retail patronage behavior should be a significant contribution.

> **Objective 2**: Explore the relationships among self-congruity, functional congruity, and online retail patronage behavior and the possible moderators among the relationships.

Also, the study will compare different online retail formats (i.e. general merchandiser versus specialty retailer) and explore the generalizability of this study to diverse retailer types.

> **Objective 3**: Explore the relationships among self-congruity, functional congruity, and online retail patronage behavior and the possible moderators between these congruities and online retail patronage behavior, across different retail formats, so that the similarities/dissimilarities in the relationships are investigated depending upon retail formats.

Concepts and Definitions

The major constructs in this study are store image, consumer self-concept, congruity, prior experience as a moderator, and retail patronage behavior, and they are defined as follows.

Store Image

In this study, the concept of store image is broadly defined by incorporating the definitions from Martineau (1958) and Lindquist (1974).

Martineau (1958) defined store image as "… the way in which the store is defined in the shopper's mind, partly by its functional qualities and partly by an aura of psychological attributes" (p47). As an extension of Martineau's conceptualization, Lindquist (1974) pointed out the following:

> There are two key phrases in characterizing store image. The first is "functional qualities." "Functional" refers to such store elements as merchandise selection, price ranges, credit policies, store layout, and other such qualities that can be more or less objectively compared with those of the competitors. Referring to the second key phrase, "psychological attributes," one would consider such things as a sense of belonging, the feeling of warmth or friendliness, or possibly a feeling of excitement or interest. The definition implies that consumers form a store image on both a functional plane and on a psychological or emotional plane simultaneously (p31).

Therefore, in this study, store image is defined as being composed of functional and psychological attributes of a store.

Consumer Self-Concept

Rosenberg (1979) noted the distinction between the self as a subject or an agent and the self as an object of the person's own knowledge and evaluation:

> The individual is standing outside himself and looking at an object, describing it, evaluating it, responding to it; but the object he is perceiving, evaluating, or responding to is himself (p.20).

In addition, Sirgy (1979) emphasized a multi-dimensional character of self-concept:

> The basic-self or actual-self, for example, is what a person really believes he is, his ideal-self is what the person aspires to be, his social-self is what he believes others think of him and how they perceive him… Ideal social-self might be referred to as how he would like to appear or be perceived by others (and particularly significant others) (p. 4).

Therefore, in this study, consumer self-concept is defined as how consumers see themselves as an object and as having multi-dimensional characteristics based on several "selves."

Congruity: Self-Congruity and Functional Congruity

Webster's dictionary defines 'congruity' as the state or quality of being congruent that refers to agreeing or similar (Dalgish, 1997, p 164). In consumer behavior, Sirgy (1979) suggested the definition of 'self-congruity' as a psychological state in which the product or store image is perceived to match, or to be consistent (congruous) with any of the self-perspectives (either actual self, ideal self, social self, or ideal social self), whereas incongruity is defined as the absence of this psychological state. Studies examined self-

concept and product/store image indeed shared this definition, and any modification occurred has been only from measurement issues (Lamone 1966; Birdwell 1968; Grubb and Hupp 1968; Dolich 1969; Green et.al. 1969; Hughes and Naert 1970; Delozier and Tillman 1972; French and Glaschner 1971; Grubb and Stern 1971; Ross 1971; Landon 1974; Belch 1977; Stern et.al 1977; Sirgy 1979, 1982; Sirgy and Danes, 1982).

The concept of functional congruity was introduced by Sirgy and Johar (1985), asserting the distinction between functional congruity and self-congruity. In a follow up study Sirgy, Johar, Samli, and Claiborne (1991) separately defined self-congruity and functional congruity as follows:

> Two common approaches used in explaining and predicting brand attitude in consumer research are multi-attribute attitude models and self-image congruence models. …Common to all multi-attribute attitude models is the fact that they usually include only utilitarian or performance-related attributes (and not symbolic or value-expressive attributes) in modeling brand attitude. … Modeling brand attitudes with value-expressive attributes has been mostly the focus of self-image congruence model. … The use of value-expressive evaluative criteria in attitude models (i.e. self-image congruence models such as actual-, ideal-, social-, and ideal social-self congruity) will be referred to as 'self-congruity.' In contrast, reference to the use of utilitarian evaluative criteria in multi-attribute attitude models (e.g. belief-evaluation model, belief importance model, ideal-point model) will be made as 'functional congruity' (p. 364).

Therefore in this study, self-congruity is defined as a state of matching between consumer self-concept and psychological (value-expressive) attributes of online store image,

whereas functional congruity is defined as consumers' beliefs on ideal or favorable functional (utilitarian) attributes of online store image.

Prior Experience

The research on 'prior experience' has focused on measurement issues rather than conceptualization, so that there is no solid definition of prior experience. The Oxford Desk Dictionary definition (Abate, 1997) states 'experience' as (1) something observed, lived through, or undergone, (2) knowledge or practical wisdom gained from what one has observed, lived through, or undergone (p.268). In this regard, the concept of prior experience in this study is operationalized as experience with both an online store as well as experience from general Internet usage.

Retail Patronage Behavior

According to the Webster Dictionary, patronage is defined as 'business or activity provided by patrons,' which is also defined as one who buys the goods or uses the services offered especially by an establishment (www.merriam-webster.com). On the other hand, the Oxford Dictionary offered the definition of patronage as 'patron's or customer's support,' and patron is defined as 'person who gives financial or other support to a person, cause, work of art, etc.' or 'habitual customer' (1997, p.578). Specifically in a retail setting, Kelly defined "retail patronage" as a "customer's commitment to purchases from a particular store" (Kelly, 1967, p.15), and this definition characterizes patronage behavior only by the concept of commitment. This study defines retail patronage behavior as any supportive action toward a retail entity, such as a

recommendation or purchase of a product, also as a commitment such as a repeat purchase.

Contributions of Study

In achieving the previous objectives, this study expects to contribute to the literature related to the online retail industry and previous retail patronage research as follows;

- Defining and identifying underlying dimensions of online store image will enrich the area of store image research. Until now, online store image research has been fragmented and piece-mill based (Keaveney and Hunt, 1992) such that (1) attributes are evaluated anew each time they are encountered, (2) evaluations are independent of other attributes present, and (3) overall judgments are formed by combining these isolated elements. Also, online store image dimensions found in this study are a timely addition to the previous store image research in the multi-channel retail environment.
- Consumers' retail patronage behavior is retail-consumer-situation specific, whereas consumers' product choice behavior is product-consumer-situation specific (Hawkins, Best, and Coney, 2003). Despite the similarity between those two, self-concept research related to retail choice has been significantly limited when compared to product choice. Therefore, this study helps to resolve this limitation. On the other hand, considering the unique characteristics of the Internet, the examination of the relationship between consumer self image and online retail image could offer new insight to online retailers.

- Not all online retailers are enjoying increasing online sales at the same rate. Recent statistics (Stores, 2000) show the top 100 Internet retailers by online sales to consumers, and the sales volume of top ranked online retailer is 350 times greater than the sales volume of the 100th ranked online retailer. Considering that the sales volume is derived by consumers' patronage behavior, this study compares two online retailers, in terms of the effect of self-congruity and functional congruity on online retail patronage behavior. Results will help retailers build efficient and tailored strategies of their own.

CHAPTER II

REVIEW OF LITERATURE

The review of literature is divided into five major sections. The first section describes current U.S. retail e-commerce sales (e-sales) and examines its increasing importance in the retail industry. The following section explores the retail image construct and the underlying dimensions of retail image both from traditional retailing and the online retailing point of view. The third section deals with consumer self-image and its extension to consumer product choice and retail patronage based on the congruity between self-image and store image. The last section presents existing retail patronage behavior models to identify the significant position of retail image and consumer self-image in the overall retail patronage framework. Based on the preceding discussion, research questions and hypotheses are constructed in the final section.

Online Industry

Retail Sector in the Online Industry

The latest edition of E-States by the U.S. Census Bureau (2003, March 19) provided detailed e-commerce activity for key sectors of the U.S. economy for 2001. Although examining the statistics in the year 2001 seems to be obsolete, this study reviewed the current online retail industry strictly based on data from the U.S. Census Bureau, which is considered the best source in terms of reliability and the number of

participants. The data were collected from over 125,000 manufacturing, wholesale, and retail businesses. As shown in Figure 1, Business-to-Consumer e-commerce contributes 6.7% to total U.S. e-commerce and most of the e-commerce occurs in the Business-to-Business context (93%). This significant percent difference between Business-to-Business and Business-to-Consumer contribution might indicate that the contribution of Business-to-Consumer (i.e. 'Retail' in narrow sense) sector to total e-commerce is trivial and that no major research on this sector is needed. But for retailers, either traditional retailers or online retailers, 'merchant wholesale' in the Business-to-Business category seems to affect their trade (25.3%). Therefore, retailers may directly or indirectly participate in e-commerce with over 30% of the contribution, and the importance of research in this sector should be considered. In sales, retail e-commerce (e-sales) reached $34 billion in 2001, an increase of 22 percent over 2000 e-sales of $28 billion.

U.S. Shipments, Sales, Revenues and E-Commerce: 2001 and 2000

[Shipments, sales and revenues are in billions of dollars.]

	Value of Shipments, Sales, or Revenue				Y/Y Percent Change		Percent Distribution of E-commerce	
	2001		2000					
Description	Total	E-commerce	Total	E-commerce	Total	E-commerce	2001	2000
Total *	**14,572**	**1,066**	**14,657**	**1,062**	**-0.6**	**0.4**	**100.0**	**100.0**
B-to-B*	**6,676**	**995**	**6,950**	**997**	**-3.9**	**-0.2**	**93.3**	**93.9**
Manufacturing	3,971	725	4,209	756	-5.7	-4.1	68.0	71.2
Merchant Wholesale	2,705	270	2,741	241	-1.3	12.0	25.3	22.7
B-to-C*	**7,896**	**71**	**7,707**	**65**	**2.5**	**9.2**	**6.7**	**6.1**
Retail	3,141	34	3,059	28	2.7	22.1	3.2	2.6
Selected Services	4,755	37	4,648	37	2.3	-1.4	3.5	3.5

Figure 1 U.S. Shipments, Sales, Revenues and E-Commerce: 2001 and 2002

Census Bureau (2003, March 19). E-Stats. Retrieved on April 20, 2003, from http://www.census.gov/eos/www/papers/2001/2001estatstext.pdf

Online Retail Trade

The growth rate of retail e-sales and the retail penetration rate indicating e-commerce as a percent of total retail sales are significant. According to the reports from the Census Bureau (2004, May 21), U.S. retail e-commerce sales for the first quarter of 2004 the E-commerce estimate decreased 11.4% from the previous quarter (i.e. fourth quarter of 2003) whereas the total retail sales decreased 8.5% from the previous quarter (Figure 2 and Table 1). This decrease is only a seasonal effect, which is a difference between the highest sales period of a year (e.g. Thanksgiving and Christmas sales, etc.) and the normal sales period. The pure retail E-commerce sales volume seems to increase when this seasonal effect is considered. Retail E-commerce sales for the first quarter of 2004 were $15.5 billion, which is an increase of 28.1 percent from the first quarter of 2003, while total retail sales increased only 8.8% from the same period a year ago. Also the e-commerce penetration rate, which refers to retail e-commerce as a percent of total retail sales, is continuously increasing and e-commerce sales in the first quarter of 2004 accounted for 1.9% of total sales. It took only two and a half years for the e-commerce penetration rate to double from the 3rd quarter of 2001. Retail e-commerce is definitely growing and this fact suggests the importance of research focusing on online retailing.

Products in Online Retail Trade

Appendix 1 provides detailed information on the kinds of merchandise sold by businesses classified in the Electronic Shopping and Mail-Order Houses industry. The Electronic Shopping and the Mail-Order Houses industry account for almost all of Nonstore Retailers e-sales, and Nonstore Retailers account for 75 percent ($26 billion) of

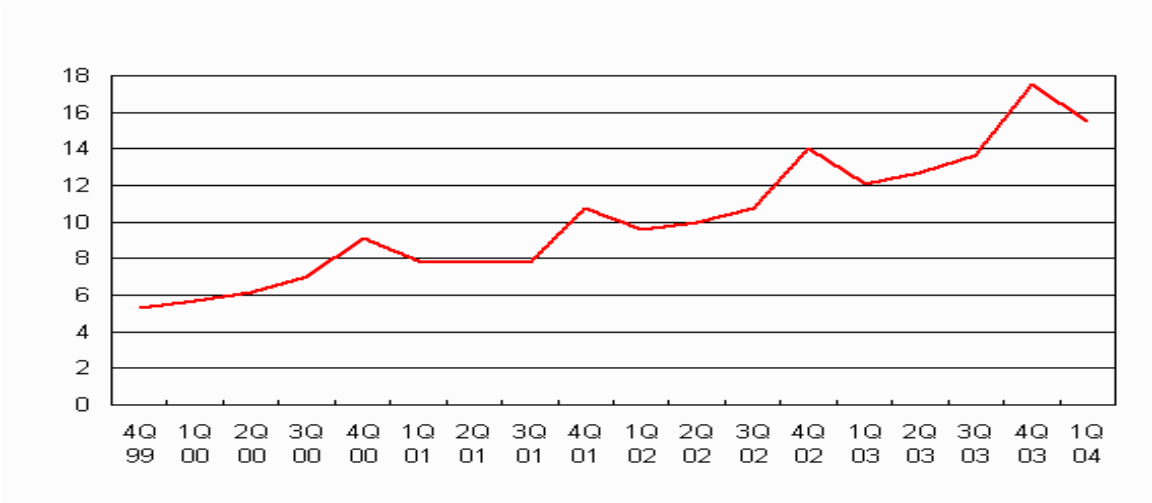

Figure 2. Estimated Quarterly U.S. Retail E-commerce Sales: 4th Quarter 1999 – 1st Quarter 2004 (Data in billions of dollars), Retrieved on June 5, 2004, from http://www.census.gov/mrts/www/current.html

Table 1. Estimated Quarterly U.S. Retail Sales1: Total and E-commerce

(Data in millions of dollars, not adjusted for seasonal, holiday, and trading-day differences.)

Period	Retail Sales[2] (millions of dollars)		E-commerce as a Percent of Total Sales	Quarter-to-Quarter Percent Change		Year-to-Year Percent Change	
	Total	E-commerce[3]		Total Sales	E-commerce Sales	Total Sales	E-commerce Sales
2000 3rd Quarter	768,139	7,009	0.9	-0.8	13.3	5.5	(NA)
4th Quarter	812,809	9,143	1.1	5.8	30.4	3.3	71.4
2001 1st Quarter	724,731	7,893	1.1	-10.8	-13.7	1.4	39.4
2nd Quarter	802,662	7,794	1	10.8	-1.3	3.6	26
3rd Quarter	779,096	7,821	1	-2.9	0.3	1.4	11.6
4th Quarter	850,265	10,755	1.3	9.1	37.5	4.6	17.6
2002 1st Quarter	738,185	9,549	1.3	-13.2	-11.2	1.9	21
2nd Quarter	814,626	10,005	1.2	10.4	4.8	1.5	28.4
3rd Quarter	818,061	10,734	1.3	0.4	7.3	5	37.2
4th Quarter	859,250	13,999	1.6	5	30.4	1.1	30.2
2003 1st Quarter	767,433	12,115	1.6	-10.7	-13.5	4	26.9
2nd Quarter	852,760	12,718	1.5	11.1	5	4.7	27.1
3rd Quarter	867,242	13,651	1.6	1.7	7.3	6	27.2
4th Quarter (r)	912,109	17,512	1.9	5.2	28.3	6.2	25.1
2004 1st Quarter (p)	834,829	15,515	1.9	-8.5	-11.4	8.8	28.1

Retrieved on June 5, 2004. from http://www.census.gov/mrts/www/current.html
(NA: Not Available, (r): Revised, (p):Preliminary)

[2] Estimates exclude Food Services.

[3] E-commerce sales are sales of goods and services where an order is placed by the buyer or price and terms of sales are negotiated over an Internet, extranet, Electronic Data Interchange (EDI) network, electronic mail, or other online system. Payment may or may not be made online.

retail e-sales. Therefore the scope of this study will remain in the Electronic Shopping and Mail-Order Houses industry and 'e-tailing' will be used to refer to this industry. The leading product category within this industry is Computer Hardware with e-sales of $6 billion, followed by Clothing and Clothing Accessories (including footwear) with $3 billion in e-sales. Again, in terms of the E-commerce penetration rate, different product categories play a significant role. Although online sales in total retail sales are significant in almost all product categories, online sales of Books and Magazines shows 45 percent of total sales and Electronics and Appliances shows 39 percent (U.S Census Bureau, March 19, 2003).

Based on the previous review of online retailing, it is confirmed that the growth rate of online retailing is the most significant among the entire e-commerce economy parties. Even with this fact alone, there should be more studies on consumers and retailers using the online retailing channel.

Store Image

Store image has been interpreted differently depending on the scope of the study. In this section, the previous literature on store image will be divided into three parts: conceptualization of store image, dimensions of store image, and the body of literature contributing to determining online store image dimensions.

Conceptualization of Store Image

Store image as a personality of the store

One approach to define store image is to see it as a 'store personality,' just as every person has a different set of characteristics. Pierre Martineau (1958), who first suggested each store has its own personality, described store image as "It is … the way in which the store is defined in the shopper's mind, partly by its functional qualities and partly by an aura of psychological attributes" (p 47). Martineau uses two key phrases in characterizing the image. The first is "functional qualities." "Functional" refers to such store elements as merchandise selection, price ranges, credit policies, store layout, and other such qualities that can be more or less objectively compared with those of the competitors. "Qualities" through its plurality implies that more than one such functional descriptor may be operating, and further that the use of this term may be visualized on a good-bad scale with respect to each of the functional descriptors. Referring to the second key phrase, "psychological attributes," one would consider such things as a sense of belonging, the feeling of warmth or friendliness, or possibly a feeling of excitement or interest. "Attributes" is also used in plural, and one could interpret this to mean that more than one such dimension is at work. The definition implies that consumers form a store image on both a functional plane and on a psychological or emotional plane simultaneously (Lindquist, 1974), just as humans can have both a utilitarian and hedonic nature and the image of a person covers both. Arons (1961) also used the term 'personality' in his definition of store image as "the personality the store presents to the public or complex of meanings and relationships serving to characterize the store for people" (p2). Later, Darden and Babin (1994) divided these two qualities as 'affective

qualities' and 'functional qualities,' and suggested that affective quality of a retail store is important and can also be measured, just like functional quality, which was used predominantly to explain retail personality (image).

Store image as more than sum of its parts

Another approach emphasizes the complexity and the holistic nature of store image. Oxenfeldt (1974) said in his attempt to develop a favorable store image, "I submit that it is more than a factual description of its many characteristics. …. In other words, an image is more than the sum of its parts. It represents interaction among characteristics and includes (or is strongly affected by) extraneous elements. It also has some emotional content-i.e., it includes an element of being drawn toward or repelled by the store. … Thus I consider image a combination of factual and emotional material" (p9). Later, Dichter (1985) reinforced the idea that "image" refers to a global or overall impression: "It describes not individual traits or qualities, but the total impression an entity makes on the minds of others…an image is not anchored in just objective data and details. It is the configuration of the whole field of the object." As an attempt to capture the total impression of store image, or the gestalt nature of store image, Zimmer and Golden (1988) presented an exhaustive list of store image components, by using content analysis based on an extensive number of participants' responses. Another attempt to describe the richness of store image (Keaveney and Hunt, 1992) criticizes the existing approach to find out the underlying dimensions of store image based on the assumption that consumers newly evaluate attributes every time they are encountered and overall store image is formed by combining each isolated attribute, which is called an attribute-based

processing theory or piecemeal model. Keaveney and Hunt suggested 'category-based processing theory' to overcome the piecemeal model's inadequacy to capture the gestalt or holistic perspectives that underlie the store image conceptualization.

In summary, store image has been conceptualized as a consumer's broad and complex perception of stores, which can be composed of distinctive dimensions yet would not be defined as the sum of those dimensions, and as a major player in consumers' retail patronage behavior.

Underlying Dimensions of Store Image

Although several scholars mentioned that store image is more than the sum of its attributes, identifying them has been a continual research question. This is quite reasonable, because only when controllable image variables are identified, can retailers manipulate them in order to provide a positive image to their customers.

Martineau (1958) presented four personality factors; layout and architecture, symbols and colors, advertising, and sales personnel, compared to Kunkel and Berry (1968) and Berry (1969) who developed a rather exhaustive list of components of department store image. This list is composed of 12 components and 43 subcomponents, and the representative components are; price of merchandise, quality of merchandise, assortment of merchandise, fashion of merchandise, sales personnel, locational convenience, other convenience factors, services, sales promotions, advertising, store atmosphere, and reputation on adjustments. We need to note that those dimensions are listed for covering as much of the overall store image as possible, so there is a lack of distinction and a lot of overlap among the dimensions. For work done targeting

department stores, more general dimensions were found by Stephenson (1969). He suggested eight image dimensions: advertising by the store, physical characteristics of the store, convenience of reaching the store, your friends and the store, merchandise selection, store personnel, prices charged by the store, and dependability of the store. Furthermore, he examined the image dimension differences between a new store and an already existing store, and found important dimensions for each type of store.

In terms of the stream of store image studies, the year 1974 was very productive. In a special issue on store image in the Journal of Retailing (1974-1975), store image studies were broadened and ranged from definition of store image to measurement issues of store image. The most notable store image study was done by Jay D. Lindquist (1974). He summarized 19 previous studies on store image and presented nine dimensions: Merchandise, Services, Clientele, Physical facilities, Convenience, Promotion, Store atmosphere, Institutional factors, and Post-transaction satisfaction. The value of this study is not only in the exhaustive listings, but also in the meta-analytic method. According to his frequency analysis, merchandise selection or assortment was ranked highest with 42% of the mentions. Merchandise quality (38%), merchandise pricing (38%), locational convenience (35%), merchandise styling and fashion (27%), service in general (27%), and salesclerk service (27%) were ranked in respective order. This categorization has been widely cited in a majority of the research on store image since then (Hansen and Deutscher 1977; Sirgy and Samli 1985; Mazursky and Jacoby 1986; Zimmer and Golden 1988; Baker, Grewal and Parasuraman 1994; Samli, Kelly and Hunt 1998; Mitchell 2001). Later, Hansen and Deutscher established a clearer division among the dimensions, components, and attributes of store image (1977). They

presented 41 attributes of store image and those attributes were classified in one of 20 components, and in turn, those components were found to belong to nine store image dimensions. Also they explored different attribute compositions for department stores and grocery stores and found that the appealing attributes depended upon shoppers' interests.

Consumer Behavior in Relation to Store Image

Research has suggested that store image determines shopping behavior, such as store preference, positive attitude toward store, or store loyalty. Martineau (1958) introduced cases implying that consumers preferred a certain store by identifying a store's personality, not entirely by functional attributes such as price, quality or service. Likewise, store preference has been considered as having a causal relationship with underlying store image dimensions. Berry (1969) used three open-ended questions to find image dimensions and attributes; What do you like the most about shopping at _____? What do you like least about shopping at _____? What are the major reasons why you think other people shop at _____? In these questions, the relationship between positive store image and store preference is clearly implied. Besides, store preference has been widely hypothesized and studied in relation to store image (Stephenson 1969; Singson 1975; Doyle and Fenwick 1974-1975; Hansen and Deutscher 1977-1978; Hilderbrandt 1988; Wong and Teas 2001; Thang and Tan 2003).

On the other hand, James, Durand, and Dreves (1976) found that positive belief/importance scores on store image attributes significantly predicted consumers' positive attitude toward a store, using a multi-attribute attitude model. Considering the

strong causal relationship from attitude to actual behavior, this study also implied that positive store image would lead to strong store preference.

Consumer loyalty to the store has also been studied relative to store image. Sirgy and Samli (1985) found that store loyalty was determined by the interrelationship among store image evaluation and the shopping complex. Also store image was found to initiate the causal relationship from positive affect toward the store and commitment to the store in Bloemer and Schroder's study (2002). Like the store preference case, loyalty has been used heavily in the framework examining store image and its effect on consumer behavior (Sirgy, Johar, Samli, and Claiborne 1991; Reynolds, Darden, and Martin 1974-1975; Samli and Sirgy 1981; Baker, Grewal, and Parasuraman 1994)

In summary, several studies clearly suggest that store image dimensions or attributes significantly affect store preference, positive attitude toward store, or store loyalty. All variables addressed as having causal relationships with store image could contribute to, in a broad sense, store patronage behavior.

Identifying Online Store Image

Whereas traditional store image research has been productive in terms of identifying underlying dimensions and their relationship to diverse store patronage behavior, the importance and value of store image has not been articulated enough in an online retail environment. There are only a handful of studies directly examining online store image and its dimensions, and the studies exploring the relationship between store image dimensions and online retail patronage behavior are more limited. However, considering the fact that (1) certain parts of traditional store image dimensions or

attributes could also be applied to online store image and (2) studies identifying antecedent attributes to online shopping (e.g. online purchase, online consumer satisfaction, or online service quality) are abundant, this section introduces two parts of the literature: an analogy of traditional store image and online store image and attributes in relation to online store image.

Analogy of traditional store image and online store image

Although the Internet has revolutionary characteristics compared to a conventional marketing or buying channel, the role of image doesn't seem to change radically. Store image itself is still important as a key success factor (Hildebrandt, 1988) and as a tool for creating patronage behavior. But, can we use the previously identified dimensions for online store image?

If we look at Lindquist's nine dimensions of image, the most unacceptable attribute for online store image is salesclerk's service in a service dimension and parking as a convenience dimension. The former is considered as one of the disadvantages of using online stores and the latter is a favorable factor. On the other hand, there is an irrelevant attribute, physical facilities of the store, which cannot be adjusted as an attribute in an online store situation. This kind of adjustment with previous dimensions is quite subjective and risky for online store image. This is part of the reason that online store image studies should begin with few preconceived notions related to traditional store image dimensions. In this regard, an exploratory study done by Hopkins and Alford (2001) suggested a multi-dimensional scale to measure the e-tailer image construct. The major objective of their study was to develop a reliable measurement for online retailers'

image constructs and to create an analogy of ‘real store’ and ‘e-tailer’ image dimensions (Table 2). Even though they initiated the traditional store image dimensions’ adaptation to the online context, this study had critical weaknesses. By using only one store (express.com) for all two stages of the study, resulting dimensions cannot be generalized. There has been another attempt to re-conceptualize previous store image attributes into several risk types that consumers perceive. By focusing on the security issue, Mitchell (2001) introduced four store attribute groups in terms of risk dimensions. He analyzed 21 store image attributes from the literature and all the attributes discussed in each and grouped them into four risk dimensions: physical risk, financial risk, time and convenience risk, and psychological risk. If perceived risk reduction will directly lead to a positive image, then this grouping will be a good guideline for a future e-store image study.

More recently, Burke (2002) examined what consumers want in physical and virtual stores. The contribution of this study was that the sample was extensive and the relevant attribute listing was exhaustive, so that we can get a big picture of online and in-store shopping features that consumers prefer. In addition, this study interestingly covered shopping features that some consumers would prefer to have vs. not have related to personalization, pricing, etc., so that we can identify a certain segment for each feature.

Table 2. An Analogy of "Real Store" and E-tailer

"Real Store"	Online Retailer (E-Tailer)
Atmosphere	Interface and graphics quality, pleasantness, crowding, overall aesthetic appeal, sound and video applications
Personnel	Restricted to phone customer service and e-mail response, hypothesized to be present within the service dimension
Convenience	Organization, navigability, links, download speed, order processing speed, ease of exit
Merchandize	Selection, quality, availability, descriptions, information
Price	Value perceptions for price paid, presence of discounts, online coupons
Service	Adjustments for returns, return policy, payment options, security
Self-Concept (Self/Site Image Congruence)	Congruence with actual self image, the individual's perception of the holistic environment, the interactive, perceptual process between the person's environment and the transaction process, captured by pride in being associated with the site, and the potential to share positive WOM

Attributes in relation to online store image

As mentioned earlier, online store image has been seldom addressed as an antecedent for important criterion variables in consumer behavior, i.e. purchase intention, satisfaction, positive evaluation for quality, whereas the causal relationship between the two has been widely supported in traditional store image research. The primary reason for this discrepancy could be the lack of an exhaustive online store image attributes list and corresponding dimensions. In this regard, referring to the studies identifying attributes affecting online shopping behavior, such as purchase intention or satisfaction,

will be helpful to offer a more concrete base for building an exhaustive online store image attributes list.

Reibstein (2000) suggested ten important attributes when consumers shop online: product representation, product prices, product selection, on-time delivery, ease of ordering, product information, level and quality of consumer support, product shipping and handling, posted privacy policy, and website navigation and looks. Those variables have similarities and dissimilarities compared to the previous Lindquist (1974) dimensions. In addition, Weinberg (2000) mentioned the importance of time delay when using the Internet, which will give a negative image to consumers.

Furthermore, Reibstein (2002) tried to find the dissimilarity between the attributes affecting the first online purchase and the attributes affecting repeat purchase. The interesting aspect of this study was linking the attributes consumers used for actual buying with attributes consumers claimed as most important in the choice process. The attributes used in the survey were ease of ordering, product selection, product information, product prices, navigation, on-time delivery, product representation, customer services, privacy policies, and shipping and handling. Those ten attributes were evaluated by importance across population segments: First-time web buyers, first-time merchant buyers, and repeat merchant buyers. This study found factors affecting repeat purchase, which were customer support, on-time delivery, product representation, etc. Using those factors directly in online store image studies should be restricted, because this study used only one online retailer, BizRate.com, and the factors found were highly related to only the image of this retailer.

By considering that consumers' satisfaction is closely related to a positive store image, factors in relation to e-satisfaction also can be influencing factors on online store image. Szymanski and Hise (2000) identified four antecedents of e-satisfaction: convenience, merchandising including product offerings and product information, site design, and financial security. Among those factors, financial security is getting more attention, because this may be the most important factor that controls consumers' participation and also consumers' purchase behavior on the Internet.

More recently, there is an increasing effort to investigate the changes that the Internet brought into the retail environment. Some studies deal with the same construct as in a brick-and-mortar context but try to find any dissimilarity in the online marketplace, and some other studies attempt to explain the unique antecedents or consequences in an online environment. In this regard, Zeithaml, et al. (2002) tried to extend the existing knowledge in service quality to the online context. Since 'store image' and 'satisfaction' share antecedents or underlying dimensions, this study seems to provide a sound base for dimensions of online store image. Moreover with the fact that online stores have less tangible attributes than traditional stores have, there is more room for us to adopt e-service quality measures to online store image studies. This study found five criteria that customers use in evaluating e-Service quality, which were information availability and content, ease of use or usability, privacy/security, graphic style, and fulfillment. While those criteria were presented as 'dimensions of e-Service Quality,' this study proposed technology readiness as an 'antecedent of e-Service Quality,' so there needs to be a clear separation between 'dimensions' and 'antecedents.'

Consumer Self-Concept and Its Congruity Mechanism

Self-concept or self-image traditionally has been an important construct in psychology, however, a number of self-concept models were formulated to describe, explain, and predict the precise role of consumers' self-concept in consumer behavior (Sirgy, 1982). Consumer behavior research has focused on the congruity between self-image and product-image and its effect on consumer product choice behavior. The heavy loading on congruity in consumer behavior is not surprising because the results from the studies of direct effect of self-concept on consumer behavior (Guttman, 1973) or product-image alone as a function of consumer behavior (Hamm 1967; Hamm and Cundiff, 1969) only moderately confirmed the hypothesis. Therefore in this section, the existing consumer self-concept and the congruity mechanism research is introduced in three parts: the nature of self-concept and its congruity mechanism, the congruity between self-concept and product-image and its effect on consumer product choice behavior, and the congruity between self-concept and retail image and its effect on retail patronage behavior.

Nature of Self-Concept and Congruity

In consumer behavior, most researchers seem to agree on defining self-concept as the "totality of the individual's thoughts and feelings having reference to himself as an object" (Rosenberg, 1979). In other words, self-concept is an individual's perception of and feeling toward him/herself and the totality of the attitudes one holds toward oneself. Combs and Richards (1981) emphasized the tentative power of self-concept and noted that the concept is a product of experiential-perceptual psychology that regards behavior

only as a symptom and personal meaning or perception as dynamic generators of behavior.

Self-concept having a multi-dimensional character has been a major perspective in consumer behavior. Actual self-concept is about how one actually sees oneself; Ideal self-concept is about how one would like to see oneself; Actual social self-concept is about how others actually see one; and Ideal social self-concept is about how one would like others to see one (Hawkins et.al. 2003, p.422). By definition, each self-concept dimension is depicted as inactive and perceptually organized in a consumer's mind, however, each dimension is activated depending on situations and self-concept motives: Self-esteem motive and self-consistency motive. The self-esteem motive refers to the tendency to see experiences that enhance self-concept, whereas the self-consistency motive indicates the tendency for an individual to behave consistently with his/her view of him/herself (Sirgy, 1986).

As defined earlier, congruity is a psychological state in which the product or store image is perceived to match, or to be consistent (congruous) with any of the self-perspectives, whereas incongruity is defined as the absence of this psychological state. According to the multi-dimensional character of self-concept, there are four types of congruity. Self-congruity occurs when there is a match between the actual self concept and product/store image; ideal-congruity occurs when there is a match between the ideal self concept and product/store image; social-congruity occurs when there is a match between the social self concept and the product/store image; and ideal social-congruity occurs when there is a match between the ideal social self concept and the product/store image (Sirgy, 1979).

Congruity between Self-image and Product-image and Its Effect on Product Choice

Four types of congruity and their effect on product choice

Several studies found the significant role of each of four types of congruity in consumers' product choice. First of all, the relationship between actual self-image/product-image congruity (self-congruity) and consumer choice (i.e. product preference, purchase intention, product usage, ownership, or loyalty) has been supported by numerous studies (Lamone 1966; Birdwell 1968; Grubb and Hupp 1968; Dolich 1969; Green et.al. 1969; Hughes and Naert 1970; Delozier and Tillman 1972; French and Glaschner 1971; Grubb and Stern 1971; Ross 1971; Landon 1974; Belch 1977; Stern et.al 1977; Sirgy 1979, 1980; Sirgy and Danes, 1981). Those studies which failed to confirm this relationship were Hughes and Guerrero (1971) and Green et al. (1969).

Secondly, the relationship between ideal self-image/product-image congruity (ideal congruity) and consumer choice has been generally supported (Lamone 1966; Dolich 1969; Delozier and Tillman 1972; French and Glaschner 1971; Landon 1974; Belch 1977; Stern et.al 1977; Sirgy 1979, 1980; Sirgy and Danes, 1981). On the other hand, the relationship between social self-image/product-image congruity (social congruity) and consumer choice has not been strongly supported (Maheshwari 1974; Samli and Sirgy 1981; Sirgy 1979, 1980) and the relationship between ideal social self-image/product-image congruity (ideal social congruity) and consumer choice has been moderately supported (Maheshwari 1974; Samli and Sirgy 1981; Sirgy 1979, 1980).

Moderators in the relationship between congruity and product choice

There have been variables hypothesized to moderate the relationship between four types of congruity and product choice: Product conspicuousness, Product conspicuousness-social class interaction, Product personalization, and Personality. First of all, the moderating role of product conspicuousness on the relationship between self-concept/product-image congruity and consumer choice has been largely unsupported (Dolich 1969; Ross 1971; Sirgy 1979). That is, it was expected that the ideal and/or ideal-social self-concepts would be more closely related to product preference with respect to highly conspicuous products than to the actual and/or social self-concepts. With respect to inconspicuous products, it was expected that the actual and/or social self-concept would be more closely related to product preference than to the ideal and/or ideal-social self-components.

The moderating role of product conspicuousness-social class interaction on the relationship between self-concept/product image congruity and consumer choice has been suggested by Munson's (1974) study. His results showed that preference for conspicuous products was related to ideal self-concept for upper class respondents, whereas preference for lower class respondents was not related to either actual or ideal self-concepts for either conspicuous or inconspicuous products.

On the other hand, the moderating role of product personalization on the relationship between self-concept/product-image congruity and consumer choice has been suggested by Sirgy (1979, 1980). That is, the relationship between self-concept/product-image congruity and product preference and purchase intention seemed stronger for highly personalized products than for lower personalized products.

Personality was also hypothesized as having the moderating role on the relationship between self-concept/product image congruity and consumer choice by Belch (1978). Belch used Harvey, Hunt and Schroeder's (1961) personality typology and results showed that the segment who has high social needs were more closely related to ideal self-concept than to actual self-concept. The moderating role of personality-product conspicuousness interaction on the relationship between self-concept/product-image congruity and consumer choice was suggested by Munson's (1974) dissertation results based on Horney's (1937) personality typology. The results showed that for compliant subjects, preference was somewhat more closely related to actual than to ideal self-concept for inconspicuous products. With respect to both compliant and aggressive subjects, preference was more closely related to the ideal than to actual self-concept for conspicuous products. However, no clear pattern was revealed with respect to the detached subjects.

Congruity between Self-image and Store Image and Its Effect on Retail Patronage Behavior

Congruence between self-concept and store image in general

The concept of 'match,' 'fit,' or 'congruity' between consumer characteristics and retail attributes has been generally considered very important in store image research. Martineau (1958) suggested; "the shopper seeks the store whose image is most congruent with the image she has of herself. Some stores may intimidate her; others may seem beneath her. A store may be acceptable for one type of product and not for others. A

shopper may go to one department store for bargains, children's clothes, or housewares, and to another one for gifts or personal items" (p48). This congruity issue could provide the reason for research on retailers' controllable variables and for research on retailers' uncontrollable variables, which are consumers' personal characteristics. Because of this importance, the congruity issue has been the focus of a research stream in retail studies.

Rosenbloom (1983) found the best model that could achieve congruency between store image dimensions and consumer store choice evaluative criteia, by comparing two other models. His resultant model is called 'Market-based store image model (MBSIM)' and provided the ideal procedure to achieve the congruency: Retailer selects target segment → Retailer determines needs of market segments and identifies relevant store choice evaluative criteria → Retailer creates or alters store image dimensions to conform to consumer store choice evaluative criteria → Retailer monitors changes in consumer store choice evaluative criteria.

One of the major advantages of congruity research is that retailers get a clear picture of congruence or incongruence. Whether retailers achieve congruence between retailer-perceived store image and consumer-perceived store image or not depends on the gap between the two. In this regard, Samli, Kelly, and Hunt (1998) found six cases of congruence/incongruence situations and suggested six different approaches for each of the cases as a corrective action. Also in a patronage behavior framework, the construct of congruity plays a mediating role that links retail image and retail patronage. In Sirgy, Grewal, and Mangleburg's study (2000), they describe the relationship among retail environment, self-congruity, and retail patronage as follows;

> The retail environment provides a myriad of informational cues that consumers can use to form an impression of the typical patron of the store. Some of these cues include the store atmosphere, the merchandise (and brands), and the prices of the merchandise in the store. It is of tantamount importance for research to determine those cues that may be used by consumers in forming impressions about the typical store patron, that is, retail patron image. … the reader should note that there may be a multitude of cues, some controllable by retailers and some uncontrollable. "Controllable" cues are directly related to the four Ps, that is … (product) … (price)… (place) … (promotion). There are many other "uncontrollable" cues such as shoppers' personal characteristics (p129).

Four types of congruity and their effect on retail patronage behavior

As noted earlier, four types of congruity have been heavily examined in the context of the relationship between product-related congruity and product choice. Even though the studies exploring the relationship between store-related congruity and retail patronage are limited in numbers, the significant role of four types of congruity in retail patronage is supported by several studies.

By considering type of decision as a moderating variable, Dornoff and Tatham (1972) found that for routinized decisions (supermarket shopping), actual self-concept was more closely related to store selection than to ideal self-concept and "image of best friend." For non-routine decisions regarding specialty store shopping, "image of best friend" was more closely related to store selection than to actual or ideal self-concepts. With respect to non-routine decisions regarding department store shopping, store

selection was more closely related to ideal self-concept than to actual self-concept or "image of best friend." The role of self-congruity (congruity between actual self-concept and store image) was also significant in Bellenger, Steinberg, and Stanton's study (1976). Using two factors, assertiveness and objectivity, for both store image and consumer actual self-concept, they found a significant correlation between self image and store image on assertiveness, and a significant correlation between self image and store image on objectivity. Furthermore, they found the correlation for objectivity and store objectivity as significant variables to predict store loyalty. Samli and Sirgy (1981) and Sirgy and Samli (1985) hypothesized the role of social self-congruity and ideal social self-congruity in store loyalty, and they found the significant correlations either between social self-congruity and store loyalty or between ideal social self-congruity and store loyalty.

Functional congruity as a mediator in the relationship between self-congruity and retail patronage behavior

The concept of functional congruity, which is defined as the perceived utilitarian aspects of the store in reference to some ideal aspects (Sirgy and Johar, 1985), was introduced because of a need for a distinction from self-congruity. Whereas self-congruity is mainly based on the notion of the cognitive matching between value-expressive (or hedonic) attributes of a given product (brand or store) and consumer self-concept, functional congruity is based on the assumption that consumers use utilitarian evaluative criteria (attributes) for their consequent behavior (e.g. product brand or store preference or attitude formation). For example, in store selection, a shopper may

consider the proximity of the store from his/her residence, the price range of many store items, the quality of the products the store carries, the variety or assortment of merchandise, or the possible use of credit cards or other financing arrangements. These evaluative criteria are utilitarian or "functional" in nature, compared with symbolic criteria such as "self-congruity."

The relationship between self-congruity and functional congruity has been previously examined (Samli and Sirgy 1981; Sirgy and Samli 1985; Sirgy, Johar, Samli, and Claiborne 1991). Samli and Sirgy (1981) conducted a study to test the differential determinants of store loyalty. Specifically, store loyalty was regressed on self-congruity (social congruity and ideal social congruity), functional congruity (evaluation of functional store image), socioeconomic status, area loyalty, and shopping-complex loyalty. The results showed that although self-congruity failed to significantly predict store loyalty, the self-congruity variables (social congruity and ideal social congruity) were significantly correlated with functional congruity (functional store image evaluation). In a follow up study, Sirgy and Samli (1985) demonstrated through causal path analysis that store loyalty may be primarily influenced by functional congruity, and that functional congruity is influenced by self-congruity. That is, the study demonstrated a "biasing effect" of self-congruity on functional congruity, where "biasing effect" suggests that, although functional congruity was more closely related to behavior than self-congruity, functional congruity was highly influenced by self-congruity. The generalizability of this relationship between self-congruity and functional congruity and its effect on store loyalty was tested across two different store formats (a discount department store and a clothing department store) and different products (auto, camera,

tires, watch, soft drinks, TV, beer, and headache remedy) in Sirgy, Johar, Samli, and Claiborne's (1991) study. As a result, they found that consumer behavior (store loyalty) is indeed a positive function of both functional congruity and self-congruity across different store types and product types. Specifically, functional congruity was more predictive of consumer behavior (store loyalty) than self-congruity, which was more predictive of functional congruity than consumer behavior (store loyalty). This result supported the "biasing effect" of self-congruity on functional congruity.

In summary, both functional congruity and self-congruity turned out to significantly predict consumer behavior (store loyalty or retail patronage behavior in broader terms) and functional congruity showed a stronger relationship with consumer behavior than self-congruity. Also, the strong relationship between self-congruity and functional congruity was supported.

Moderators in the relationship between congruity and retail patronage behavior

Both functional and self-congruity have been demonstrated to affect consumer retail patronage behavior, however the relative weights given to each may depend on a number of situational and consumer-related characteristics. This is because functional congruity, as a result of psychological evaluation process, may require greater cognitive elaboration and effort than self-congruity (Sirgy, Grewal, and Mangleburg, 2000). For example, experienced shoppers may evaluate an electronics store on the basis of a large number of attributes, such as its merchandise assortment, service after sale, knowledgeability of salespeople, and the like. In contrast, shoppers who have little experience may evaluate electronic stores on the basis of simple decision cues, such as

price only or self-congruity (i.e. would people like me shop there?), because they may not be motivated or able to evaluate the more utilitarian store attributes.

Consistent with this logic, a number of models in consumer behavior literature point to the contingent nature of consumers' information processing (Sujan 1985; Petty and Cacioppo, 1986; Chaiken 1980). Among them, Petty and Cacioppo's elaboration likelihood model (ELM) distinguishes between persuasion that results from careful consideration of message content (central processing) and persuasion based on an assessment of more superficial cues (peripheral processing). Central processing is generally seen to require greater cognitive effort than peripheral processing, that is, central processing is likely to require greater ability and motivation to process information. Since functional congruity is likely to require more cognitive effort than self-congruity, utilitarian cues are likely to be centrally processed whereas symbolic cues, such as self-congruity, are likely to be processed peripherally. In terms of specific factors affecting the likelihood that consumers will engage in central versus peripheral information processing, or in this study, the extent to which shoppers will use functional congruity versus self-congruity in determining their patronage intention, shoppers' level of knowledge about stores and shopping (Brucks 1985; Sujan 1985) and shoppers' prior experience (Mangleburg et al.,1998) are suggested.

Brucks (1985) found that consumers with high prior knowledge tended to exert more effort in acquiring new information. Because the information used in this study concerned utilitarian attributes, this finding suggested that prior knowledge may facilitate the processing of utilitarian attributes. Similarly, Sujan (1985) suggested that novices were likely to base evaluations on rather simplistic criteria, whereas experts were likely

to exhibit more product related thoughts. Because shoppers with low prior knowledge of stores may not be able to evaluate utilitarian store attributes, they may rely on evaluations of more simplistic cues, such as self-congruity. And, because knowledge is likely to facilitate processing of utilitarian attributes, shoppers with more prior knowledge are likely to use functional congruity more than self-congruity to evaluate stores.

With respect to prior experience, Mangleburg et al. (1998) examined how prior experience moderated the relationships between value-expressive and utilitarian criteria and brand attitudes. They found that user-image based cues had a greater effect on brand attitude for less experienced versus more experienced consumers, but that utilitarian cues generally had a greater effect on brand attitude for more experienced versus less experienced consumers. A similar process is likely to occur with respect to store attitudes and patronage behavior. That is, shoppers who are more experienced may focus on more utilitarian-based criteria in evaluating stores (e.g. functional congruity), whereas those shoppers who lack experience may focus on more holistic, image-based cues, such as self-congruity (Johar and Sirgy 1991).

In summary, previous research suggested that the effects of self-congruity and functional congruity on product (brand or store) evaluation differ depending on prior product (brand or store) knowledge and prior experience. Specifically, when shoppers have high prior knowledge and prior experience, they are more likely to use functional congruity (than self-congruity) and when shoppers have relatively low prior knowledge and prior experience, they are more likely to use self-congruity (than functional congruity).

Retail Patronage Behavior

In the simplest sense, retail patronage behavior is about how consumers choose specific retailers. This is an important construct in retailing because of the physical distance between retailers and consumers in markets and because it deals with consumers' retailer selection instead of consumers' specific product choice. But the efforts to draw a complete picture of consumer patronage behavior have been extremely complex because of the dynamic nature of the retail industry and the diversity of participants in the retail industry. In this complex retail environment, however, patronage behavior is trying to answer the question; what kind of consumers (characteristics of consumer-side, such as demographics, motivation, attitude, self-concept, etc.) choose what kind of retailer (retailer's characteristics, such as retail merchandise range, price range, atmospherics, customer service, retail image, etc.) through what process (consumer-retailer interaction, or consumer decision process)? The interesting feature in this question is that there are two major parties, retailers and consumers, and the interaction between them might determine a certain type of patronage behavior. This dynamic nature becomes distinctive when we compare two different definitions of patronage behavior. Kelly defines patronage as "a customer's commitment to purchases from a particular store" (Kelly, 1967, p.15), and this definition characterizes patronage behavior only by the concept of commitment. In consumer behavior research, the concept of commitment is often reflected as 'loyalty' and then, is 'loyalty' alone able to explain patronage behavior? Interestingly, loyalty itself has a dynamic character with a range from "loyalty to one object" to "loyalty as one alternative purchasing strategy." In this regard, the definition addressing this dynamic nature of patronage behavior seems

more reasonable. Laaksonen (Laaksonen, 1993, p.9) defines patronage as "all the possible inner features of dynamism around the shopping behavior phenomenon in terms of store choice" and the author sees patronage behavior as an ongoing adaptive process with regard to specific supply conditions.

The purpose of the following section is to identify the role of retail image and consumer self-concept in representative retail patronage models. Darden's (1979) patronage model of consumer behavior (1979) and Sheth's (1983) integrative theory of patronage preference and behavior will be introduced and other relevant research will be described.

Darden's Patronage Model of Consumer Behavior (1979)

There are three key components in Darden's model. The first one is shopping orientation, which is presented as a determinant of the general character of behavior, and also as a dependent variable on values, life experience, stage in family life cycle, social class, and media habits. The second component is the final patronage behavior specified as a result of both patronage intentions and inhibitors. This implies that patronage intentions are not automatically realized in patronage behavior, and the inhibitors, based on external circumstances, such as income, time, or social pressure, could be a crucial determinant at the final stage of patronage behavior. The third important element of the model is experience, which is feedback from patronage behavior and consumption and back to store attribute beliefs, shopping orientation, memory, and queue need. This feedback mechanism makes the model dynamic. Most of all, Darden's model was

pioneering or seminal because it was more comprehensive, and it takes into account both product and store choices (products are seen as determinants of store attribute importance, though), and both single and multi-purchase shopping behavior were included.

Even though not exactly specified as "store image," this model included "store attribute beliefs" having causal antecedent and consequence, correspondingly consumption memory and patronage intention. That is, beliefs of store attribute were a totality of consumption experience and accumulated memory, directly affecting retail patronage intention (surrogate indicator of retail patronage behavior).

Sheth's Integrative Theory of Patronage Preference and Behavior (1983)

Sheth established a patronage model in two parts, and he explained why these two models cannot be merged into one and kept separated, as follows;

> The integrative theory consists of two distinct subtheories, of which the first is limited to establishing a shopping preference for an outlet, whereas the second is focused on actual buying behavior from that outlet. It is argued that the two processes and their determinants are significantly different and therefore cannot be combined into a single conceptual framework with a common set of constructs. This is a radical departure from traditional thinking in social psychology, which holds that attitudes lead to behavior. In fact, we shall focus on the ***shopping-buying discrepancy*** in the development of the patronage system (Sheth, 1983, p11).

The first model focused on the formation of shopping predispositions. The shopping predisposition was formed through choice calculus, which depended on both shopping motives and shopping options. Shopping motives and shopping options were the main constructs in this model and each had a distinctive set of determinants. As determinants of shopping motives, personal ones, such as personal values, social values, and epistemic values, and product related ones, such as product typology, usage typology, and brand predisposition, were suggested. Likewise, location, retail institutions, and positioning/image were on the market side, and merchandise, service, and advertising/promotion constitute the company side and addressed as determinants of shopping options. There were several notable aspects that differentiated his model from the other. First, the setting was interactive, that is, both external and internal determinants influenced behavior. Second, the market determinants were separated from the store (company in this model) determinants, which made this model more sophisticated in terms of external determinants. Using choice calculus was another improvement in that it was a variable based on the experience and situational conditions, such as choice calculus could be sequential calculus, tradeoff calculus, or dominant calculus, depending on the interaction between shopping motives and shopping options.

Sheth named the second model an integrative theory of patronage behavior, by focusing on the determinants finally influencing the actual behavior. Apart from Darden's model, shopping predisposition in this model was not directly linked to patronage behavior. Instead, there were socio-economic, in-store marketing, personal, and product-related factors, which were collectively termed "unexpected events" in this model. The final output in this model was 'patronage behavior,' which was represented

as either planned, foregone, and unplanned, or no purchase. These alternatives indicated different amounts of enduring and situational influence. The model structure definitely emphasized the interactivity and dynamism, which made the model flexible. But, this flexibility cannot easily achieve model verification, because of the situation-specific determinants (i.e. unexpected events).

In this model, store image was one of the market factors. In Sheth's description, positioning and image refers to the specific merchandise-performance combination offered by a retail outlet to encourage certain target segments and discourage others from shopping at that outlet. Merchandise, service, and promotion were grouped as company determinants, even though they were frequently mentioned attributes to describe the store image construct. Given this perspective, there was a possibility that store image was too narrowly defined, and at the same time, this model seemed to be too specific regarding each determinant of shopping preference. However, the logic of choice calculus between supply side determinants (market and company determinants) and demand side determinants (personal and product determinants) significantly resembles the logic of congruity in retail patronage behavior.

Other Research on the Relationship between Store Image and Retail Patronage Behavior

So far, the discussion has been focused on identifying the meaning of store image in the extensive framework or model of patronage behavior. But, in theory application or empirical testing, those models are seldom tested as a whole because of the situation-oriented characteristics of patronage behavior. Moreover, research on each major tenet of

patronage behavior (life style, values, store image, or shopping attitudes) with respect to each retail responsibility area (merchandise mix, trade area, customer services, retail personnel, pricing, or promotion) has been popular and abundant (Babin and Darden, 1996; Baker, Grewal, and Parasuraman, 2002; Crane and Clarke, 1988; Darden, Erdem, and Darden, 1983; Donovan, et.al, 1994; Grewal and Monroe, 1989; Hui and Bateson, 1991; Titus and Everett, 1995; Wakefield and Blodgett, 1999)

Sirgy, Grewal, and Mangleburg (2000) developed a conceptual model including the effects of the retail environment on self-image congruence and the effects of self-congruity on retail patronage. Different from the previous integrative approach to patronage behavior, they focused on the congruity between consumer self image and the retail patron image and treated it as a major mechanism of the model. Also, the model identified factors that were likely to affect the development of retail patron images, such as retail atmospherics and other retail environment cues, and these factors were specified as moderating and mediating the relationship between self- congruity and retail patronage behavior. The retail environment factors, atmospheric cues, location cues, merchandise cues, price cues, and promotion cues were included. On the other hand, self-congruity was elaborated into four types of congruity, such as actual self-congruity, ideal self-congruity, social self-congruity, and ideal social self-congruity, and these types, in turn, affect retail patronage through the mediating effect of self-concept motives. Furthermore, the self-concept motives were activated by factors, such as store conspicuousness, co-shopping, age, and response mode. Finally, knowledge, prior experience, involvement, and time pressure were identified as moderators between self-congruity and retail patronage. Their work is distinguishable in that ‘image’ for both

consumer and retailers' was considered based on the fact that store image was extremely important in the purchase plan of most shoppers, which was followed by the fact that consumers increasingly use shopping strategies rather than brand strategies (Darden and Lusch, 1983).

Interestingly, however, Peterson and Kerin (1983) found a weak relationship between store image and patronage behavior. In the context of consumers' patronage behavior, this study examined the relationship among store image, consumers' choice criteria, and patronage behavior. The basic assumption was that store image has interaction separately with choice criteria and patronage behavior and choice criteria affects patronage behavior as a result of the interaction with store image. The interesting facet of this study was that it examined how much variability in patronage behavior was explained by store image itself. In other words, this study suggested that an image dimension has a function of the following factors; retail store characteristics, consumer characteristics, measurement instrument characteristics, mode of data collection, the data collection environment, and error (all other factors). This study found that store characteristics explained 31% of the all variability of response to an image dimension, which indicated that there were numerous other factors that confounded with store characteristics. Considering the fact that most of the previous studies attempted to explain store image only with store characteristics, it is surprising that almost 70% of the rest of the variability was caused by other factors, such as consumer characteristics. Given this fact, the image congruity mechanism between consumer self and retail side in this study seemed to be a logical addition.

Research Questions and Research Hypotheses

Based on the objectives of this study and previous discussion, this study presents the following three studies: The first study focused on identifying an exhaustive list of attributes and corresponding underlying dimensions of online store image. Utilizing the online store image attributes found in Study 1, the conceptual framework depicting the relationship among online store image attributes, consumer self-concept, and online retail patronage behavior, including moderating effects of consumer prior knowledge and prior experience is empirically tested in the second study. To assure the generalizability of the results from Study 2 across retail formats, Study 3 was performed by applying the conceptual model in Study 2 to a different retail format than the one used in Study 2.

Study 1: Research Question 1

The lack of online retail image research, in spite of its importance to online retail patronage behavior and the significant growth of online shopping, requires a more accurate and detailed analysis of online store image for retailers. However, as Keaveney and Hunt (1992) suggested, this study will try not to utilize already found attributes, but try to capture the gestalt or holistic perspectives that underlie the online store image conceptualization. By doing so, a comprehensive comparison between existing traditional store image dimensions and online retail image dimensions should be feasible. In detail, specific attribute composition between existing traditional store image and online retail image is expected to be different, i.e. some attributes will be newly added on, and some will be subtracted from the traditional retail image composition. For example, salesclerk's service or convenient parking, which is traditionally considered as

a significant attribute for retail patronage, will not appear in the list of online retail image attributes, whereas the attributes originated from the unique online characteristics, such as three-dimensional presentation (reality features), e-mail response service, and privacy concern, will be added in the list. However, attributes related to price, merchandise, convenience, and customer service dimensions will remain in the list as core image attributes across each channel. Therefore, online retail attribute composition and the attribute comparison between two retail channels will be explored with the following research question (Figure 3):

> **Research question 1**: What are online store image attributes? What are the corresponding online store image dimensions? How are resultant online store image attributes and underlying dimensions different from traditional store image attributes and dimensions?

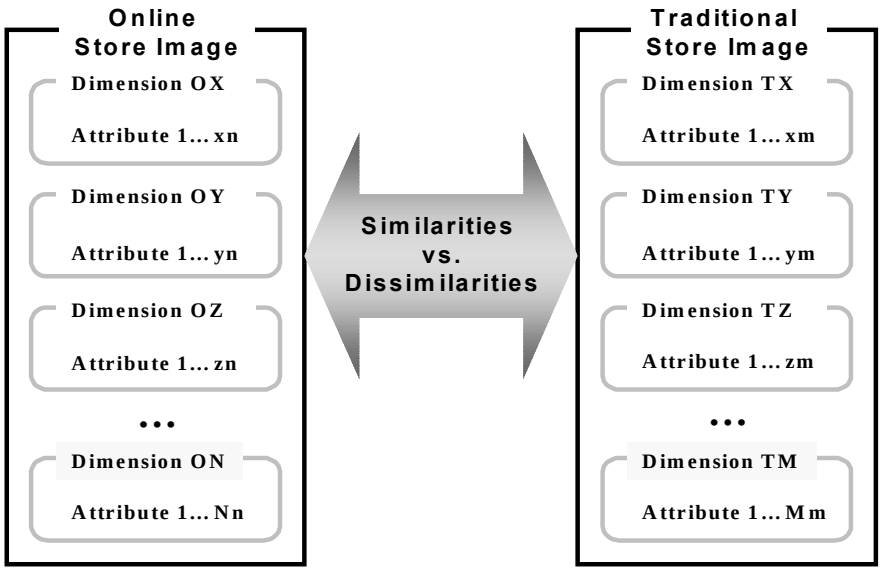

Figure 3. Framework for Study 1

Study 2: Conceptual Framework and Hypotheses

The conceptual framework exploring the relationship among consumer self-concept, online store image, and online retail patronage behavior is constructed in Figure 4.

As discussed earlier, the relationship between consumer self-image/product-image congruity and consumer product choice has been widely supported (Lamone 1966; Birdwell 1968; Grubb and Hupp 1968; Dolich 1969; Green et.al. 1969; Hughes and Naert 1970; Delozier and Tillman 1972; French and Glaschner 1971; Grubb and Stern 1971; Ross 1971; Landon 1974; Belch 1978; Stern et.al 1977; Sirgy 1979, 1980; Sirgy and Danes, 1981), and a number of studies supported the relationship between consumer self-image/store image congruity and consumer retail patronage behavior (Dornoff and Tatham 1972; Bellenger, Steinberg, and Stanton 1976; Samli and Sirgy 1981; Sirgy and Samli 1985).

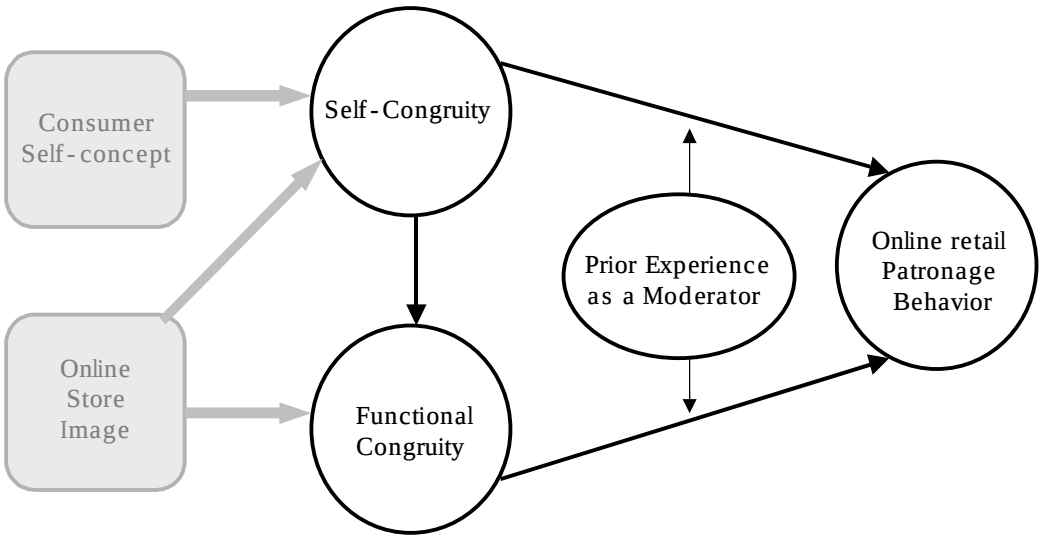

Figure 4. Conceptual Framework for Study 2

Given the analogy either between product-image and online retail-image or between product choice behavior and retail patronage behavior, this study hypothesized the significant role of consumer self-congruity (match between consumer self-concept and psychological or value-expressive attributes of online store image) in online retail patronage behavior.

> **Hypothesis 1**: The higher the consumers' self-congruity (match between consumer self-concept and psychological attributes of online store image), the higher their online retail patronage intention.

Functional congruity, which represents consumers' beliefs of favorable functional attributes of the store image, is also suggested as a significant predictor of retail patronage behavior (Hypothesis 2) (Samli and Sirgy 1981; Sirgy and Samli 1985; Sirgy, Johar, Samli, and Claiborne 1991). Moreover, previous studies supported that functional congruity has a stronger effect on retail patronage behavior than self-congruity does, and this result reflects the "biasing effect" of self-congruity on functional congruity (Hypothesis 3).

> **Hypothesis 2**: The higher the consumers' functional congruity (consumers' belief on favorable functional attributes of the online store image), the higher their online retail patronage intention.

> **Hypothesis 3**: The higher the consumers' self-congruity (match between consumer self-concept and psychological attributes of online store image), the higher their functional congruity (consumers' belief on favorable functional attributes of the online store image).

Given the relationship among self-congruity, functional congruity and retail patronage behavior, the variables moderating the relationship both between self-congruity and retail patronage behavior and between functional congruity and retail patronage behavior have been identified. Mangleburg et al. (1998) found that user-image based cues (e.g. self-congruity) had a greater effect on brand attitude for less experienced versus more experienced consumers, but that utilitarian cues (e.g. functional congruity) generally had a greater effect on brand attitude for more experienced versus less experienced consumers. A similar process is likely to occur with respect to store attitudes and patronage behavior (Sirgy and Johar 1991). Also, Brucks (1985) and Sujan (1985) suggested that consumer prior knowledge on stores and shopping allows consumers to use different attributes to evaluate store patronage intention. Specifically, consumers with a high knowledge use more functional attributes and consumers with low knowledge use rather simple cues, which is self-congruity in this study. Therefore, the moderating role of prior experience both between self-congruity and online retail patronage behavior and between functional congruity and online retail patronage behavior is hypothesized (Hypothesis 4).

Hypothesis 4: Consumer prior experience will have a moderating effect between congruity and online retail patronage intention.

Hypothesis 4a: Consumers with high prior experience will use more functional congruity than self-congruity to evaluate their online retail patronage intention.

Hypothesis 4b: Consumers with low prior experience will use more self-congruity than functional congruity to evaluate their online retail patronage intention.

All hypotheses are presented in diagram in Figure 5.

Study 3: Research Question 2

The previous conceptual framework will be applied to one online retailer to exclude unwanted variance possibly derived by different retailer formats, so that the pure effect of two types of congruity and moderators on online retail patronage behavior can be tested. Considering the contingent nature of retailer formats and corresponding consumer behavior differences, however, testing the generalizability of the model across different retailer formats is a crucial step in retail research. Therefore, the third study focuses on testing the conceptual model and hypotheses presented in Study 2 with a different online retailer format (Figure 6). The similar pattern of results between the two retailer formats will imply the generalizability of the presented conceptual model, whereas the dissimilar pattern of results between two retailers will initiate the discussion about a customized model, describing the relationship among self-congruity, functional congruity, and online retail patronage behavior, for each online retailer format.

> **Research Question 2**: Can the results from Study 2 be generalized to other online retailer formats? How will the two models, based on different online retailer formats, be similar or dissimilar?

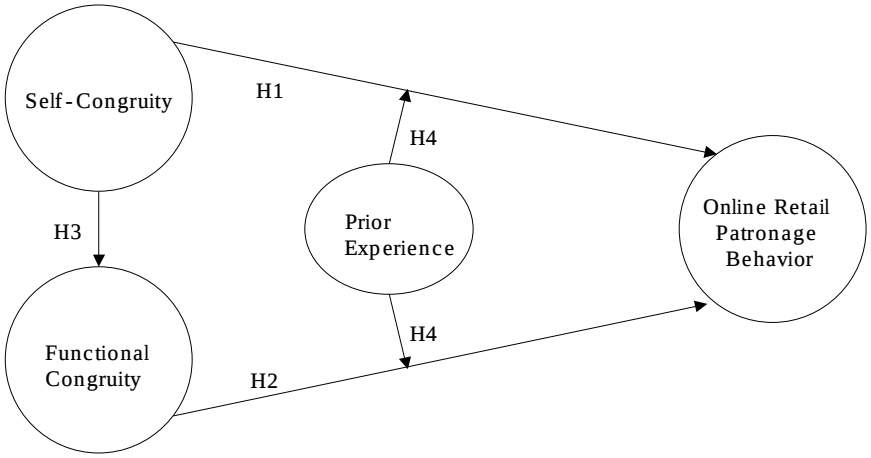

Figure 5. Hypotheses in Conceptual Model

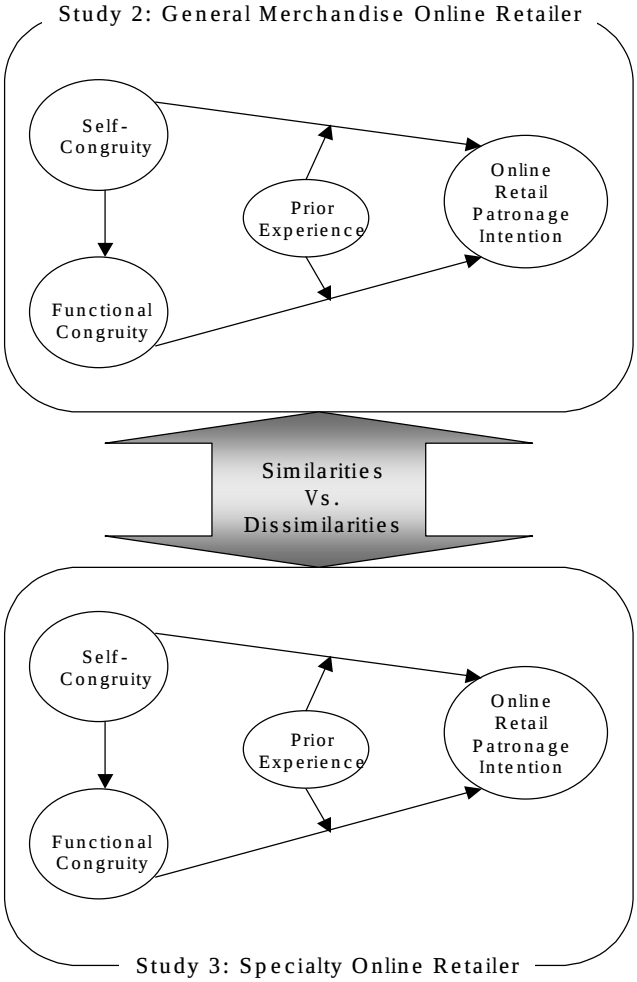

Figure 6. Framework for Study 3

CHAPTER III

METHODOLOGY

Three studies were conducted based on the objectives of this study, including identifying attributes and dimensions of online store image (Study 1), testing a conceptual framework empirically (Study 2), and assessing the results from Study 2 with another retail format to test the generalizability of this study (Study 3).

Study 1: Qualitative Research to Identify Online Store Image Dimensions

Even though several dimensions and numerous attributes for store image have been suggested, those were initially developed for traditional retail establishments. Considering the significant differences between online and traditional store-based retail environments in terms of shopping procedure and benefits involved, online store image should identify its own dimensions, avoiding any predominant knowledge from existing store image factor findings. Therefore, the qualitative research approach was adopted to capture the holistic nature of online retail image and its dimensions, as well as for further measurement development.

In-depth Interviews

In-depth interviews were performed with 26 US consumers who have used the Internet as their shopping channel, within a four-week period. The age and gender

distribution of the interviewees is shown in Table 3. Since this interview was intended to retrieve as many attributes as possible from the interviewees, the interview was continued until no new attributes were detected (Strauss and Corbin, 1998) and the questions asked ranged from overall Internet usage to a specific shopping experience. The specific questions used are as follows:

(1) How long have you been using the Internet to search for information?

(2) How long have you been using the Internet to purchase products?

(3) Please describe the most memorable purchase experience (i.e. the process of buying from the Internet and the feelings you might still remember) from an Internet site? (What did you buy? Where did you buy? When did you buy? How about the process and the feelings?)

(4) Do you have a list of online retailers you visit from time to time?

(A) If "YES", who are the online retailers you like to visit? What common aspects (i.e. their functions/features or your feelings about them) would you describe about them?

(B) If "NO", please recall one online retailer you have liked in the past. Then, who is it? Why did you like it? (about its functions/features or your feelings about it)

(5) How would you rate your level of satisfaction from your online shopping experience in general, in 10-scale (1 as 'unsatisfied' and 10 as 'satisfied')?

(A) If you have been satisfied with your online shopping experience, what is (are) the reason(s)?

Table 3. Age and Gender Distribution from In-depth Interviews

Age Category	N		Gender Category	N
Between 18 and 24	18		Male	5
Between 25 and 40	4		Female	21
Between 41 and 50	2		Total	26
Over 51	2			
Total	26			

(B) If you are not satisfied, what do you think that online retailers should do to increase your satisfaction?

The interviews were conducted individually in a quiet room, and all interviews were audio-taped according to the interviewee's consent. The amount of total recordings were 230 minutes and 52 attributes were retrieved (Appendix 2). Each attribute was retrieved through a careful process. For example:

> *Interviewer: What is a physical item that you bought on-line?*
>
> *C3*[*]*: I bought a digital camera. That was the first. Normally, I'm the type of person that if I'm buying something, I want to look at it, touch it, feel it, try it on. . . so, I normally don't purchase anything. I would just look on the computer. That was the first thing that I purchased because it was cheaper that way, significantly cheaper, and it didn't matter that it was going to take five days.*
>
> *Interviewer: But there's a lot of retailers who sell digital cameras on-line. How did you select which one?*
>
> *C3: O.K. I went to Cnet.com. (It has) anything electronic that you would want, but it's cheaper. It finds the cheapest thing that you want. So, I wanted a Cannon S-200 digital camera. So, I just went on Cnet and typed in Cannon S-200 and it showed me the cheapest prices on the Internet that had it.*
>
> …
>
> *Interviewer: Do you feel those websites like Best Buy and Cannon.com are similar to each other, or different?*
>
> *C3: To me, every website is the same.*
>
> *Interviewer: What do you see from the website, for example?*
>
> *C3: I just can't tell any of them apart. They all kind of look the same. They all have their different products and different things you can click on. . .they have a bunch of pictures, it's colorful. So, to me, they're really no different.*
>
> *Interviewer: Even though the web sites are similar, eventually you find one website and dig into it, and buy something. What do you think makes you to choose one?*

---

[*] The name of each interviewee was recorded only with the initial and number to ensure confidentiality of the interview.

> *C3: Mainly, if I see something out that I like. If I liked that sweater and I asked you where you got it and you told me, I might go home and get on the website of that store. Mainly, if I see something, or I hear about something. . .like, I know I want a good rain jacket for Christmas. So, I've been going around to Columbia.com and Northface, because I know that they sell good jackets there. So, that's the only reason I would go to a specific website. If I know I want something and I know they have it.* (from Interview #7)

The attributes identified were both cognitive and affective, so that the resultant online store image reflects both functional and psychological aspects. In this conversation, the actual attributes retrieved were 'reality features (look, touch, feel, and try),' 'wide selection of merchandise,' 'cheapest,' 'search by typing key words,' 'colorful,' 'friends suggest to visit.' The retrieved attributes, then, were categorized separately by three experts in the consumer online shopping behavior area and the reliability (agreement) of categorization among three experts was tested with Cohen's Kappa coefficient (Cohen, 1960). In addition, the comparison between online and traditional store image (Research Question1) was performed based on the identified online store image dimensions.

Analysis

Identifying dimensions of online store image involved two stages. In the first stage, to ensure the content validity of dimensions, Cohen's Kappa coefficient (Cohen, 1960) was calculated based on the attribute categorizations by three experts in the consumer online shopping behavior area. The Kappa coefficient has been long used in content analysis to calculate inter-rater reliability and the formula is presented as Kappa=[P(A)-P(E)]/[1-p(E)], where P(A) is observed agreement, and P(E) is expected agreement. Kappa's possible values are constrained to the interval [0, 1]; K=0 means that the agreement is not different from chance, and K=1 means perfect agreement. Although

there are no absolute cutoffs for kappa coefficients, two sources provided some rough guidelines for the interpretation of kappa coefficients. According to Fleiss (1981), values exceeding .75 suggest strong agreement above chance, values in the range of .40 to .75 indicate fair levels of agreement above chance, and values .40 are indicative of poor agreement above chance levels. On the other hand, Landis & Koch (1977) suggested the useful kappa interpretation scale as presented in Table 4. In addition, Gardner (1995) recommended that kappa exceed .70 before proceeding with additional data analyses.

In the second stage, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were performed for the comparison of dimensions from the qualitative approach and quantitative approach. By analyzing the level of agreement between the results from Stage 1 and the results from Stage 2, Study 1 presented both the content validity and external validity of online store image dimensions.

Table 4. Kappa Coefficient Interpretation Scale by Landis & Koch (1977)

Kappa Value	Interpretation
Below 0.00	Poor
0.00-0.20	Slight
0.21-0.40	Fair
0.41-0.60	Moderate
0.61-0.80	Substantial
0.81-1.00	Almost perfect

Study 2: Testing Conceptual Framework and Hypotheses

Online Survey: General Merchandise Online Retailer

Based on the results from Study 1, an extensive consumer online survey was conducted in Study 2 to examine the relationship among online retail image dimensions, consumer self-concept, and their online retail patronage behavior towards a general merchandise online retailer. The detailed methods used to select the consumer sample and retailer sample, and the actual survey implementation process are described as follows.

Consumer sample demographics and sampling

American consumers are reported as becoming more connected to the Internet after a short stagnant period, according to several consumer surveys, such as National Telecommunications and Information Administration (NTIA), Harris Interactive, and Nielsen and Net ratings, etc. (NTIA, 2002; Harris Interactive, 2002;Nielsen//NetRatings, 2003). However, since the results from each survey, in terms of demographic variables, do not agree with each other, this study follows the results from National Telecommunications and Information Administration (NTIA) for determining the sample frame. Compared to the commercial research organizations, NTIA in the U.S. Department of Commerce used the broadest data, based on the September 2001 U.S. Census Bureau's Current Population Survey. Approximately 57,000 households and more than 137,000 individuals across the United States participated, and the demographics regarding Internet use for these individuals are shown in Table 5.

Table 5. Internet Use from Any Location by Individuals Age 3 and Older (NTIA, February 2002)

	Internet Use in September 2001 (thousands)			Percentage Point Difference from 1998 to 2001
	Total	**Internet Users**	**Percentage**	
Total Population	265,180	142,823	53.9%	21.2%
Gender				
Male	129,152 (48.7%)	69,580 (48.7%)	53.9%	19.7%
Female	136,028 (51.3%)	73,243 (51.3%)	53.8%	22.5%
Family Income				
Less than $15,000	31,354 (11.8%)	7,848 (5.5%)	25.0%	11.4%
$15,000 - $24,999	26,650 (10.0%)	8,893 (6.2%)	33.4%	15.0%
$25,000 - $34,999	28,571 (10.7%)	12,591 (8.8%)	44.1%	18.8%
$35,000 - $49,999	36,044 (13.6%)	20,587 (14.4%)	57.1%	22.5%
$50,000 - $74,999	44,692 (16.9%)	30,071 (21.1%)	67.3%	21.8%
$75,000 and above	56,446 (21.3%)	44,547 (31.2%)	78.9%	20.0%
Educational Attainment				
Less than High School	27,484 (10.4%)	3,506 (2.5%)	12.8%	8.5%
High School Diploma/GED	57,386 (21.6%)	22,847 (16.0%)	39.8%	20.6%
Some College	45,420 (17.1%)	28,321 (20.0%)	62.4%	23.8%
Bachelors Degree	30,588 (11.5%)	24,726 (17.3%)	80.8%	22.4%
Beyond Bachelors Degree	16,283 (6.1%)	13,633 (9.5%)	83.7%	17.4%
Age Group				
Age 3 – 8	23,763 (9.0%)	6,637 (4.6%)	27.9%	16.9%
Age 9 – 17	37,118 (14.0%)	25,480 (17.8%)	68.6%	25.7%
Age 18 – 24	27,137 (10.2%)	17,673 (12.4%)	65.0%	21.0%
Age 25 – 49	101,890 (38.4%)	65,138 (45.6%)	63.9%	23.0%
Male	50,020	30,891	61.8%	20.0%
Female	51,871	34,247	66.0%	25.8%
Age 50+	75,272 (28.2%)	27,895 (19.5%)	37.1%	17.8%
Male	34,438	13,757	39.9%	17.1%
Female	40,834	14,138	34.6%	18.3%

Based on the demographic distribution found, this study considered the following to determine sample characteristics.

First of all, gender difference regarding online usage has been reduced. The overall online population is going beyond 50% of the U.S. total population, and the percentage of total online population (53.9%) coincides with the percentages of male and female use. This means that gender is not an appropriate stratification variable.

Secondly, there is an obvious linear relationship either between family income and online usage or between education and online usage. In other words, as the family income or education level goes higher, the portion of online use population among the total population grows. Therefore, the consumer sample used in this study should be determined as proportionate to the family income or education distribution among the Internet users.

Age will not be used as a stratification variable, since the proportion of online use population for each age segment shows a similar pattern (Table 6). However, the consumer group younger than 17 will be excluded from the sample frame because they usually are inactive as online 'shoppers,' even though they showed active connection to the Internet. Several other online consumer surveys supported this point of view (Harris Interactive, 2002;Nielsen//NetRatings, 2003). Harris Interactive defined the profile of U.S. online population with an age 18 and older, since consumers in this range are financially independent. This independency, in turn, will affect the consumption pattern differently.

Table 6. Online Use Population by Age Group (CyberAtlas, April 2002)

Profile of U.S. Online Population (February – March 2002)					
	18 to 29	**30 to 39**	**40 to 49**	**50 to 64**	**65 +**
Adults Online	28%	23%	23%	24%	5%

Based on the above consideration, the online use sample frame for this study was defined as online consumers who have shopped at least once between the ages of 18 and 64. Family income was used as a stratification variable in the probability based sampling procedure, so that the percent distribution of family income group of the sample was as close as the one from NTIA. (i.e. 5.5% of the sample belongs to 'Less than $15,000' family income category, 6.2% belongs to '$15,000 - $24,999,' 8.8% belongs to '$25,000 - $34,999,' 14.4% belongs to '$35,000 - $49,999,' 21.1% belongs to '$50,000 - $74,999,' and 31.2% belongs to '$75,000 and above')

Online retailer sample frame and sampling

The consumer sample in this study evaluated online retail image, both functional and psychological, based on their shopping experience from selected online retailers. Therefore this study should provide familiar online retailers to let respondents evaluate every attribute easily. The 'familiarity of online retailers to consumers' was mainly reflected on 'high traffic' or 'high sales volume' of online retailers. In order to select online retailers for the survey, the top 20 Internet retailers by sales volume in Table 7 (Stores, September 2000) and the top 20 shopping sites by traffic* (Table 8) were examined.

* http://www.alexa.com/site/ds/top_sites?catid=13&ts_mode=subject&lang=none

Table 7. Top 20 Internet Retailers by Sales Volume, VeriFone and Russell Reynolds Associates

Rank	Company	Primary Web Site(s)	Online Sales to U.S. Consumers	Past-Year Customers	Average 12-month Spending	Repeat Purchase Potential Index
1	eBay	ebay.com	$3.5-3.7B	10M	$350	101
2	Amazon.com	amazon.com	1.7-1.9B	12M	150	115
3	Dell	dell.com	1.1-1.3B	600K	2,000	66
4	buy.com	buy.com	700-800M	3M	250	105
5	Egghead.com	egghead.com, onsale.com (formerly)	500-600M	700K	800	79
6	Gateway	gateway.com	500-600M	350K	1,500	73
7	Quixtar	quixtar.com	400-450M	600K	700	140
8	uBid	ubid.com	275-325M	600K	500	82
9	Barnes & Noble	bn.com	275-325M	3M	100	98
10	Cyberian Outpost	outpost.com	200-250M	425K	550	80
11	Value America*	va.com	200-250M	250K	900	83
12	MicroWarehouse	microwarehouse.com	200-250M	175K	1,200	92
13	Office Depot	officedepot.com, vikingop.com	175-200M	250K	750	114
14	eToys.com	etoys.com, babycenter.com	150-175M	1.7M	100	93
15	Lands' End	landsend.com	150-175M	800K	200	105
16	The Spiegel Group	spiegel.com, eddiebauer.com, newport-news.com	150-175M	450K	350	97
17	Fingerhut	fingerhut.com, andysauctions.com, andysgarage.com	150-175M	400K	375	96
18	CDW	cdw.com	150-175M	200K	800	92
19	JCPenney	jcpenney.com	150-175M	500K	300	103
20	Gap	gap.com, oldnavy.com, bananarepublic.com	125-150M	800K	175	114

Table 8. Top 20 Shopping Sites by Web Traffic, Alexa.com

Rank	Online retailer (Shopping)	Reach per million users	Page views per user	Site information provided by Alexa
1	EBay	41,610	18.2	www.ebay.com - Site info
2	Amazon.com	31,485	6.0	www.amazon.com - Site info
3	Yahoo Auctions	289,950	19.4	auctions.yahoo.com - Site info
4	Ebaymotors	1,895	7.8	www.ebaymotors.com - Site info
5	Netflix	2,395	8.6	www.netflix.com - Site info
6	YourFreeDVDs.com	6,595	1.1	yourfreedvds.com - Site info
7	Wal-Mart	2,295	7.2	www.walmart.com - Site info
8	Kosher.com	3,700	2.3	www.kosher.com - Site info
9	Best Buy	2,325	7.9	www.bestbuy.com - Site info
10	Target	1,915	7.9	www.target.com - Site info
11	All Posters	1,430	10.2	www.allposters.com - Site info
12	AutoTrader.com	926,5	16.6	www.autotrader.com - Site info
13	Ofoto	900	21.9	www.ofoto.com - Site info
14	Ticketmaster USA	1,415	6.6	www.ticketmaster.com - Site info
15	Barnes and Noble	1,720	6.6	www.barnesandnoble.com - Site info
16	JCPenney	960,5	14.9	www1.jcpenney.com - Site info
17	Half.com	41,610	18.2	half.ebay.com - Site info
18	Sony.com	1,375	5.5	www.sony.com - Site info
19	NewEgg.com	824,5	10.6	newegg.com - Site info
20	Victoria's Secret	771	23.1	www.victoriassecret.com - Site info

Retrieved on 3/20/04

As shown, the four online retailers that appeared both in ranking by sales volume and ranking by traffic were eBay.com, Amazon.com, Newegg.com (formerly Egghead.com), and JCPenney.com. To select the most appropriate online retailer for this study among the four retailers, the following screening procedure was used.

First of all, multi-channel retailers were excluded in this study, because consumers' retail image for multi-channel retailers might be the result of mixed perception between offline retail image and online retail image. Therefore, in order to

measure the pure online store image, multi-channel retailers, such as JCPenney.com, were excluded.

Secondly, transaction method was considered. As shown in the two rankings, retailers who adopt 'auction' as a transaction method are significantly popular in the online environment, partly because one of the unique characteristics of the online environment called 'interactivity' offers consumers an easy exchange of their shopping information. However, auctioning involves distinctive shopping procedures, i.e. bidding or out-bidding, as well as consumers that participate in auctioning develop unique shopping strategies, compared to the general retailer-consumer transaction case. Therefore online retailers adopting auction as their transaction method were also excluded from this study, in spite of their growing trend in the online shopping environment. For example, E-bay turned out to be the most well known online retailer to online consumers, since E-bay was the place where the consumers purchased from the most and visited the most. However, E-bay was excluded, since auctioning might contaminate the pure effect of the congruity between online store image and consumer self-concept on retail patronage behavior.

Between the remaining online retailers, Amazon.com and Newegg.com, Amazon.com was selected for this study, because it is more familiar than Newegg.com to consumers, and had a higher sales volume and traffic show.

Survey implementation: Selecting survey agent

For a data collection method, this study used an online survey, since an online survey (web survey) has more advantages and appropriateness to this study, even though there is still pros and cons related to the effectiveness of an online survey.

In general, a survey conducted through the web has the limitation that a concrete sample frame cannot be achieved (Schonlau, Fricker and Elliott, 2002). The probability with which a respondent selected into the sample is unknown. In this case, if a survey used convenience sampling, respondents would be self-selected into the survey, which is the largest bias source in online usage related surveys (Schonlau, Fricker and Elliott, 2002), since Internet access is not universal, rather there are variables (e.g. income or education, as shown in Table 5) significantly accelerating Internet use. In this regard, this study adopted an online survey utilizing an online consumer panel maintained by a commercial online survey company, which had the following advantages over a web-posted survey and a mail survey.

- A pre-recruited panel from commercial online survey companies can be used as a sample frame. As long as the sample frame exists, every individual in this frame has the same probability to be contacted, so that the social interaction with respondents could be initiated (Dillman, 2000). Also every sample has the same probability to be selected, so that probability sampling is possible. Considering the most frequently addressed problems in an online survey, such as self-selection bias or a randomness problem, achieving the appropriate sample frame is a crucial element.

- Online survey appears to be less costly to administer (Kennedy, Kuh, and Carini, 2000). Mass email software allows personalized messages and eliminates the costs of printing and postage. Also, immediate access to the survey data is possible because the survey data are stored in a database. Consequently, survey processing time and costs are significantly reduced.
- Another positive factor of an online survey is that the survey processes can be completed more quickly. A typical mail survey design with multiple mailings requires a field period of at least two months (Dillman, 2000). With the web surveys, Kennedy et. al. (2000) noticed that a four-contact survey process could be completed within three weeks with no loss of response.

In this regard, an appropriate online survey agent who maintains a wide range of online consumer panels, Surveyz.com (Figure 7), was selected as the survey agent among other

Figure 7. Surveyz.com Main Page

commercial enterprises that specialized in conducting web surveys (e.g. Knowledge Networks[*] and Harris Interactive[**]), based on the survey cost and procedural fit to this study.

Development of Measurement

Measurement for self-congruity, functional congruity, prior experience, and online retail patronage intention was developed through conducting an open-ended question survey and modifying existing measurements, in addition to the in-depth interviews performed in Study 1. In detail, the measurement for self-congruity was developed based on an open-ended question survey of 28 undergraduate students. The measurement for functional congruity was mainly based on the in-depth interviews in Study 1. The rest of the measurements, prior experience and patronage intention, were developed by modifying existing measurements, such that the measurement for prior experience was mainly adopted from Mangleburg, et. al (1998), and the measurement for patronage intention was from Darden, Erdem, and Darden (1983), Baker, et. al. (2002), and Sirgy, Grewal, and Mangleburg (2000).

Preliminary measurement for self-congruity: Psychological store image versus consumer self-concept

Self-congruity is defined as a psychological state in which the product or store image is perceived to match, or to be consistent (congruous) with consumers' actual self-

[*] www.knowledgenetworks.com
[**] www.harrisinteractive.com

concept (Sirgy, 1979). Consequently, measuring the level of self-congruity involves the mathematical calculation identifying the difference between consumers' evaluation of psychological attributes of online store image and consumers' actual self-concept perception. In this regard, the measurement for psychological dimensions of online store image and the measurement for actual self-concept should be considered separately before setting the detailed measurement for self-congruity.

(1) Measurement for psychological online store image

The measurement for psychological online retail image was developed as a semantic differential scale. The initial scale items were affective attributes retrieved from Study 1. From 26 interviewees addressed in Study 1, 19 attributes were expressed with adjectives, which were affective or psychological in nature (Appendix 2). These adjectives were used to set anchors for each bi-polar semantic item. Separately from the interviews, 28 undergraduate students were asked to come up with the opposite adjectives for each attribute (first round). The initial pairs developed from the first round were split into two groups so that each adjective group represents one end of the bi-polar items. In addition, the 28-student group also was split in half. So, at the second round, two student groups were given different adjective groups and they were asked to come up with the opposite of the given adjectives. This process involving multiple rounds to find the final bi-polar adjective pairs was necessary for ensuring 'stability' of the semantic differential scale (Osgood, Suci, and Tannenbaum, 1975). As a result of the previous validation process, the semantic differential scales were developed to measure psychological online store image as presented in Table 9.

Table 9. Items Measuring Psychological Dimension of Online Store Image, based on Qualitative Research

Psychological Online Store Image	
Left Pole	Right Pole
Comfortable	Uncomfortable
Pleasant	Unpleasant
Casual	Formal
Exciting	Calm
Fair	Unfair
Friendly	Unfriendly
Unique	Similar to the others
Vibrant	Dull
Organized	Unorganized
Modest	Vain
Risky	Secure
Knowledgeable	Inexperienced
Trendy	Classic
Fast	Slow
Clear	Vague
Easy	Complex
Familiar	Unfamiliar
Rational	Emotional

(2) Measurement for consumers' actual self-concept

The most popular consumer self image measurement used in consumer research is a fifteen item semantic differential scale developed by Malhotra (1981). Specifically, those items were developed by reducing 70 items that were initially used by Osgood, Suci, and Tannenbaum (1957). Using those 15 items for this study, however, was not appropriate, since this study deals with consumer self-concept regarding his/her online shopping environment. In other words, existing consumer self-concept scale items might not be able to measure certain consumer self-concept dimensions when they are induced particularly by the online shopping environment. The need for development of unique self-concept scale items for this study was supported by the following discussion from Osgood, Suci, and Tannenbaum (1975);

> Although we often refer to the semantic differential as if it were some kind of "test," having some definite set of items and a specific score, this is not the case. To the contrary, it is a very general way of getting at a certain type of information, a highly generalizable technique of measurement which must be adapted to the requirement of each research problem to which it is applied. There are no standard concepts and no standard scales; rather, the concepts and scales used in a particular study depend upon the purposes of the research (p. 76).

Based on the survey of 28 undergraduate students, 18 semantic differential scales were carefully generated to measure consumers' actual self-concept. The specific question asked to develop a self-concept item pool was "What adjectives would you use to describe yourself when you shop online?" and let each subject name three adjectives for the initial item pool. As specified in the psychological online store image measurement section, 18 bi-polar scale items from the raw adjectives list were developed by several rounds of validation. The resulting scale items are shown in Table 10 with items developed by Malhotra (1981), for comparison. Several scale items overlap for both cases, such as 'exciting – calm,' 'organized – unorganized,' or 'modest – vain,' on the other hand, there are scale items specifically pertinent to this study, such as 'frustrated – relaxed,' 'secure – risky.'

Measurement for self-congruity

Since 'self-congruity' is a state of match or congruity between psychological attributes of online store image and self-concept attributes, this study selected (Table 11)

Table 10. Items Measuring Consumer Self-Concept in This Study, with Self-Concept scale Items Developed by Malhotra (1981) for Comparison

Self-concept scale items in this study	Self-concept scale items developed by Malhotra (1981)
Exciting----------Calm	Rugged----------Delicate
Organized----------Unorganized	Excitable----------Calm
Modest----------Vain	Uncomfortable----------Comfortable
Patient----------Impatient	Dominating ----------Submissive
Indulgent----------Thrifty	Thrifty----------Indulgent
Secure----------Risky	Pleasant----------Unpleasant
Cautious----------Daring	Contemporary----------Noncontemporary
Comfortable----------Uncomfortable	Organized----------Unorganized
Happy----------Unhappy	Rational----------Emotional
Frustrated----------Relaxed	Youthful----------Mature
Friendly----------Unfriendly	Formal----------Informal
Knowledgeable----------Inexperienced	Orthodox----------Liberal
Vibrant----------Dull	Complex----------Simple
Unique----------Similar to the others	Colorless----------Colorful
Trendy----------Classic	Modest----------Vain
Rational----------Emotional	
Casual----------Formal	
Fast----------Slow	

Table 11. Items Measuring Consumer Self-Congruity in This Study

Items for Self-Congruity (measured by 5-point semantic differential scales)	
Left Pole	Right Pole
Comfortable	Uncomfortable
Casual	Formal
Exciting	Calm
Unique	Similar to the others
Organized	Unorganized
Modest	Vain
Risky	Secure
Knowledgeable	Inexperienced
Trendy	Classic
Fast	Slow
Rational	Emotional

common attributes both from the psychological dimension of online store image and from the actual self-concept, which were suggested previously.

The measurement issues related to self-congruity have been examined differently by different investigators. The most basic model to measure self-congruity is a generalized Euclidean distance model and this was used by Birdwell (1968), Delozier and Tillman (1972), and Green, Maheshwari, and Rao (1969) as follows;

$$SC_k = \sqrt{\sum_{i=1}^{m} (RI_{ik} - SI_{ik})^2}$$

Where SC_k = Self-congruity score of the consumer (k),

DC_k = Ideal self-congruity score of the consumer (k)

RI_{ik} = Retail image score of attribute (i) of consumer (K)

SI_{ik} = Self-image score of attribute (i) of consumer (k)

Other investigators used different versions of the generalized distance model to measure self-congruity. These include the absolute difference model $SC_k = \sum |RI_{ik} - SI_{ik}|$ (Dolich, 1969; Maheshwari, 1974; Sirgy, 1979), the difference squared model $SC_k = \sum (RI_{ik} - SI_{ik})^2$ (Ross, 1971), the simple difference model $SC_k = \sum (RI_{ik} - SI_{ik})$ (Schewe and Dillon, 1978), the divisional model $SC_k = \sum (RI_{ik} - SI_{ik}) / SI_{ik}$ (Sirgy and Danes, 1981), and the multiple congruity model, in which both actual self-image (ASI) and ideal self-image (ISI) are incorporated in the same model (Sirgy and Danes, 1981) as follows;

$$SC_k or DC_k = \sum (2RI_{ik} - ASI_{ik}) ISI_{ik}$$

Where ASI_{ik} = Actual self-image score of attribute (i) of consumer (k)

ISI_{ik} = Ideal self-image score of attribute (i) of consumer (k)

A study conducted by Sirgy and Danes (1981) compared the predictive validity of single and multiple congruity models. The single congruity generalized absolute difference model was found to be more predictive of product preference and purchase intention than the generalized simple difference and divisional models and was just as predictive as the difference square, Euclidean distance and multiple congruity models. Therefore, the absolute difference model was adopted in this study as follows;

$$SC_k = \sum_{i=1}^{n} \left| RI_{ik} - SI_{ik} \right|$$

where SC_k = self congruity score for consumer (k);

i = psychological attribute (1,2,3,…,i,…,n);

RI_{ik} = retail image score of attribute (i) of consumer (k);

SI_{ik} = consumer actual self-image score of attribute (i) of consumer (k)

In summary, items addressed earlier in Table 11 were determined both for psychological store image and for consumers' actual self-concept, where only the instructions for each part was different. The instructions for psychological store image was:

Let's imagine XXX.com is a person you could meet in your everyday life! Based on this way of thinking, the following questions are about your impressions of XXX.com. Please mark how you see Amazon.com in the following sets of words.

On the other hand, the instructions for self-congruity was:

Think about yourself when you are on the Internet shopping! Please mark how you see yourself, between the following sets of words.

And then the 'self-congruity' score was calculated by the absolute difference model.

Measurement for functional congruity

In Study 1, online store image was categorized by two overall dimensions, a psychological dimension and a functional dimension (Appendix 1), as Martineau (1958) initially suggested. Since functional congruity is defined as the perceived utilitarian aspects of the store in reference to some ideal aspects (Sirgy and Johar, 1985), this study used functional attributes found in Study 1 for developing a measurement for functional congruity. Thirty-three statements based on 33 functional attributes were developed as 5-point Likert scale items (Table 12).

To determine an overall functional congruity per respondent, a summative index was used. In doing this, all Likert scale items were interpreted in such a way that the higher score of the items indicate a favorable functional image. Therefore, the sum total score reflects the extent to which a given respondent has a favorable evaluation of the store, based on the store's functional attributes[*]. Mathematically formulated, a functional incongruity score for an individual respondent will be derived as follows.

$$FC_k = \sum_{i=1}^{n} B_{ik} \ ,$$

where FC_k = functional congruity score for consumer (k), i = functional attribute (i=1,2,…,n), and Bi = belief about functional attributes of the store

[*] The measurement for functional congruity is implicit in nature, not explicit as the measurement for self-congruity is. That is, functional congruity is measured by respondents' evaluation of how each functional attribute was apart from the ideal points. For example, if a respondent chooses 3 in the 5-point Likert scale of "I can easily find my way around in XXX.com," this respondent shows 3 points of congruity out of 5 points of the highest congruent state in this scale. In this way, this measurement seems like to measure 'perceived functional attributes.' However, the terms 'functional congruity' was used in this study not only to maintain consistency and parallelism with 'self-congruity,' but also to point out that the underlying processes involving functional- and self-congruity are very much alike. Both processes involve evaluating attributes of a particular store against some referent. In self-congruity, the referent point was the actual self-image (explicit measure), whereas the referent point in functional congruity is an ideal state of each attribute (implicit measure).

Table 12. Items for Functional Congruity, Developed from Functional Attributes of Store Image (refer to the Appendix 2)

	Measurement for Functional Congruity (5-point Likert Scale)
Item Descriptions	(1) Shipping by XXX.com is fast (2) XXX.com offers me a low shipping cost (3) I can get my product delivered as quickly as I want from XXX.com (4) The product presentation from XXX.com helps me to get real feel for the product (5) XXX.com offers quality pictures of the products (6) When I have had to return the item purchased from XXX.com, the process was easy. (7) When I have had to exchange the item purchased from XXX.com, the process was easy (8) The site design of XXX.com is eye catching (9) XXX.com uses attractive colors on their sites (10) XXX.com offers me a good deal (11) The prices offered by XXX.com are competitive (12) XXX.com carries a lot of brand names (13) XXX.com has notified me when it has a sales event (14) XXX.com has big sales events (15) XXX.com lets me compare prices easily (16) XXX.com has everything I want (17) XXX.com offers good quality products (18) XXX.com has told me about a stock-out situation when it affected my order (19) XXX.com carries items I cannot find locally (20) Other customers' comments provided by XXX.com help my shopping process (21) XXX.com offers me a detailed product description (22) XXX.com offers a lot of helpful information beyond product information (23) XXX.com is a reliable place to shop (24) My friends shop at XXX.com (25) When I contact XXX.com, it responds to me as quickly as I want (26) XXX.com lets me track my orders (27) The checkout procedure on XXX.com is clear (28) The checkout procedure on XXX.com is easy (29) I believe XXX.com protects my financial privacy (30) I can easily find my way around in XXX.com (31) The XXX.com website is easy to browse (32) XXX.com makes searching simple by typing key-words (33) XXX.com offers me flexible payment options

Measurement for prior experience

In this study, consumers' prior experience was operationalized as their experience both with an online store and with online shopping from an online store, as well as their experience with general Internet usage. The reason why general Internet use was included in this construct is that Internet use is a logical antecedent of online shopping, i.e. a significant amount of cumulated general Internet use will enable online shopping, and that consumers' experience with the Internet itself and with online retailers could be distinguishable. The specific items (Table 13) were developed by modifying the measurement for prior experience used by Mangleburg, et al. (1998) and by adding new items based on the qualitative research performed in Study 1.

Measurement for online retail patronage intention

The measurement for online retail patronage intention was used as a surrogate indicator for actual patronage behavior (Table 14). The measurement for retail patronage intention in a traditional shopping environment could be summarized into three categories, consumers' willingness to buy (Darden, Erdem, and Darden, 1983), willingness to recommend (Baker, et. al., 2002), and shopping likelihood (Sirgy, Grewal, and Mangleburg, 2000). Online retail patronage behavior will not be entirely different from the traditional one, however, a number of unique behaviors were found from interviews in Study 1, such as forgetting how much time passed, visiting an online store because it offers useful information not strictly related to products, visiting an online store for comparison purposes, and visiting an online store if it looks like fun.

Table 13. Measurement for Prior Experience Modified from Mangleburg, et al. (1998)

	Measurement for prior experience
Item Description and Corresponding Categories	(1) Approximately, how long have you used the Internet? (6 categories: Less than 6 months, 6 to 11 months, 1 to 3 years, 4 to 6 years, 7 to 9 years, 10 years or more)
	(2) Approximately, how long have you used XXX.com? (5 categories: Less than 6 months, 6 to 11 months, 1 to 3 years, 4 to 6 years, 7 years or more)
	(3) Approximately, how much would you estimate you have spent on the Internet, in the past six months? (8 categories: Less than $50, Between $50 and $100, Between $101 and $150, Between $151 and $200, Between $201 and $300, Between $301 and $400, Between $401 and $500, More than $501)
	(4) Approximately, how much would you estimate you have spent at XXX.com, in the past six months? (6 categories: Less than $50, Between $50 and $100, Between $101 and $150, Between $151 and $200, Between $201 and $300, More than $301)
	(5) Approximately, how often did you make a purchase from the Internet, in the past six months? (7 categories: none, once, twice, 3 times, 4 times, 5 times, 6 times or more)
	(6) Approximately, how often did you make a purchase at XXX.com, in the past six months? (7 categories: none, once, twice, 3 times, 4 times, 5 times, 6 times or more)
	(7) I know a great about the Internet (5-point Likert scale: Strongly Disagree → Strongly Agree)
	(8) I know a great deal about making a purchase at XXX.com? (5-point Likert scale: Strongly Disagree → Strongly Agree)

Table 14. Measurement for Patronage Intention Modified from Previous Studies, and based on Qualitative Research.

	Measurement for patronage intention (5-points Likert scale)
Item Descriptions	(1) I expect to make a purchase at XXX.com again during the next 6 months. (2) When I am at XXX.com, I often loose track of time. (3) When I have something to buy, XXX.com will be one of the online sites I will go to. (4) When I want to entertain myself, XXX.com will be one of the online sites I will go to. (5) I expect to spend more at XXX.com than other online sites I usually shop. (6) I expect to recommend XXX.com to others for a good place to purchase online. (7) If someone were looking for something entertaining to do online, I would recommend XXX.com

Those comments reflect the unique characteristics of online stores, information-intensity, interactivity, not only utilitarian but experiential. Considering these characteristics of the online environment and keeping the traditional measurement of retail patronage intention, the measurement items for online retail patronage intention were derived.

As a summary, the survey questionnaire was designed including questions about consumers' self-concept, an online retailer's psychological image and functional congruity, prior experience, online retail patronage intention, and demographic items, as demonstrated in 'survey' section in the back of Appendix.

Analysis

The first three hypotheses examining the relationship among self-congruity, functional congruity, and patronage intention were analyzed using Path analysis (Figure 8). Specifically, those hypotheses were:

Hypothesis 1: The higher consumers' self-congruity (match between consumer self-concept and psychological attributes of online store image), the higher their online retail patronage intention will be.

Hypothesis 2: The higher consumers' functional congruity (consumers' belief on favorable functional attributes of the online store image), the higher their online retail patronage intention will be.

Hypothesis 3: The higher consumers' self-congruity (match between consumer self-concept and psychological attributes of online store image), the higher their

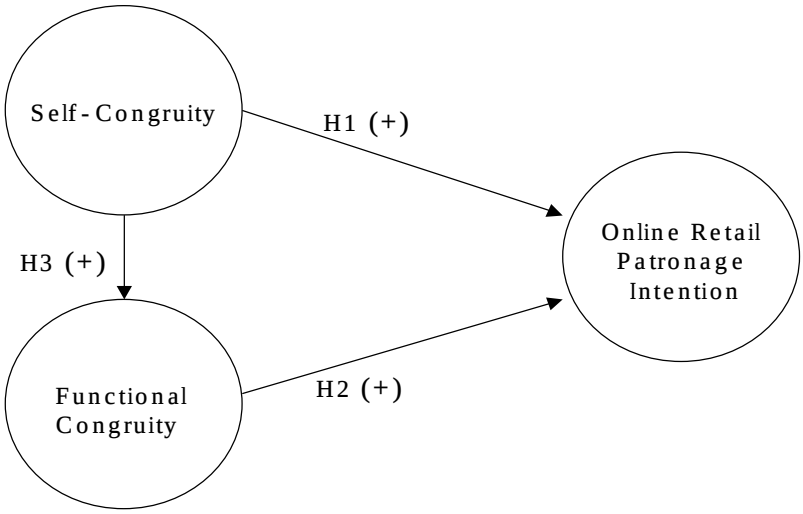

Figure 8. Hypotheses Testing the Relationship among Self-congruity, Functional congruity, and Patronage intention

functional congruity (consumers' belief on favorable functional attributes of the online store image) will be.

It should be noted that the scoring method suggested previously (the absolute difference model) was modified to maintain the positive relationship specified in the above model, either between self-congruity and patronage intention or between self-congruity and functional congruity. In fact, self-congruity refers to the state of match between consumers' self-concept and psychological attributes of online store image, by definition. If they match or are congruent, the score would be zero, and if they don't match, the score would be bigger. Therefore, if the original absolute difference model was used, the higher score of self-congruity measures the 'incongruent' state, whereas the lower score of self-congruity measures the 'congruent' state.

The modified absolute difference model is,

$$SC_k = 44 - \sum_{i=1}^{n} \left| RI_{ik} - SI_{ik} \right|$$

where SC_k = self congruity score for consumer (k);

44 = highest incongruity based on 11 semantic differential items with 4-points difference each

i = psychological attribute (1,2,3,…,i,…,n);

RI_{ik} = retail image score of attribute (i) of consumer (k);

SI_{ik} = consumer actual self-image score of attribute (i) of consumer (k)

The effect of the moderating variable was tested by using two path analyses, for each group divided by prior experience. Using the median value of the prior experience score as a dividing point, a low experience group and high experience group was created. A separate path analysis was performed for each group to see if there was any change in path coefficients of the relationship among self-congruity, functional congruity, and patronage intention. The hypotheses were as follows.

Hypothesis 4: Consumer prior experience will have a moderating effect between congruity and online retail patronage intention.

Hypothesis 4a: Consumers with a high prior experience will use more functional congruity than self-congruity to evaluate their online retail patronage intention.

Hypothesis 4b: Consumers with a low prior experience will use more self-congruity than functional congruity to evaluate their online retail patronage intention.

Study 3: Comparing the Result from Study 2

Across a Different Online Retail Format

Online Survey: Specialty Online Retailer

Based on the third research question, Study 3 was conducted to compare the results from Study 2, which was conducted based on Amazon.com (general merchandise online retailer), with a different online retail format, specifically a specialty online retailer. Therefore, the consumer sample demographics and the sampling method, and the measurement used in this study were the same as they were in Study 2.

Online retailer sample

To select another type of online retailer other than the general online merchandiser used in Study 2, the online retailer samples considered in Study 2 were re-organized into two groups, general online retailers and specialty online retailers (Table 15). Among the specialty online retailers, Dell.com was selected through the same screening process used in Study 2. As shown in Table 7 of the top 20 Internet retailers by sales volume, Dell.com ranked in the top 3rd in this ranking with $1.3 billion of sales volume and it also showed a significant amount of annual online spending with an average of $2,000.

Analysis

The analysis procedures and statistical analysis techniques involved in this part of the study are the same as those used in Study 2. In terms of the comparison between the result of Study 2 and Study 3, every hypothesis was compared between general online

Table 15. Sample Frame for Online Retailers

General online Retailers	In the Middle	Specialty Online Retailers	
Ebay.com Amazon.com Quixtar.com Ubid.com Fingerhut.com JCPenny.com Yahooauctions.com Walmart.com Target.com Half.com	Va.com	**Computer & Personal Electronics**	Dell.com Buy.com Egghead.com Gateway.com CDW.com BestBuy.com Sony.com Newegg.com
		Apparel & Accessories	Lands'End.com The Spiegel Group Gap.com Victoriassecret.com
		Toys	EToys.com
		Cars	Ebaymotors.com Autotrader.com
		Office Supplies	Officedepot.com
		Books	Barnsandnobles.com
		CDs and DVDs	Netflix.com YourFreeDVDs.com
		Others	Allposters.com Ofoto.com Ticketmaster.com

merchandisers and specialty online retailers, specifically the statistical validity of each hypothesis and the level of significance for each focused coefficient.

CHAPTER IV

RESULTS

Results from Study 1

The objective of Study 1 was to identify online store image dimensions based on both a qualitative and quantitative research approach. As a qualitative approach, Cohen's Kappa coefficient was calculated based on the attribute categorizations by three experts in the consumer online shopping behavior area. Next as a quantitative approach, EFA (Exploratory Factor Analysis) was performed and then CFA (Confirmatory Factor Analysis) was conducted to determine the significance of an exploratory defined factor structure.

Qualitative Approach: Cohen's Kappa Coefficient

Three judges (A, B, and C) were asked to categorize 33 attributes, which were identified from in-depth interviews. There was no pre-determined number of categories or name of categories given, instead, each judge freely categorized attributes in their own way. Therefore three agreement tables, one table for each pair of experts' categorization, were retrieved and presented in the Appendix (Appendix 3-1, 3-2, and 3-3). According to the categorizations, nine online store image dimensions were identified and among them, six dimensions commonly appeared in all three-agreement pairs (Table 16).

Table 16. Identified Dimensions from Judges' Categorization

Number of Dimensions	Descriptions
Nine total dimensions identified	Delivery, Website-related attributes, Price, Merchandise, Safety/Reliability, Use facilitators, Navigation, Promotion, Consumer Adoption
Six common dimensions identified	Delivery, Website-related attributes, Price, Merchandise, Safety/Reliability, Use facilitators

Table 17. Kappa Coefficient

Judges	Kappa Calculation	
Between A and B (24 matched)	Kappa = (24-4.848) / (33-4.848) = 0.68	Averaged Coefficient = 0.65
Between A and C (20 matched)	Kappa = (20-3.818) / (33-3.818) = 0.555	
Between B and C (25 matched)	Kappa = (25-4.091) / (33-4.091) = 0.723	

Three Cohen's Kappa coefficients were calculated by the ratio of the 'sum of observed agreement frequency-sum of expected agreement frequency' and 'the difference between total frequency and sum of expected agreement frequency.' Each coefficient and the resulting Kappa coefficient are presented in Table 17. As discussed earlier, Kappa coefficient is a generally robust measure of "inter-rater" agreement, often used to determine a reliability of numbers of different assessments. According to Landis and Koch's (1977) Kappa interpretation, 0.65 of Kappa coefficient in this study indicates that the agreement among the three judges' categorizations was "substantial."

More recently, Zimmer and Golden (1988) used the formula for a binomial probability to test reliability of different judgments. Whereas Cohen's Kappa coefficient could suffer from subjective interpretation, this method offers a statistical significance level of agreement, which would be attributable to chance alone. This formula is:

$$\text{p(k successes)} = \frac{N!}{k!(N-k)!} p^k (1-p)^{N-k}$$

Applying this formula to the results of agreement in this study with p(k successes) is the probability the agreement occurred due to chance alone, N is the total number of attributes considered (i.e. 33 in this case), k is the number attributes assigned to the same category, and p is 1/9 as the probability that two judges assign an attribute to the same category by chance, the probability of 24, 20, 25 matches can be represented in Table 18. It is evident that the probability the agreement achieved due to chance alone is extremely small. Furthermore, a normal approximation to the binomial offers the significance level of this result* (Table 19). A formula for a z-score based on this approximation is $z = \frac{k - E_k}{\sqrt{np(1-p)}}$, where k is number of matches, E_k is expected number of matches (i.e. 33(1/9)=3.67 in this case), n is total number of attributes considered (i.e. 33 in this case), and p is the probability that two judges assign an attribute to the same category by chance. According to Table 19, since a z-score of 3.09 corresponds to an alpha of 0.001, the probability that 20 attributes or more would be assigned to the same categories by chance is very low ($p < 0.001$).

In conclusion, the number of matches achieved for all three pairs of judges is significantly greater than the case by chance alone.

* A normal approximation to binomial distribution requires the sample size of more than 30, and this study met this requirement.

Table 18. Probability of Agreement by Chance

Judges	Probability Calculation
Between A and B (24 matches)	$\frac{33!}{24!(33-24)!}(1/9)^{24}(8/9)^{9} = 1.09639E-15$
Between A and C (20 matches)	$\frac{33!}{20!(33-20)!}(1/9)^{20}(8/9)^{13} = 5.56168E-11$
Between B and C (25 matches)	$\frac{33!}{25!(33-25)!}(1/9)^{25}(8/9)^{8} = 5.13931E-17$

Table 19. Z-score for Each Pair of Agreement

Z-score for judge pairs	Z-score Calculation
Z_{AB} (24 matches)	$\frac{24-3.67}{\sqrt{33(1/9)(8/9)}} = 11.2610$
Z_{AC} (20 matches)	$\frac{20-3.67}{\sqrt{33(1/9)(8/9)}} = 9.0454$
Z_{BC} (25 matches)	$\frac{25-3.67}{\sqrt{33(1/9)(8/9)}} = 11.8150$

Quantitative Approach: Exploratory Factor Analysis (EFA)

To test the external validity of the online store image dimensions (categorization) found in the qualitative approach, an extensive survey was performed. Four hundred and eighteen online consumers in the US between the ages of 18 and 64 comprised the sample. They were asked to rate their agreement on 33 questions, which were developed from 33 attributes used for categorization in the qualitative approach.

Before testing the categorization from the qualitative approach in the confirmatory factor analysis (CFA) setting, an EFA was performed to get a rough picture of the factor structure of the attributes. It is often recommended when there is no strong

theory about the constructs underlying responses to the measures (DeCoster, 2003) to first perform an EFA then a CFA. Given the fact that online store image attributes and corresponding dimensions have not yet been specified as a theory, an EFA was first performed and then the EFA result was applied to a CFA for this study. An EFA using correlation matrix as an input matrix, principal component analysis as an extraction method, and Varimax with Kaiser normalization as a rotation method extracted six components having an Eigenvalue over one, which explained approximately 68% of the total variance (Table 20 and Table 21). The first factor was composed of eight measurement items and it explained 17.4% of the total variance of online store image. Each item showed a significantly high factor loading (loading over 0.5) and there was no item eliminated due to cross-loading or low loading value[*]. The second factor was composed of eight measurement items and it explained 13.3% of the total variance of online store image. In this factor, V67 (xxx.com offers me flexible payment options), V50 (xxx.com has everything I want), and V49 (xxx.com lets me compare prices easily) were eliminated for the factor interpretation, due to its low loading value of .396, 0.426, and 0.466 respectively. Given the fact that V50 and V67 cross-load to another factor (factor 4) rather than Factor 2, these items should be ignored for the discriminant validity of factor analysis. Therefore, Factor 2 included six measurement items for the final interpretation. The third factor was composed of five measurement items and explained 11% of the total variance, but V38 (The product presentation from xxx.com helps me to get a real feel for the product) and V51 (xxx.com offers good quality products) were not

[*] There are several standards used to determine which items should be excluded based on a low factor loading value. Unfortunately, no absolute agreed cut-point exists, instead this cut-point is considered to be a matter of researchers' choice. In this study, factor loading value of 0.5 and below is used to drop items from the factor, according to Hair, et.al. (1995)

Table 20. Rotated Component Matrix

Variable (Name)	Component					
	1	**2**	**3**	**4**	**5**	**6**
V62	**.787**	.176	.236	.268	.163	5.785E-02
V61	**.787**	.157	.242	.295	.152	8.186E-02
V64	**.764**	.409	.139	.122	.203	.160
V65	**.741**	.461	9.735E-02	.104	.200	.205
V66	**.668**	.399	.213	2.202E-02	.255	.240
V60	**.641**	.148	.360	.293	.254	4.440E-02
V63	**.639**	.216	.325	.322	.149	.168
V57	**.568**	.227	.414	.355	.207	6.168E-02
V42	.248	**.758**	.154	.174	.124	.157
V43	.204	**.698**	.204	.242	.185	.141
V39	.351	**.632**	.360	.136	.219	4.317E-02
V55	.398	**.596**	.270	.264	.202	-8.991E-04
V56	.297	**.561**	.325	.335	.268	5.609E-02
V49	.233	**.466**	.194	.257	.292	.261
V50	.179	**.426**	.183	.411	.209	.299
V67	.247	**.396**	.282	.338	-9.154E-02	.295
V35	.254	.231	**.739**	.142	9.235E-02	.148
V37	.271	.209	**.712**	-6.883E-02	.170	.186
V36	.149	.190	**.676**	.313	7.488E-02	.143
V38	.261	.462	**.492**	.236	.261	5.101E-02
V51	.459	.253	**.466**	.359	.233	-1.643E-02
V48	.142	.367	.185	**.623**	.128	.258
V44	.335	.246	.429	**.559**	.192	.111
V59	.331	.164	.147	**.557**	.119	.273
V45	.355	.265	.450	**.536**	.189	4.668E-02
V47	.243	.266	3.982E-02	**.462**	.110	.308
V58	.323	.175	2.864E-02	**.456**	.385	.155
V46	.260	.118	.241	-1.445E-02	**.702**	.174
V54	.187	.307	8.564E-02	4.655E-02	**.690**	.172
V53	.106	.183	9.818E-02	.386	**.651**	-3.718E-02
V52	.253	7.173E-02	.113	.280	**.523**	.310
V41	8.266E-02	.122	9.791E-02	.224	.154	**.833**
V40	.133	.138	.196	.146	.185	**.822**

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Table 21. Total Variance Explained

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	16.067	48.689	48.689	5.753	17.434	17.434
2	1.737	5.265	53.954	4.386	13.290	30.724
3	1.352	4.096	58.050	3.671	11.124	41.848
4	1.183	3.586	61.636	3.468	10.508	52.356
5	1.093	3.313	64.949	2.827	8.566	60.922
6	1.018	3.084	68.032	2.346	7.110	68.032
7	.903	2.736	70.768			
8	.789	2.391	73.159			
			…			
22	.298	.903	93.799			
23	.288	.872	94.672			
24	.266	.805	95.477			
25	.238	.720	96.197			
26	.224	.680	96.876			
27	.208	.630	97.506			
28	.197	.596	98.102			
29	.179	.543	98.645			
30	.159	.481	99.126			
31	.157	.475	99.601			
32	7.406E-02	.224	99.825			
33	5.761E-02	.175	100.000			

Extraction Method: Principal Component Analysis.

considered for further interpretation, because V38 and V51 cross-loaded to Factor 2 and Factor 1 respectively. The fourth factor was composed of six measurement items and explained 10.5% of the total variance, and V47 (xxx.com has notified me when it has a sales event) and V58 (My friends shop at xxx.com) were dropped from further interpretation, due to their low factor loading value. The fifth factor was composed of four measurement items and explained 8.5% of the total variance, and all items were used for the final interpretation. The last factor was composed of two measurement items and it explained 7.1% of the total variance, and like the previous factor, all items were used for the interpretation. As a result, the individual item composition and the name of each factor are presented in Table 22.

Quantitative Approach: Confirmatory Factor Analysis (CFA)

The primary purpose of a CFA is to determine or 'confirm' the ability of a predefined model to fit an observed set of data. In this study, however, fitting a CFA model constructed from the EFA result to the same total survey sample had the following problems[*]. First of all, if the EFA results are put into a CFA using the same data, this is merely 'fitting' the data and not 'confirming' a theoretical construct. Secondly, it is conventional that an initial (a priori) model has undergone a series of modifications to get a possible best (final) model. If the same data is used both for an EFA and a CFA, even though a CFA could achieve highly significant fit indexes, a totally new data set was needed to test the validity and to confirm the predictability of the model, which was not available for this study. Therefore, this study divided the sample used for EFA into two

[*] These problems and the solution of the problems were suggested by Byrne (2001) and DeCoster (2003)

Table 22. Measurement Item Composition and Name of Factors

Factor	Measurement Items	Factor Interpretation
1	V62 The checkout procedure on Xxx.com is easy	Purchase process and Reliability
	V61 The checkout procedure on Xxx.com is clear	
	V64 I can easily find my way around in Xxx.com	
	V65 The Xxx.com website is easy to browse	
	V66 Xxx.com makes searching simple by typing key-words	
	V60 Xxx.com lets me track my orders	
	V63 I believe Xxx.com protects my financial privacy	
	V57 Xxx.com is a reliable place to shop	
2	V42 The site design of Xxx.com is eye catching	Depth and Width of Site Attraction
	V43 Xxx.com uses attractive colors on their sites	
	V39 Xxx.com offers quality pictures of the products	
	V55 Xxx.com offers me a detailed product description	
	V56 Xxx.com offers a lot of helpful information beyond product information	
3	V35 Shipping by Xxx.com is fast	Cost and Time of Delivery
	V37 I can get my product delivered as quickly as I want from Xxx.com	
	V36 Xxx.com offers me a low shipping cost	
4	V48 Xxx.com has big sales events	Price Competitiveness and Communication
	V44 Xxx.com offers me a good deal	
	V59 When I contact Xxx.com, it responds to me as quickly as I want	
	V45 The prices offered by Xxx.com are competitive	
5	V46 Xxx.com carries a lot of brand names	Product and Information Availability
	V54 Other customers' comments provided by Xxx.com help my shopping process	
	V53 Xxx.com carries items I cannot find locally	
	V52 Xxx.com has told me about a stock-out situation when it affected my order	
6	V41 When I have had to exchange the item purchased from Xxx.com, the process was easy	Post-purchase Services
	V40 When I have had to return the item purchased from Xxx.com, the process was easy	

sub data sets. The first sub-data set was used to fit a priori CFA model constructed from the result of the EFA. Then, the second sub-data set acted as a validation sample, and was used to confirm the validity of the model finalized from the previous CFA.

Four hundred and eighteen cases used in the previous EFA were divided into two sub data sets by random sample selection option of SPSS 10.0 for Windows: The sample size of set A and set B were 194 and 224 cases, respectively.

A priori model

A priori confirmatory factor model (Figure 9) was constructed based on the EFA result as a theoretical base, and the model was fit to data set A using AMOS Graphics version 5.

The global fit of CFA with an a priori model is shown in Table 23. Among several fit measures, this study focused on Chi-square value (CMIN), goodness-of-fit index (GFI) as absolute fit indices, the comparative fit index (CFI) as one of comparative or increment indices, and root mean square error of approximation (RMSEA), because other indices were developed by slight modifications of those above mentioned indices.

First of all, the test of the a priori model having a six factor structure as depicted in Figure 1 yielded a chi-square value of 1048.027, with 284 degrees of freedom and a probability of less than .0001, by suggesting that the fit of the data to a priori model is not entirely adequate. In other words, given the data, the factor relations hypothesized in a priori model represented an unlikely event and should be rejected. However, a conclusion solely based on the Chi-square statistic is insufficient, because the Chi-square statistic is mainly based on the sample size (i.e. Chi-square statistic = $(N-1)F_{min}$), so that

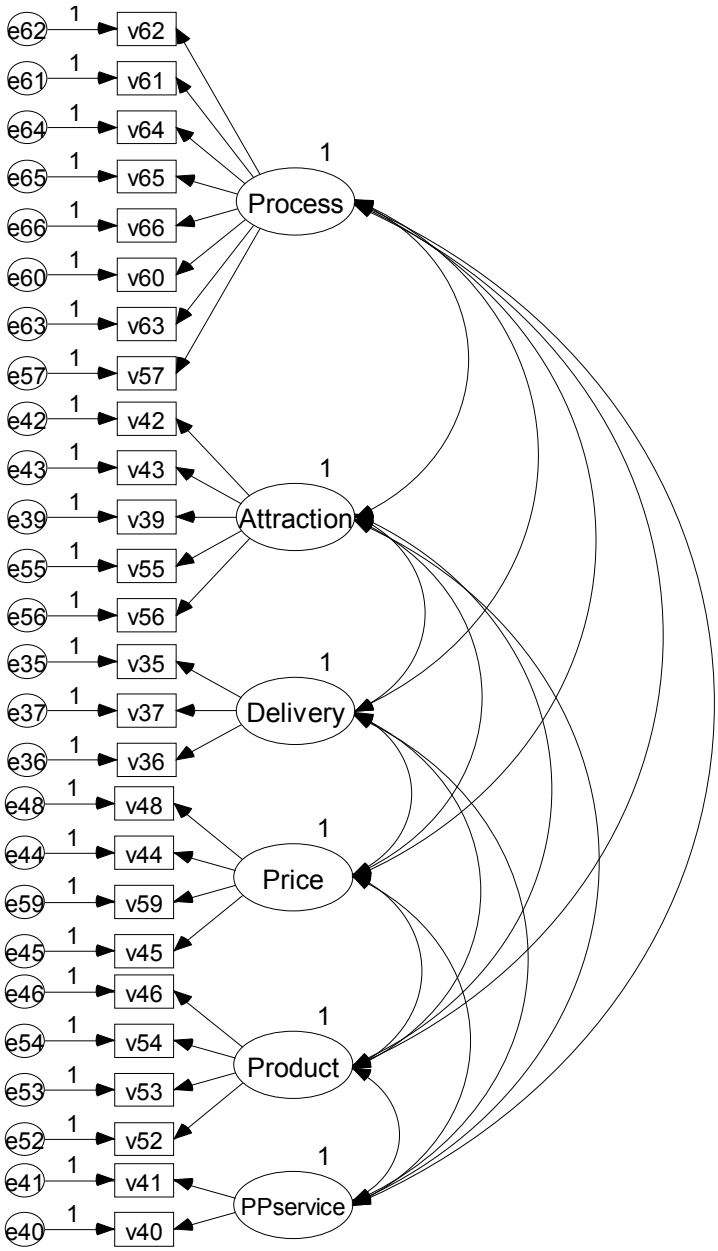

Figure 9. A priori Model for CFA

Table 23. Fit Indices for A priori Model

Model	NPAR	CMIN	DF	P	CMIN/DF	GFI	CFI
A priori Model	67	1048.027	284	0.000	3.69	0.704	0.801
Saturated Model	351	0.000	0.000	N/A	N/A	1	1
Independence Model	26	4162.098	325	0.000	12.806	0.164	0.000

Model	RMSEA	LO 90	HI 90	PCLOSE
A priori Model	0.118	0.11	0.126	0.000
Independence Model	0.247	0.241	0.254	0.000

it is highly sensitive to the sample size. Therefore, finding well-fitting hypothesized models (i.e. the Chi-square value approximates the degrees of freedom) have proven to be unrealistic in most CFA or Structural Equation Modeling (SEM) empirical research (Byrne, 2001). More commonly, a large Chi-square value relative to the degrees of freedom is indicating a need to modify the model in order to fit the data better.

Next, goodness-of-fit index (GFI) is a measure of the relative amount of variance and covariance in S (sample covariance matrix) that is jointly explained by Σ (calculated covariance matrix). GFI is classified as an absolute index of fit because they basically compare the hypothesized model with no model at all (Hu and Bentler, 1999). Although GFI value can be overly influenced by sample size (Fan, Thompson, and Wang, 1999), it is generally known that a GFI value close to 1.00 is indicative of good fit, and the GFI value of 0.704 in this study suggests a need of model modification for a better fit.

Comparative fit index (CFI) was also used in this study to find a better- fit model. Different from GFI, CFI is classified within incremental or comparative indices of fit (Hu and Bentler, 1995), because this index is based on a comparison of the hypothesized model against some standard. CFI was originally developed from a normed fit index (NFI). But, compared to the NFI's tendency of underestimating fit in small samples, CFI is advanced by taking sample size into account (Bentler, 1990), and often suggested that CFI is a better index for choice of the model than NFI. Given the fact that the CFI value of greater than 0.90 is considered representative of a well-fitting model (Bentler, 1990), the CFI of a priori model (0.801) in this study indicates a need of model modification for a better fit.

The last index included in this study was the root mean square error of approximation (RMSEA). This index has been recently recognized as one of the most informative criteria in covariance structure modeling (Byrne, 2001). The RMSEA takes into account the error of approximation in the population and asks the question, "How well would the model, with unknown but optimally chosen parameter values, fit the population covariance matrix if it were available?" (Browne and Cudeck, 1993, pp.137-138). The discrepancy measured by RMSEA is expressed per degree of freedom, so that RMSEA is sensitive to the number of estimated parameters in the model (i.e. the complexity of the model). The most recent RMSEA cutpoints are elaborated by MacCallum, Brown, and Sugawara (1996) and they suggested that the RMSEA values ranging from 0.08 to 0.10 indicate mediocre fit, and those greater than 0.10 indicate poor fit. In addition, Hu and Bentler (1999) suggested a value of 0.06 or lower to be indicative of good fit, but they also cautioned that RMSEA tends to over-reject true population

models when the sample size is small. Like the previous fit indices, RMSEA value of 0.118 of the a priori model in this study indicates a need of model modification for a better fit.

In summary, the a priori model was tested in CFA and all fit indices suggest that the a priori model should be revised and tested again. Therefore, a series of revisions were performed to find a better model by using path coefficient estimates, variance-covariance estimates, and modification indices (MI). The final chosen model is presented in the following section.

Final model

The final model chosen through a series of modifications is presented in Figure 10 and the fit indices and modifications completed to obtain this model are summarized in Table 24. The fit indices for the final model show that the model achieves a good fit to the data, considering the previous discussion about fit indices and cutpoints to select a model. In addition to overall fit indices, an ideal model should have all significant paths hypothesized in the model. The standardized path weights and covariance estimates are presented in Table 25 and Table 26. As shown in Table 25 and Table 26, all hypothesized paths for factor structure and all hypothesized relationships among factors and error terms are significant. Standardized residual covariance is the last index to decide that the model at hand is appropriate so that there is no need of further modification. Appendix 4 presents the standardized residual covariance of the final model. By looking at the covariance, all less than positive or negative 2.58 (Joreskog and

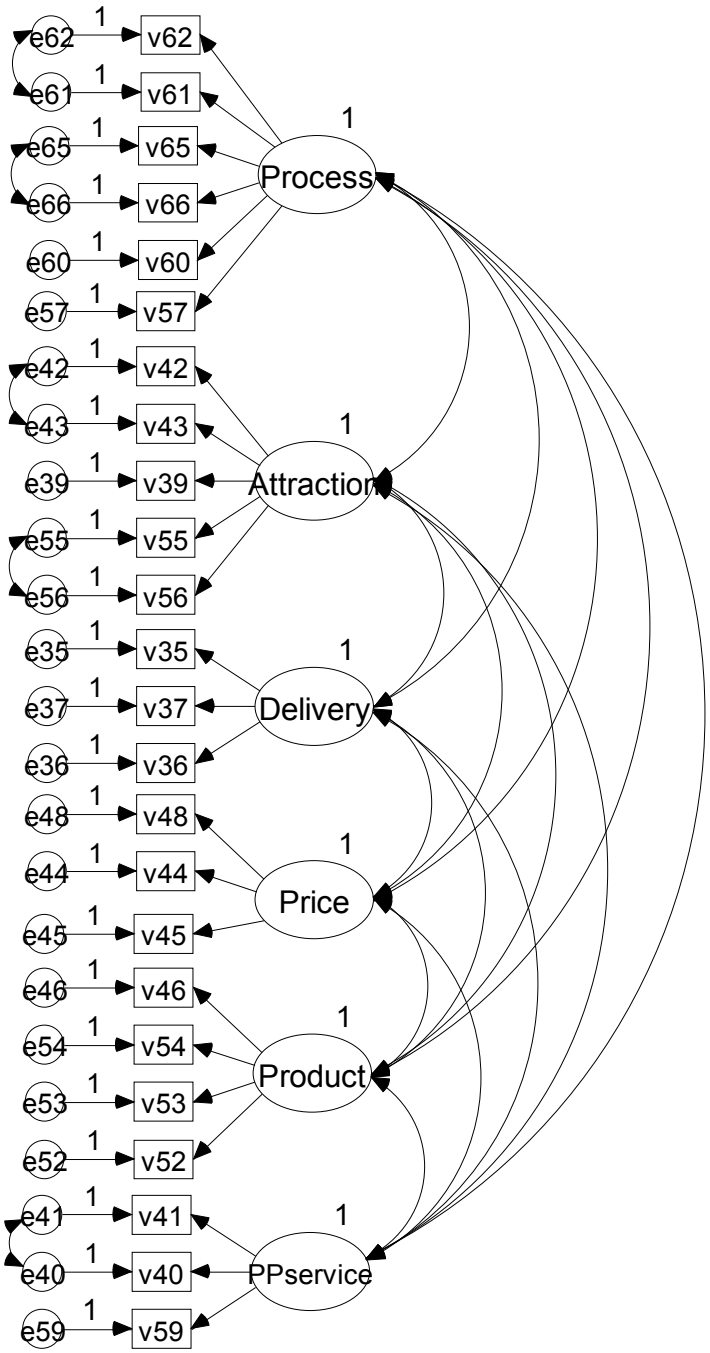

Figure 10. Final CFA Model

Table 24. Fit Indices and Modifications

Model	Chi-square	NPAR	*df*	CMIN/*df*	GFI	CFI	RMSEA
A priori	1048.027	67	284	3.690	.704	.801	.118
Modification → Correlate e61 and e62 based on large value of Modification index							
Model 1	819.502	68	283	2.896	.738	.860	.099
Modification → Correlate e43 and e42 based on large value of Modification index							
Model 2	747.949	69	282	2.652	.752	.879	.093
Modification → Correlate e65 and e64 based on large value of Modification Index							
Model 3	625.343	70	281	2.225	.804	.910	.080
Modification → Correlate e66 and e65 based on large value of Modification Index							
Model 4	589.704	71	280	2.106	.813	.919	.076
Modification → Correlate e56 and e55 based on large value of Modification Index							
Model 5	550.819	72	279	1.974	.824	.929	.071
Modification → Drop V64 based on its cross-loading to other items							
Model 6	441.117	69	256	1.723	.853	.945	.061
Modification → Let V59 belong to PP service based on the significant correlation between e59 and e41, and then e40 and e41 are correlated based on large value of Modification Index							
Model 7	423.029	70	255	1.659	.859	.950	.058
Modification → Drop V63 based on its cross-loading to other items							
Final	379.555	68	232	1.636	.866	.953	.057

Table 25. Standardized Path Weights

Items	Factors	Estimate	S.E.	C.R.	P
Xxx.com is a reliable place to shop	← Process	0.787	0.046	12.663	0.000
Xxx.com lets me track my orders	← Process	0.753	0.051	11.885	0.000
Xxx.com makes searching simple by typing key-words	← Process	0.731	0.058	11.377	0.000
The Xxx.com website is easy to browse	← Process	0.761	0.058	12.06	0.000
The checkout procedure on Xxx.com is clear	← Process	0.818	0.052	13.408	0.000
The checkout procedure on Xxx.com is easy	← Process	0.793	0.058	12.771	0.000
Xxx.com offers a lot of helpful information beyond product information	← Attraction	0.789	0.059	12.555	0.000
Xxx.com offers me a detailed product description	← Attraction	0.768	0.055	12.061	0.000
Xxx.com offers quality pictures of the products	← Attraction	0.814	0.051	13.201	0.000
Xxx.com uses attractive colors on their sites	← Attraction	0.72	0.053	11.045	0.000
The site design of Xxx.com is eye catching	← Attraction	0.735	0.055	11.376	0.000
Xxx.com offers me a low shipping cost	← Delivery	0.641	0.071	9.092	0.000
I can get my product delivered as quickly as I want from Xxx.com	← Delivery	0.75	0.061	11.069	0.000
Shipping by Xxx.com is fast	← Delivery	0.77	0.058	11.459	0.000
The prices offered by Xxx.com are competitive	← Price	0.854	0.048	14.157	0.000
Xxx.com offers me a good deal	← Price	0.856	0.051	14.22	0.000
Xxx.com has big sales events	← Price	0.68	0.059	10.265	0.000
Xxx.com has told me about a stock-out situation when it affected my order	← Product	0.726	0.059	10.632	0.000
Xxx.com carries items I cannot find locally	← Product	0.607	0.07	8.511	0.000
Other customers' comments provided by Xxx.com help my shopping process	← Product	0.648	0.067	9.217	0.000
Xxx.com carries a lot of brand names	← Product	0.634	0.067	8.967	0.000
When I have had to return the item purchased from Xxx.com, the process was easy	← PPservice	0.497	0.052	6.531	0.000
When I have had to exchange the item purchased from Xxx.com, the process was easy	← PPservice	0.502	0.046	6.618	0.000
When I contact Xxx.com, it responds to me as quickly as I want	← PPservice	0.804	0.074	10.033	0.000

Table 26. Covariance Estimates

Covariances			Estimate	S.E.	C.R.	P
Process	<-->	Attraction	0.846	0.035	24.295	0.000
Process	<-->	Delivery	0.74	0.051	14.642	0.000
Process	<-->	Price	0.774	0.041	18.697	0.000
Process	<-->	Product	0.78	0.048	16.31	0.000
Process	<-->	PPservice	0.687	0.07	9.778	0.000
Attraction	<-->	Delivery	0.711	0.055	12.951	0.000
Attraction	<-->	Price	0.806	0.04	20.352	0.000
Attraction	<-->	Product	0.734	0.054	13.645	0.000
Attraction	<-->	PPservice	0.723	0.07	10.356	0.000
Delivery	<-->	Price	0.681	0.056	12.065	0.000
Delivery	<-->	Product	0.599	0.07	8.553	0.000
Delivery	<-->	PPservice	0.469	0.087	5.375	0.000
Price	<-->	Product	0.646	0.061	10.652	0.000
Price	<-->	PPservice	0.745	0.068	11.023	0.000
Product	<-->	PPservice	0.731	0.075	9.777	0.000
e61	<-->	e62	0.224	0.033	6.758	0.000
e43	<-->	e42	0.185	0.032	5.753	0.000
e66	<-->	e65	0.229	0.037	6.158	0.000
e56	<-->	e55	0.171	0.034	4.965	0.000
e40	<-->	e41	0.246	0.032	7.784	0.000

Sorbom, 1988), this final model does not seem to require any further search to find a better model.

The next question is whether the good fit achieved here in the final model could be generalized to another data set. In order to confirm the external validity of the final model in this section, the data set B, which was held out for cross validation purposes, was used to fit the final model.

Cross validation of the final model

The data set B is composed of 224 cases and used to fit the model chosen in the previous CFA. The overall model fit is shown in Table 27. After detecting outliers based on Mahalanobis distances and excluding them, the overall fit indices show that the model fit the validation sample appropriately, according to the cutoff points presented in the earlier section. That is, this model is highly probable to be externally valid through this confirmatory procedure.

Also, all the standardized path coefficients (Table 28) and the covariance estimates (Table 29) for the hypothesized paths are highly significant, which indicates that the hypothesized paths and factor structure are all strongly supported.

In summary, by performing content analysis as a qualitative approach and confirmatory factor analysis as a quantitative approach, Study 1 determined six online store image dimensions: Purchase process and reliability, Depth and width of site attraction, Cost and time of delivery, Price competitiveness and communication, Product and information availability, and Post-purchase services.

Table 27. Overall Fit Indices for Validation Sample

Model	Chi-square	NPAR	*df*	CMIN/*df*	GFI	CFI	RMSEA
Validation Initial	494.993	68	232	2.134	.844	.934	.071
Modification → Excluded three outliers based on Mahalanobis Distance							
Validation Final	461.390	68	232	1.989	.855	.947	.067
Vs. Final model with data set A for comparison							
Final	379.555	68	232	1.636	.866	.953	.057

Table 28. Standardized Path Coefficient for Validation Model

Items	Factors	Estimate	S.E.	C.R.	P
Xxx.com is a reliable place to shop	← Process	0.867	0.051	16.017	0.000
Xxx.com lets me track my orders	← Process	0.855	0.049	15.663	0.000
Xxx.com makes searching simple by typing key-words	← Process	0.797	0.049	14.044	0.000
The Xxx.com website is easy to browse	← Process	0.853	0.047	15.615	0.000
The checkout procedure on Xxx.com is clear	← Process	0.89	0.049	16.74	0.000
The checkout procedure on Xxx.com is easy	← Process	0.884	0.05	16.524	0.000
Xxx.com offers a lot of helpful information beyond product information	← Attraction	0.834	0.05	14.853	0.000
Xxx.com offers me a detailed product description	← Attraction	0.852	0.048	15.401	0.000
Xxx.com offers quality pictures of the products	← Attraction	0.838	0.047	15.07	0.000
Xxx.com uses attractive colors on their sites	← Attraction	0.742	0.05	12.576	0.000
The site design of Xxx.com is eye catching	← Attraction	0.715	0.05	11.945	0.000
Xxx.com offers me a low shipping cost	← Delivery	0.777	0.059	12.994	0.000
I can get my product delivered as quickly as I want from Xxx.com	← Delivery	0.678	0.06	10.792	0.000
Shipping by Xxx.com is fast	← Delivery	0.817	0.054	13.929	0.000
The prices offered by Xxx.com are competitive	← Price	0.92	0.048	17.538	0.000
Xxx.com offers me a good deal	← Price	0.92	0.049	17.522	0.000
Xxx.com has big sales events	← Price	0.635	0.055	10.247	0.000
Xxx.com has told me about a stock-out situation when it affected my order	← Product	0.616	0.059	9.22	0.000
Xxx.com carries items I cannot find locally	← Product	0.688	0.065	10.588	0.000
Other customers' comments provided by Xxx.com help my shopping process	← Product	0.714	0.067	11.11	0.000
Xxx.com carries a lot of brand names	← Product	0.661	0.063	10.067	0.000
When I have had to return the item purchased from Xxx.com, the process was easy	← PPservice	0.605	0.05	8.734	0.000
When I have had to exchange the item purchased from Xxx.com, the process was easy	← PPservice	0.553	0.046	7.868	0.000
When I contact Xxx.com, it responds to me as quickly as I want	← PPservice	0.703	0.066	10.179	0.000

Table 29. Covariance Coefficient for Validation Model

Covariances			Estimate	S.E.	C.R.	P
Process	<-->	Attraction	0.913	0.02	45.842	0.000
Process	<-->	Delivery	0.768	0.039	19.613	0.000
Process	<-->	Price	0.842	0.026	32.748	0.000
Process	<-->	Product	0.735	0.045	16.371	0.000
Process	<-->	PPservice	0.838	0.053	15.75	0.000
Attraction	<-->	Delivery	0.855	0.033	25.848	0.000
Attraction	<-->	Price	0.822	0.03	27.269	0.000
Attraction	<-->	Product	0.748	0.046	16.293	0.000
Attraction	<-->	PPservice	0.82	0.057	14.461	0.000
Delivery	<-->	Price	0.799	0.037	21.798	0.000
Delivery	<-->	Product	0.592	0.063	9.405	0.000
Delivery	<-->	PPservice	0.802	0.062	12.895	0.000
Price	<-->	Product	0.668	0.051	13.044	0.000
Price	<-->	PPservice	0.804	0.056	14.391	0.000
Product	<-->	PPservice	0.718	0.071	10.164	0.000
e61	<-->	e62	0.125	0.02	6.315	0.000
e43	<-->	e42	0.204	0.03	6.892	0.000
e66	<-->	e65	0.113	0.021	5.441	0.000
e56	<-->	e55	0.058	0.022	2.7	0.007
e40	<-->	e41	0.181	0.029	6.129	0.000

The detailed discussion about the relationship among these dimensions and the comparison between the existing traditional store image dimensions and the dimensions found in this study will be addressed in Chapter 5.

Results from Study 2

The objective of Study 2 is to test the hypothesized relationship among self-congruity, functional congruity, previous experience, and online retail patronage intention. To test the relationships, a path analysis was performed based on the extensive survey about the selected online retailer, Amazon.com.

Sample Characteristics

For a three-week period, an online survey was conducted by sending out 1,000 emails to online consumers who shopped at least once and were between the ages of 18 and 64, using a purchased email list from surveyz.com. Among the recipients, 425 respondents selected Amazon.com to answer the survey questions (42.5% of response rate), of which 321 were usable after dropping cases with missing values. As mentioned earlier in Chapter 3, a stratified sampling was done by income variable, because of the significant linear relationship between income and the Internet usage. Two hundred and eighty cases were finally used for the analysis as a result of the stratification process (Table 30). Other sample characteristics regarding education, age, and gender are presented in Table 31, 32, and 33, respectively.

Table 30. Study 2: Stratified Sampling by Income

	Frequency	Percent		Stratified based on Census proportion	Frequency
Less than $15,000	20	6.23%		5.5%	18
$15,000 - $24,999	24	7.48%		6.2%	20
$25,000 - $34,999	33	10.28%	➔	8.8%	28
$35,000 - $49,999	55	17.13%		14.4%	46
$50,000 - $74,999	76	23.68%		21.1%	68
$75,000 and above	113	35.20%		31.2%	100
Total	321	100.00%		87.2%	280

Table 31. Study 2: Sample Characteristics - Education

Descriptive statistics		Categories	Frequency	Percent
Valid	280	Some High School	4	1.43%
Missing	0	High School or Equivalent	60	21.43%
Mean	3.4857143	Some College	78	27.85%
Median	3	College Graduate	88	31.43%
Mode	4	Graduate Degree (Master's, Doctoral)	39	13.93%
Std. Deviation	1.1791845	Professional Degree (MD, JD, etc.)	6	2.142%
Range	6	Other	5	1.78%
		Total	280	100%

Table 32. Study 2: Sample Characteristics - Age

Descriptive Statistics		Categories	Frequency	Percent
Valid	280	Between 18 and 24	23	8.21%
Missing	0	Between 25 and 34	52	18.57%
Mean	4.225	Between 35 and 44	84	30%
Median	4	Between 45 and 54	86	30.71%
Mode	5	Between 55 and 64	30	10.71%
Std. Deviation	1.1683168	Over 65	5	1.79%
Range	5	Total	280	100%

Table 33. Study 2: Sample Characteristics - Gender

Descriptive Statistics		Categories	Frequency	Percent
Valid	280	Female	184	65.71%
Missing	0	Male	96	34.29%
Mean	1.3428571	Total	280	100
Median	1			
Mode	1			
Std. Deviation	0.4755141			
Range	1			

As shown in Table 30, 280 cases were retained for further analysis after stratification by household income. In terms of education, over two thirds of the sample (75.36%) showed some college and above as their highest education completed, and college graduate (31.43%) was the largest group among the seven education categories. Regarding age, between 35 and 44 (30%) and between 45 and 54 (30.71%) were two highly represented age categories and accounted for approximately 61% of the total sample. The ages of 18 to 24 only accounted for 8.21% of the sample, which indicates that consumers in this category, mostly college/university students or recent graduates, are less active online shoppers than consumers between 35 and 54, most likely because of their financial instability.

Evaluation of Measures

This study focuses on four constructs: self-congruity, functional congruity, prior experience, and online retail patronage intention. Self-congruity is a state of match or congruity between psychological attributes of online store image and self-concept attributes. Eleven common psychological attributes for both online store image and self-concept were asked separately for each, and the difference between online store image

and self-concept for each attribute was calculated in absolute value. The reliability coefficient (Cronbach's Alpha) of the eleven semantic differential scales was 0.6510 indicating a moderate internal consistency* among measurement items (Table 34).

Functional congruity was defined as the perceived utilitarian aspects of the store in reference to some ideal aspects. In-depth interviews performed earlier identified thirty-three functional attributes, and through the EFA and the CFA in Study 1, the final twenty-four items were used in this study. The reliability coefficient of the twenty-four Likert scaled items was 0.9521, indicating a highly significant internal consistency among items (Table 35).

Prior experience in this study was operationalized as online consumers' experience both with an online store and with online shopping from the online store, Amazon.com in this case. Eight items were developed as a Likert scale for this construct and the reliability coefficient for the items was 0.7571, which indicated a good internal consistency among items (Table 36).

Lastly, seven Likert scaled items were developed to measure online retail patronage intention, specifically operationalized as consumers' willingness to purchase, willingness to recommend, and shopping likelihood. The reliability coefficient for the items was 0.8370, indicating a good internal consistency among the items (Table 37).

* Nunnaly (1978)'s suggestion was used to determine the level of internal consistency among measurement items.

Table 34. Study 2: Reliability Coefficient for Self-Congruity

Construct	Items	Item Labels	Reliability Coefficient
Self-Congruity	SC1	Comfortable ----- Uncomfortable	0.6510
	SC2	Casual ----- Formal	
	SC3	Excited ----- Calm	
	SC4	Unique ----- Similar to the others	
	SC5	Organized ----- Disorganized	
	SC6	Modest ----- Showy	
	SC7	Risky ----- Secure	
	SC8	Experienced ----- Inexperienced	
	SC9	Trendy ----- Traditional	
	SC10	Fast ----- Slow	
	SC11	Rational ----- Emotional	

Table 35. Study 2: Reliability Coefficient for Functional Congruity

Construct	Items	Item Labels	Reliability Coefficient
Functional Congruity	V35	Shipping by Amazon.com is fast	0.9521
	V36	Amazon.com offers me a low shipping cost	
	V37	I can get my product delivered as quickly as I want from Amazon.com	
	V39	Amazon.com offers quality pictures of the products	
	V40	When I have had to return the item purchased from Amazon.com, the process was easy	
	V41	When I have had to exchange the item purchased from Amazon.com, the process was easy	
	V42	The site design of Amazon.com is eye catching	
	V43	Amazon.com uses attractive colors on their sites	
	V44	Amazon.com offers me a good deal	
	V45	The prices offered by Amazon.com are competitive	
	V46	Amazon.com carries a lot of brand names	
	V48	Amazon.com has big sales events	
	V52	Amazon.com has told me about a stock-out situation when it affected my order	
	V53	Amazon.com carries items I cannot find locally	
	V54	Other customers' comments provided by Amazon.com help my shopping process	
	V55	Amazon.com offers me a detailed product description	
	V56	Amazon.com offers a lot of helpful information beyond product information	
	V57	Amazon.com is a reliable place to shop	
	V59	When I contact Amazon.com, it responds to me as quickly as I want	
	V60	Amazon.com lets me track my orders	
	V61	The checkout procedure on Amazon.com is clear	
	V62	The checkout procedure on Amazon.com is easy	
	V65	The Amazon.com website is easy to browse	
	V66	Amazon.com makes searching simple by typing key-words	

Table 36. Study 2: Reliability Coefficient for Prior Experience

Construct	Items	Item Labels	Reliability Coefficient
Prior Experience	V12	I know a great deal about the Internet	0.7571
	V13	Length of using the Internet	
	V14	Spending on the Internet in the past six months	
	V15	Frequency of making a purchase on the Internet in the past six month	
	V31	I know a great deal about making a purchase at Amazon.com	
	V32	Length of using Amazon.com for an online purchase	
	V33	Spending at Amazon.com in the past six months	
	V34	Frequency of making a purchase at Amazon.com in the past six month	

Table 37. Study 2: Reliability Coefficient for Online Retail Patronage Behavior

Construct	Items	Item Labels	Reliability Coefficient
Online Retail Patronage Behavior	V80	I expect to make a purchase at Amazon.com again during the next 6 months	0.8370
	V81	When I am at Amazon.com, I often loose track of time	
	V82	When I have something to buy, Amazon.com will be one of the online sites I will go to.	
	V83	When I want to entertain myself, Amazon.com will be one of the online sites I will go to	
	V84	I expect to spend more at Amazon.com than other online sites I usually shop	
	V85	I expect to recommend Amazon.com to others for a good place to purchase online	
	V86	If someone were looking for something entertaining to do online, I would recommend Amazon.com	

Hypotheses Testing – Path Analysis

Three hypotheses were constructed to examine the relationship among self-congruity (SC), functional congruity (FC), and online retail patronage intention (PI), and tested through a path analysis with Maximum Likelihood Estimation. The result of the path analysis among SC, FC, and PI is presented in Figure 11 and Table 38.

Hypothesis 1 examined the relationship between consumers' self-congruity and their online retail patronage behavior. As the path coefficient (*b* =0.115, p=0.015) between SC and PI indicated, two constructs showed a significant positive linear relationship. Therefore Hypothesis 1 was supported.

Hypothesis 2 posited a positive linear relationship between FC and PI. The highly significant (p<0.001) path coefficient of 0.591 indicated that the functional congruity had a significant positive relationship with online retail patronage intention.

Hypothesis 3 examined the relationship between SC and FC, specifically, the higher the consumer's self-congruity, the higher their functional congruity will be. Even though the significance level was moderate (p=0.067), the hypothesized positive linear relationship between the two constructs was supported with the path coefficient of 0.109.

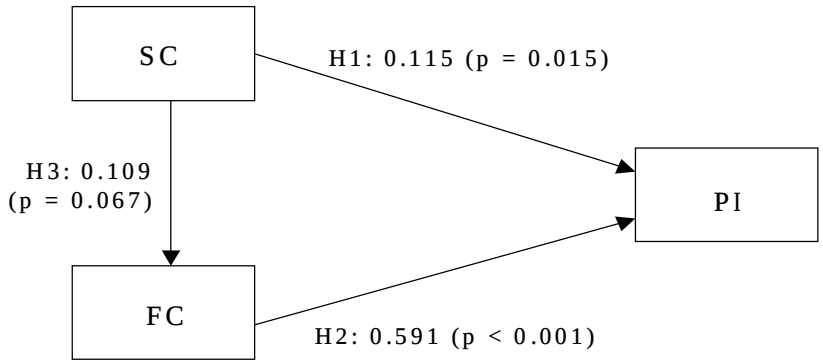

Figure 11. Study 2: Standardized Path Coefficients from Path Analysis

Table 38. Study 2: Regression Weights from Path Analysis (Hypothesis 1,2, & 3)

	Path	Estimate (Unstandardized)	Estimate (Standardized)	S.E.	C.R.	P
Hypothesis 1	SC → PI	.126	.115	.052	2.425	.015
Hypothesis 2	FC → PI	.193	.591	.016	12.422	<.001
Hypothesis 3	SC → FC	.364	.109	.199	1.830	.067

Hypothesis 4 examined the moderating effect of prior experience on the relationships between congruity and online retail patronage intention. Before testing specific paths, two sub-groups were created based on the prior experience. Eight items measuring prior experience were summed and the median value was used to divide two groups. The descriptive statistics for each group are presented in Table 39.

For each group, path analysis was separately conducted to test a moderating effect of prior experience. According to the resulting two path-diagrams shown in Figure 12, the path coefficient and significant level between congruity and online patronage intention, either SC → PI or FC → PI, differ between the two diagrams. In detail, Group1 (lower prior experience) shows the strong and significant path between FC and PI with the weak and insignificant path between SC and PI, while Group2 (higher prior experience) shows both SC → PI and FC → PI as significant paths. This difference between the two models suggests that prior experience indeed has a moderating effect on the relationship between congruity and online retail patronage intention. Therefore Hypothesis 4 was supported.

Table 39. Study 2: Sub-sample Groups based on Prior Experience

	N	Mean	Median	Minimum	Maximum
Lower Prior Experience Group	134	24.05224	24.5	12	29
Higher Prior Experience Group	135	36.6	36	31	49
Total	269	11 cases (median=30) were dropped			

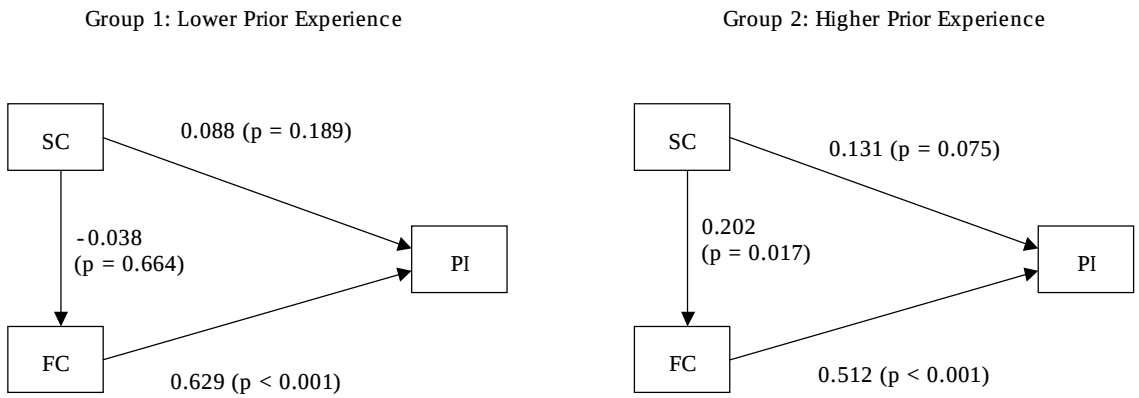

Figure 12. Study 2: Testing a Moderating Effect of Prior Experience

Two sub-hypotheses 4a and 4b specifically examined the relationship SC → PI and FC → PI, according to the moderating effect of prior experience (Table 40). Hypothesis 4a expected that consumers with higher prior experience would use more functional congruity than self-congruity to determine their online retail patronage intention. The path diagram for Group2 in Figure 12 shows that the path coefficient of FC → PI (*b* =0.512, p<.001) was much greater than the path coefficient of SC → PI (*b* =0.131, p=.075), which suggested that functional congruity has a greater effect, than self-congruity, on online retail patronage intention. Therefore Hypothesis 4a was supported. On the other hand, Hypothesis 4b expected that consumers with lower prior experience would use more self-congruity than functional congruity to determine their online retail patronage intention. As shown in the path diagram for Group1 (Figure 12),

Table 40. Study 2: Regression Weights from Path Analysis (Hypothesis 4, 4a, & 4b)

	Path	Estimate (Unstandardized)	Estimate (Standardized)	S.E.	C.R.	P
Group 1 (Low Exp)	PI ← SC	.083	.088	.063	1.315	.664
	PI ← FC	.197	.629	.021	9.361	<.001
Group2 (High Exp)	PI ← SC	.152	.131	.085	1.779	.075
	PI ← FC	.170	.512	.024	6.965	<.001

however, the path coefficient of FC → PI (*b* =0.629, p<.001) was much greater than the path coefficient of SC → PI (*b* =0.088, p=0.189). This indicated that functional congruity also had a greater effect, than self-congruity, on online retail patronage intention for the lower experience group. Therefore, Hypothesis 4b was not supported.

In summary, all hypotheses, except for Hypothesis 4b, were supported. This result suggests that both self-congruity and functional congruity are significant constructs to predict online retail patronage intention, and moreover, the relationships among them are significantly affected by consumers' prior experience with the specific online retailer and with the Internet in general. The summary table of hypothesis testing is presented in Table 41.

Results from Study 3

The objective of Study 3 was to test the relationships among self-congruity, functional congruity, prior experience, and online retail patronage intention for a specialty online retailer (Dell.com). Following the analysis procedure used in Study 2, sample characteristics and evaluation of measures are presented in this section followed by path analysis for testing the hypotheses, which were already tested in Study 2 for a

Table 41. Study 2: Summary of Hypotheses Testing (Amazon.com)

Hypotheses	Result
H1: The higher consumers' self-congruity (match between consumer self-concept and psychological attributes of online store image), the higher their online retail patronage intention will be.	Supported
H2: The higher consumers' functional congruity (consumers' belief on favorable functional attributes of the online store image), the higher their online retail patronage intention will be.	Supported
H3: The higher consumers' self-congruity (match between consumer self-concept and psychological attributes of online store image), the higher their functional congruity (consumers' belief on favorable functional attributes of the online store image) will be.	Supported
H4: Consumer prior experience will have moderating effect between congruity and online retail patronage intention.	Supported
H4a: Consumers with a high prior experience will use more functional congruity than self-congruity to evaluate their online retail patronage intention.	Supported
H4b: Consumers with a low prior experience will use more self-congruity than functional congruity to evaluate their online retail patronage intention.	Not Supported

comparison purpose between a general merchandise online retailer and a specialty online retailer.

Sample Characteristics

When conducting the survey described in Study 2, 183 respondents chose Dell.com to answer the survey questions (18.3% of response rate), and among them, 97 respondents remained for further analysis after dropping incomplete cases (i.e. cases having either missing values or 'don't know' option). The same sample stratification process was performed, so that 84 samples were finally used for hypothesis testing, as shown in Table 42. Besides income, the sample characteristics regarding education, age, and gender are presented in Table 43, 44, and 45, respectively.

Table 42. Study 3: Stratified Sampling by Income

	Frequency	Percent		Stratified based on Census proportion	Frequency
Less than $15,000	9	9.28%		5.5%	5
$15,000 - $24,999	10	10.31%		6.2%	6
$25,000 - $34,999	11	11.34%	➔	8.8%	9
$35,000 - $49,999	14	14.43%		14.4%	14
$50,000 - $74,999	22	22.68%		21.1%	20
$75,000 and above	31	31.96%		31.2%	30
Total	97	100.00%		87.2%	84

Table 43. Study 3: Sample Characteristics - Education

Descriptive statistics		Categories	Frequency	Percent
Valid	84	Some High School	3	3.57%
Missing	0	High School or Equivalent	12	14.29%
Mean	3.68	Some College	21	25.00%
Median	4	College Graduate	26	30.95%
Mode	4	Graduate Degree (Master's, Doctoral)	17	20.24%
Std. Deviation	1.22	Professional Degree (MD, JD, etc.)	5	5.95%
Range	6	Other	0	0%
		Total	84	100%

Table 44. Study 3: Sample Characteristics - Age

Descriptive Statistics		Categories	Frequency	Percent
Valid	84	Between 18 and 24	7	8.33%
Missing	0	Between 25 and 34	15	17.86%
Mean	4.33	Between 35 and 44	23	27.38%
Median	4	Between 45 and 54	21	25.00%
Mode	5	Between 55 and 64	17	20.24%
Std. Deviation	1.28	Over 65	1	1.19%
Range	5	Total	280	100%

Table 45. Study 3: Sample Characteristics - Gender

Descriptive Statistics		Categories	Frequency	Percent
Valid	84	Female	36	42.86%
Missing	0	Male	48	57.14%
Mean	1.57	Total	84	100
Median	2			
Mode	2			
Std. Deviation	0.5			
Range	1			

First of all, 84 cases remained for further analysis after the stratification process. Among the 84 cases, 'some college' and higher categories in education accounted for 82.43% of the total sample, which indicated that the respondents of Dell.com shows a higher level of education completed than the respondents of Amazon.com (75.36%). In terms of age, 55 to 64 accounted for 20.24% of the total, which is a much higher proportion than Amazon.com's case, and other categories showed a similar pattern in proportion as shown in the Amazon sample. Regarding gender, the male proportion is larger with Dell whereas the female is larger with Amazon. This is probably because the male is involved more in purchasing products carried by Dell.com (e.g. computer or electronics in general) than in purchasing general merchandise from Amazon.com.

Evaluation of Measures

The items used to measure the four constructs were exactly the same as those used in Study 2. To ensure whether the items were reliable measurements, the reliability coefficient (Cronbach's Alpha) for each construct was calculated and presented in Table 46. As shown, all reliability coefficients are above .70, which is considered an acceptable level of reliability of measurements (Nunnaly, 1978).

Table 46. Study 3: Reliability Coefficient for Constructs

Constructs	Self-congruity	Functional Congruity	Prior Experience	Online Retail Patronage Intention
Reliability Coefficient	0.7131	0.9561	0.7092	0.8498

Hypotheses Testing – Path Analysis

The same hypotheses built to examine the relationships in Study 2 were tested in this study through a path analysis with Maximum Likelihood Estimation. The result of the path analysis among self-congruity (SC), functional congruity (FC), and online retail patronage intention (PI) is presented in Figure 13 and Table 47.

Hypothesis 1 examined the relationship between consumers' self-congruity and online retail patronage behavior. As the path coefficient (b =0.110, p=0.247) between SC and PI in Figure 13 indicated, these two constructs did not show a significant positive relationship. Therefore, Hypothesis 1 was not supported.

Hypothesis 2 tested the positive relationship between FC and PI. The highly significant ($p<0.001$) path coefficient of 0.492 suggested that functional congruity positively related to online retail patronage intention. Therefore, Hypothesis 2 was supported.

Hypothesis 3 examined the positive relationship between SC and FC. As Figure 13 indicated, the hypothesized positive linear relationship between self-congruity and functional congruity was supported with the path coefficient of 0.189 (p=0.079).

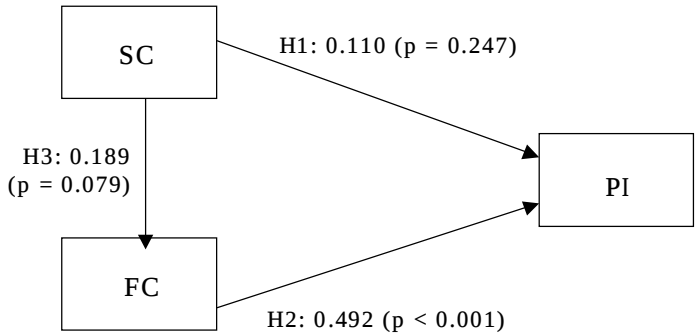

Figure 13. Study 3: Standardized Path Coefficients from Path Analysis

Table 47. Study 3: Regression Weights from Path analysis (Hypothesis 1,2, & 3)

	Path	Estimate (Unstandardized)	Estimate (Standardized)	S.E.	C.R.	P
Hypothesis 1	SC → PI	.037	.110	.032	1.158	.247
Hypothesis 2	FC → PI	.119	.492	.023	5.175	<.001
Hypothesis 3	SC → FC	.260	.189	.148	1.754	.079

To investigate the moderating effect of prior experience on the relationship between congruity and online retail patronage intention (Hypothesis 4), two sub-groups were created based on prior experience. Following the procedure used in Study 2, eight items measuring prior experience were summed and the median value was used to create two groups. The descriptive statistics for each group is presented in Table 48.

For each group, path analysis was separately performed to test a moderating effect of prior experience. The resulting two path diagrams are shown in Figure 14 and Table 49. Different from the results of Study 2, the two groups showed a similar pattern of relationships among SC, FC, and PI. That is, both groups showed no positive relationship either between self-congruity and online retail patronage intention or

Table 48. Study 3: Sub-samples based on Prior Experience (Eight items total)

	N	Mean	Median	Minimum	Maximum
Lower Prior Experience Group	39	22.56	23	12	28
Higher Prior Experience Group	40	35.65	34	30	49
Total	79	5 cases (median=29) were dropped			

Table 49. Study 3: Regression Weights from Path Analysis (Hypothesis 4, 4a, & 4b)

	Path	Estimate (Unstandardized)	Estimate (Standardized)	S.E.	C.R.	P
Group 1 (Low Exp)	SC → PI	.032	.111	.039	0.841	.400
	FC → PI	.155	.574	.036	4.347	<.001
Group2 (High Exp)	SC → PI	.038	.106	.054	0.694	.488
	PI ← FC	.076	.310	.038	2.029	.042

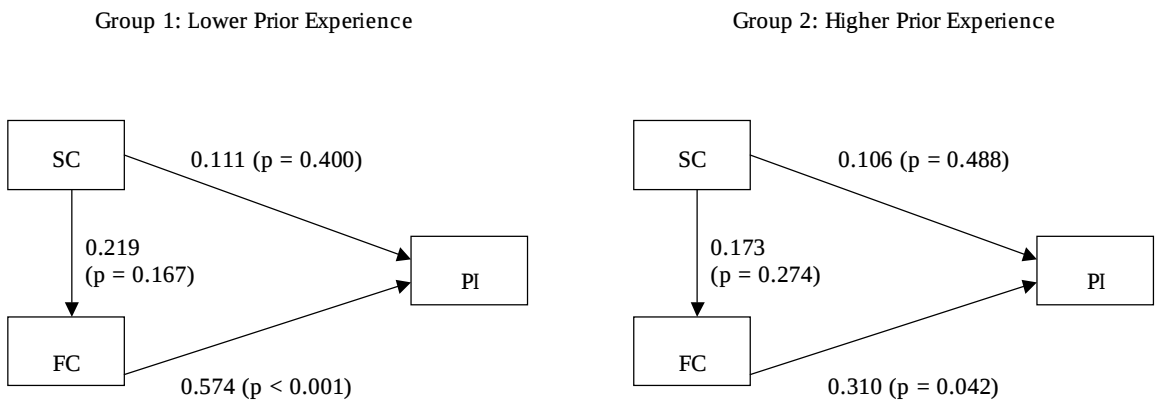

Figure14. Study 3: Testing a Moderating Effect of Prior Experience

between self-congruity and functional congruity, whereas functional congruity showed a positive linear relationship with online retail patronage intention for both groups. Since there is no moderating effect of prior experience, Hypothesis 4 is not supported.

In terms of two sub-hypothesis 4a and 4b, only Hypothesis 4a, which expected that consumers with higher prior experience would use more functional congruity than self-congruity to determine their online retail patronage intention, was supported. The path diagram for Group 2 in Figure 14 shows that the path coefficient of FC → PI (b =0.310, p=0.042) was much greater than the path coefficient of SC → PI (b =0.106, p=0.488), suggesting that functional congruity had a greater effect, than self-congruity, on online retail patronage intention. On the other hand, Hypothesis 4b expected that consumers with lower prior experience would use more self-congruity than functional congruity to determine their online retail patronage intention. The path diagram of Group 1 in Figure 14 shows that the path coefficient of FC → PI (b =0.574, p<0.001) was still greater than the path coefficient of SC → PI (b =0.111, p=0.400), indicating that Hypothesis 4b is not supported.

The results of Hypotheses testing are summarized in Table 50. The positive relationship between functional congruity and online retail patronage intention was strongly supported and the positive relationship between self-congruity and functional congruity was moderately supported. The moderating effect of prior experience on the relationships between congruity and online retail patronage intention was not supported, by demonstrating that self-congruity did not have any effect on online retail patronage intention either for the higher experienced group or for the lower experience group.

Table 50. Study 3: Summary of Hypotheses Testing (Dell.com)

Hypotheses	Result
H1: The higher consumers' self-congruity (match between consumer self-concept and psychological attributes of online store image), the higher their online retail patronage intention will be.	Not Supported
H2: The higher consumers' functional congruity (consumers' belief on favorable functional attributes of the online store image), the higher their online retail patronage intention will be.	Supported
H3: The higher consumers' self-congruity (match between consumer self-concept and psychological attributes of online store image), the higher their functional congruity (consumers' belief on favorable functional attributes of the online store image) will be.	Supported
H4: Consumer prior experience will have a moderating effect between congruity and online retail patronage intention.	Not Supported
H4a: Consumers with high prior experience will use more functional congruity than self-congruity to evaluate their online retail patronage intention.	Supported
H4b: Consumers with low prior experience will use more self-congruity than functional congruity to evaluate their online retail patronage intention.	Not Supported

Post Hoc Analysis

To explore the reasons why there were the dissimilarities in the result of hypotheses testing between Study 2 and Study 3, another path analysis was performed using two differently created prior experience groups. In this analysis, the way of creating two prior experience groups was modified, because there might be a chance that prior experience should be defined differently between Amazon.com respondents (Study 2) and Dell.com respondents (Study 3). Specifically, Dell.com respondents might not visit Dell.com as frequently as Amazon.com respondents because the products carried by Dell.com (e.g. computer, computer accessories, etc.) have a longer purchase cycle than products by Amazon.com. In addition, Dell.com respondents might spend more than Amazon.com respondents because of the higher unit price of products carried by Dell.com. In other words, the same standard for dividing prior experience group used for

Amazon.com might not be appropriate for the Dell.com respondents. Therefore in this Post Hoc study, only four items of prior experience, including overall knowledge about the Internet (v12) and Dell.com (v31) and the length of using the Internet (v13) and Dell.com (v32), were summed and the median value was used to divide two groups. The reliability coefficient of four items was 0.6499, which is moderately acceptable to proceed with further analysis (Nunnaly, 1978). The descriptive statistics for each group are presented in Table 51.

The resulting path analysis for each group is shown in Figure 15 and Table 52. The biggest difference after applying a different grouping scheme was the significant effect of self-congruity on functional congruity (b =0.323, p=0.050) in the higher prior experience group, whereas there was no effect of self-congruity on functional congruity (b =0.213, p=0.224) in the lower experience group. In addition, the direct effect of self-congruity on online retail patronage intention was not significant for both groups but self-congruity indirectly affected online retail patronage intention through functional congruity. This is indicating that the direct and indirect effect of self-congruity was changed according to the level of prior experience, suggesting that there is a moderating effect of prior experience on the relationship between congruity and online retail patronage intention. For both groups, the positive relationship between functional congruity and online retail patronage intention was strongly supported at the 95% significance level.

Table 51. Study 3: Sub-samples based on Prior Experience (Four items total)

	N	Mean	Median	Minimum	Maximum
Lower Prior Experience Group	32	11.78	12	8	14
Higher Prior Experience Group	34	17.23	17	16	21
Total	66	18 cases (median=15) were dropped			

Table 52. Study 3: Regression Weights from Path Analysis (Post Hoc)

	Path	Estimate (Unstandardized)	Estimate (Standardized)	S.E.	C.R.	P
Group 1 (Low Exp)	SC → PI	0.017	0.062	0.040	0.433	0.665
	FC → PI	0.157	0.611	0.037	1.271	<.001
	SC → FC	0.231	0.213	0.190	1.216	0.224
Group 2 (High Exp)	SC → PI	0.071	0.168	0.069	1.038	0.299
	FC → PI	0.092	0.390	0.038	2.407	0.016
	SC → FC	0.582	0.323	0.296	1.963	0.050

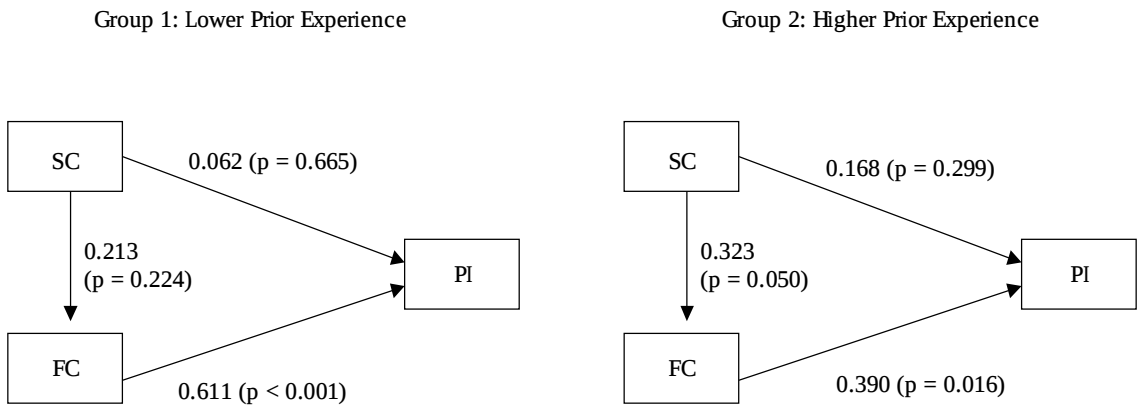

Figure 15. Study 3: Path Analysis after Re-Grouping

In summary, after eliminating the product-induced factors (i.e. frequency of visiting and amount of spending) from prior experience, the moderating effect of prior experience was supported by both types of online retailers (Amazon.com and Dell.com). Therefore Post Hoc analysis suggested that the ‘frequency of visiting’ and the ‘amount of spending’ could be too product-sensitive to be used for defining ‘prior experience.’ The ‘overall knowledge’ and the ‘length of usage’ of the Internet and a specific retailer could be more appropriate for commonly defining ‘prior experience’ for different types of online retailers.

CHAPTER V

CONCLUSIONS AND FUTURE RESEARCH

The following chapter summarizes the study in terms of its findings. The conclusions section begins with the findings and discussion based on the result of Study 1. Next, findings from Study 2 and Study 3 are presented. Lastly, the implications of the study are presented followed by the limitations of this study and suggestions for future research.

Discussion of Findings

Considering this study was performed in sequence, first identifying online store image attributes and underlying dimensions (Study 1) and then testing the hypothesized relationships (Study 2 and 3), the discussion of findings begins with online store image attributes and dimensions identified in this study. Next, the discussion on the relationship among self-congruity, functional congruity, and online retail patronage intention is presented, followed by the comparison of those relationships between a general merchandise online retailer and a specialty online retailer.

Online Store Image Attributes vs. Traditional Store Image Attributes

This study identified 33 functional online store image attributes and 19 psychological (affective) image attributes, based on 26 in-depth interviews with U.S. online consumers. Considering that the typical store image studies so far have dealt with

mainly functional image attributes, this study also used only functional attributes to identify online store image dimensions. Among the 33 functional attributes, 'competitive prices' and 'variety of merchandise' were identified with the highest frequency (Appendix 2). This result supported the previous research on online store (e-tail) image attributes, because all previous research to which this study has referenced addressed merchandise and price related attributes as the core attributes for online store operations (Hopkins & Alford, 2001; Burke, 2002; Reibstein, 2000, 2002; Szymanski & Hise 2000; Zeithaml, et.al., 2002; Wilde, Kelly, and Scott, 2004). Also this finding suggested that an online store is not different from a traditional store in terms of a retailer's core functions (e.g. offering various merchandise and lower prices), by considering that price and merchandise have been the most frequently addressed attributes in traditional store image studies (Lindquist, 1974-1975).

The next most frequently cited attributes were 'easy return/exchange purchased items' and 'safety of financial information give-out.' 'Return and exchange items' showed a high frequency, even though it is neither a unique attribute for online store studies nor considered critical in traditional store studies. The reason for the high frequency could be traced back to the unique way of returning or exchanging required in an online shopping environment. When online consumers have to return their purchased items, they have to mail back the item to the online retailer. Generally, various service features are offered by the online retailer, such as whether the retailer offers return packages, free shipping cost for return, tracking system to confirm that the retailer receives the item, and whether the retailer is quick to refund money. In addition, the exchange of the item could be more complex because of the second delivery. According

to the interviews, this perceived inconvenience plays a critical role both before the purchase and after the purchase.

> *Interview #18: I just bought a fleece on-line. . . I don't know what I was thinking, I bought a medium and I wanted a small. So, I had to go into the computer a couple of days ago and to see what their policy was. Usually, when I buy something, I don't think I'm going to return it. . . that's the trouble with on-line sources, because you have to really like it because it's a pain, especially if you have to pay for shipping to return it. Then you have to pay for shipping for them to return it to you. I think that's just a pain, but that's what I'm going to have to do so for this fleece… I still have the packaging, the box that came in. (I'm going to return it and have to pay for shipping). So, basically, I have to pay for three shipping and handling. . .I think that's ridiculous… (In response to the question, "Did you check their policy?") It doesn't really say anything (about them covering the cost of returns). I guess that's a concern, or a hassle. If I had bought it at the mall, all it would take is a 10-15 minute drive to return it. . .*

As stated in the interview, return and exchange offers a unique challenge for online consumers, especially when compared to a traditional shopping environment. The concern for return and exchange is, consequently, often used as a selling point for multi-channel retailers who offer their physical stores, conveniently located in consumers' minds, for the return or the exchange of merchandise.

'Security concern for consumers' financial information' is a new attribute compared to traditional store image attributes, and has been frequently cited in various online shopping studies, sometimes as privacy (Wilde, Kelly, and Scott, 2004) or sometimes as security in general (Szymanski & Hise, 2000; Hopkins & Alford, 2001). This study also confirmed that security concerns could be an influential attribute for

online shopping, however, this concern seems to be diminishing as consumers become more experienced with online shopping, from both direct and indirect experience.

> *Q: Did you feel frustrated to have to put your credit card number in?*
> *Interview #4: I thought it was different. It kind of felt like it wasn't safe. Then after I realized it's getting safer and safer. . .*
> *Q: If you could pick one feature or attribute you are looking at in a certain website what would that be?*
> *Interview #2: Simplicity. It's simple and it's easy to find what you're looking for, that's the only thing I really ask for . . . and obviously that it's secure site. If my friends or family have recommended it to me, then I trust it.*

'Carrying items cannot be found locally' and 'low shipping cost' are unique attributes that have not had been recognized in traditional store image studies. Moreover, this study found that 'carrying items cannot be found locally' is a significant online store image attribute but has not been identified in previous online store image studies. One of the reasons that this current study is able to identify this attribute could be explained by the Internet usage discrepancy among three geographic categories[*]: central cities, non-central urban areas, and rural areas. According to Nation online, which surveyed how Americans are expanding their use of the Internet (Department of Commerce, February 2002), people living in non-central urban households used the Internet at the highest rate compared to the other two geographic categories in September 2001. In other words, consumers in non-central urban areas are able to enjoy a more accessible infrastructure to

[*] In Nation Online, geographic categories are divided into three: rural, urban, and central cities. The "urban" category includes those areas classified as being urbanized (having a population density of at least 1,000 persons per square mile and a total population of at least 50,000) as well as cities, villages, boroughs (except in Alaska and New York), towns (except in the six New England states, New York, and Wisconsin), and other designated census areas having 2,500 or more persons (www.ntia.doc.gov/ntiahome/dn/html/Chapter2.htm). The city that the interviews were performed has 1050-1150 of population density and approximately 180,000 of total population.

use the Internet than consumers in rural areas, and at the same time, they might use the Internet more to acquire information or merchandise that is unavailable locally than consumers in central cities. Considering that the interviews in this current study were conducted in a non-central urban area in the southeast U.S., it is reasonable that 'carrying items cannot be found locally' was a unique and frequently identified attribute during the interviews. In addition, it should be treated as a significant online store image attribute in forthcoming online store image studies, based on the fact that the online usage rate difference between a non-central urban and a rural area is decreasing and approximately 70% of the total U.S. population is living in non-central urban and rural areas combined (U.S. Census 2000, October 13, 2003[*]).

> *Interview #11: (In response to the question 'how about after your first online shopping experience?') I buy stuff off the Internet all the time now, especially hard to find stuff. When my brother's wife was pregnant, he wanted a pacifier that looked like lips, and we searched all over Knoxville and couldn't find them. Finally, we went on the Internet and found them. That's when we ordered them. . .*
> *Interview #15: (In response to the question 'when did you start online shopping?') Probably just in high school. . . I think, I've lived in small towns (where I'm) about 2 or 3 hours (from certain stores like) J. Crew or Victoria's Secret. So, I would purchase stuff from them. . . surf through their catalogue that way.*

It is interesting to note that 'low shipping cost' is more frequently addressed than other closely related attributes identified in this study, such as 'fast shipping' and 'fast delivery.' The underlying factor of this finding could be a distinctive characteristic of online consumers: price-sensitivity. Since some consumers are eager to find the lowest

[*] Retrieved on October 10, 2004, from http://factfinder.census.gov/servlet/GCTTable?_bm=y&-geo_id=01000US&-_box_head_nbr=GCT-P1&-ds_name=DEC_2000_SF1_U&-_lang=en&-format=US-1&-_sse=on

total price for a purchase, it seems that each component of the total price structure in their online shopping, including product price, shipping price, and tax, is emphasized more than other attributes.

The next most frequently addressed attributes in this study were 'reality features' and 'pin-pointing search engine.' Compared to the traditional store image attributes, 'reality features,' including how real the consumers feel the presented products are and the quality of the product presentation itself, are new and unique to an online shopping environment and present major challenges for online retailers. It is new and unique, so that various features enhancing virtual reality often initially attract consumers to try the websites where those are offered. Also, it is a big challenge for online retailers because it is hard for them to achieve the level that consumers actually touch, feel, and try the products in reality, even though highly advanced technological features have been developed to present the products. Consumers' concern that the product they will purchase might not be the same as the one they see and feel through the websites usually extends, in turn, to the return and exchange concern. Consumers also addressed 'pin-pointing search engine' as an important attribute for their online shopping. It relates to how the search engine of an online retailer can accurately lead consumers to where they want to go, by simply typing in their queries. In this regard, this attribute seems to relate to consumers' 'navigation' stage in their shopping process with other related attributes, such as 'easy to browse' and 'find my way around easily.' Almost all previous research mentioned 'navigation' related attributes as important (Hopkins & Alford, 2001; Burke, 2002; Reibstein, 2000, 2002; Zeithaml, et.al., 2002; Wilde, Kelly, and Scott, 2004), and

in terms of Lindquist's (1974-1975) attribute groups, these attributes seems to be analogous to 'physical facilities' covering store layout, aisle placement, etc., which enable consumers to search and find the right products easily.

The attributes identified with low frequency were: 'good deal,' 'notification of big sales event,' 'easy price comparison,' 'good quality,' 'good assortment,' and 'detailed information on product description,' 'notification of stock out situation,' 'notification of sales event,' 'offering helpful contents beyond product description,' 'flexible payment options,' 'reliability of retailers,' 'other consumers' rating/comments,' and 'my friend says to go to xxx.com.' Among them, 'my friend says ~' is an attribute that retailers cannot directly manage inside their online store boundaries, however, as the interview with interviewee #2 revealed, consumers' close friends or family seems to play a crucial role in relieving their security concerns or uncertainty regarding online shopping in general, just like WOM (word-of-mouth) provides the same function in a traditional shopping environment. Further, the suggestion from family or friends usually lets consumers have a basis of trust for the retailer. Therefore, this attribute seems to be an underlying attribute of 'reliability of retailers.'

In conclusion, this study identified 33 online store image attributes. In comparison with previous online store image studies, all attributes found in this study were also addressed in other studies, except for 'carrying items not locally found' and 'friends say to go to xxx.com,' which were unique to this study. In comparison with traditional online store image studies, several core attributes that online and traditional

store image commonly share were identified, for example, price-related and merchandise-related attributes. There was also a number of attributes exclusively for an online store, such as reality features, security concerns, and shipping and delivery. Several of the attributes that have the same function but operated differently between online and traditional shopping were identified in this study, such as navigation and service related attributes.

Online Store Image Dimensions vs. Traditional Store Image Dimensions

This study identified six online store image dimensions: Purchase Process and Reliability, Depth and Width of Site Attraction, Cost and Time of Delivery, Price Competitiveness and Communication, Product and Information Availability, and Post-purchase Services. Those six dimensions were first explored by EFA and tested with CFA using one subset of the total sample, then validated with another CFA using the remaining subset of the sample. The final model of the first CFA and the validation model seemed to present the factor structure (dimensions) of online store image, as fit indices for the two models indicated (Table 27). Among the fit indices, however, GFI (goodness of fit index) values were somewhat lower than the standard for a good fit. This might be related to the small sample size used for the test and the validation of the model, since GFI is known to be very sensitive to sample size (Byrne, 2001).

First of all, the Purchase Process and Reliability dimension included six attribute items, such as ‘checkout procedure is easy and clear,’ ‘easy to browse,’ ‘pin-pointing search engine,’ ‘tracking orders,’ and ‘reliability of the store.’ Among them, two items, ‘checkout procedure is easy’ and ‘checkout procedure is clear’ were highly correlated,

and ‘easy to browse’ and ‘pin-pointing search engine’ were significantly correlated, which suggests the possibility to eliminate one attribute in each set when this dimension faces further sophisticated study, such as scale development for online store image. In addition, it is very interesting to note that the attributes related to Purchase Process and the attributes related to Reliability of the Stores are under one dimension. In other words, Reliability of the Stores and various stages of procedural aspects of shopping (Purchase Process) are sharing a significant amount of variance together, which suggests consumers’ perceived reliability of the store is not from a single attribute or feature, but it might be from the whole purchase process, starting with product search and ending with checkout.

Depth and Width of Site Attraction is another dimension, which was composed of five image attribute items: ‘eye-catching site design,’ ‘attractive color on sites,’ ‘quality pictures of products,’ ‘detailed product description,’ and ‘helpful information beyond product information.’ Again, two pairs of items (eye-catching vs. attractive color, and product description vs. information beyond product description) in this dimension showed high inter-correlation, so that one item in each pair could be ignored depending on the purpose of the study. As indicated from the name of this dimension, this dimension is mainly composed of the features that attract consumers to online retailers’ websites. In detail, ‘eye-catching design’ and ‘attractive colors of a website’ seems to be able to grab consumers’ attention during their wide exposure to other websites for online shopping, whereas ‘quality product presentation,’ ‘detailed product information,’ or ‘information beyond product description’ are the features attracting consumers to websites, such that consumers stay longer in the website to enjoy the quality product

pictures or to absorb a wide range of information. It is highly likely that consumers who were satisfied with those attributes would come back to that website.

The next dimension is Cost and Time of Delivery, and it was composed of 'fast shipping,' 'fast delivery,' and 'low shipping cost.' It should be noted that the attributes in this dimension are not combined with other dimensions (e.g. purchase process) but stand alone as one dimension, even though the concept of this dimension is part of the shopping process. Having Cost and Time of Delivery as one separate dimension seems to be quite reasonable, according to the fact that delivery is one of the most unique processes in online shopping, which gives consumers a great deal of uncertainty and, with which consumers do not have to deal with in a traditional shopping environment.

The Price Competitiveness dimension was composed of 'good deal,' 'big sales events,' and 'price competitiveness.' This dimension is supported by findings from previous online store image studies and even from traditional store image studies. Likewise, the Product and Information Availability dimension, composed of 'carrying lots of brand names,' 'other customers' comments,' 'carrying items not locally found,' and 'notification of stock-out situation,' is confirmatory in a sense that this dimension fits into core image dimensions with Price Competitiveness regardless of the shopping environment. However, as mentioned earlier, 'carrying items not locally found' was an attribute identified exclusively in this study.

The last dimension Post-purchase Services was composed of 'return items,' 'exchange items,' and 'quick response.' Among the attributes, 'quick response' was originally designed to be under the Price Competitiveness dimension based on the EFA results (Table 20). However, the CFA procedure revealed that 'quick response' was

highly correlated with ‘exchange items,’ which suggested ‘quick response’ should be with ‘exchange items.’ This finding is reasonable when the situation of exchange items is considered. The amount of consumers’ contact with online retailers depends on the sufficiency of required information offered by retailers and the level of consumers’ experience regarding various shopping situations. Compared to the other shopping situations, such as searching for products or comparing prices, exchange happens infrequently, so many consumers may not have experienced this phenomena. In this regard, ‘quick response’ seems logical and realistic to be correlated with ‘exchange items’ and be a part of the Post-purchase Services dimension.

The resulting six image dimensions are very similar to the results of the three judges’ categorization performed in the qualitative approach of this study. The calculated Cohen’s Kappa coefficient showed a substantial level of agreement (Table 17) among the three judges, and the identified categories from this qualitative procedure were very much alike: delivery, website related attributes, price, merchandise, safety/reliability, and use facilitators. When binomial probability was applied (Zimmer and Golden, 1988), the probability that agreement was achieved due to chance alone was extremely small, and accordingly, the z-score for each agreement pair was significant with a p-value of less than 0.001. It should be noted that both the quantitative and the qualitative study identified six dimensions of online store image, and that the difference was mainly from the safety/reliability and use facilitators dimension in the qualitative categorization.

When the resulting online store image dimensions were compared to traditional store image groups suggested by Lindquist (1974-1975), six dimensions of online store image and nine dimensions of traditional store image overlapped each other, in terms of

attribute compositions. For example, traditional Merchandise dimension included 'quality,' 'selection,' 'assortment of merchandise,' and even 'pricing,' thus two online image dimensions Product and Price are analogous to traditional Merchandise dimension. On the other hand, traditional Promotion dimension covers 'sales promotion,' 'displays,' and 'colors,' therefore traditional Promotion dimension should be analogous to both online Price and Depth and Width of Site Attraction dimensions. This complex overlapping between traditional image dimensions and online image dimensions appears to suggest the development of distinctive online retail strategies based on its own image attributes and dimensions. Those contingent strategies should be much more appropriate to implement and communicate to consumers in an online retail environment, rather than applying previously established strategies based on traditional store image attributes and dimensions to the online retail setting.

Relationships among Self-Congruity, Functional Congruity, and Online Retail Patronage Intention for a General Merchandise Online Retailer

Based on the survey data of 280 Amazon.com consumers, all three hypotheses (H1, H2, and H3) addressing the relationship among self-congruity, functional congruity, and online retail patronage intention were tested and supported. Specifically, self-congruity, which is the degree of congruence between consumers' self-image and psychological image of an online store, showed a positive relationship with online retail patronage intention, suggesting that the higher the consumers perceive the congruence between the image of an online store and the image of themselves, the higher their intention to patronize (e.g. spend more, revisit, or recommend to others) the online store.

In terms of functional congruity, which is the perceived functional (utilitarian) aspects of the store in reference to the given highest level of perception, functional congruity and online retail patronage intention also showed a significant positive relationship, again implying that the higher the consumers' perception on the functional image attributes, the higher their intention to patronize the online store. The result of testing the relationship between self-congruity and functional congruity, which extends to the mediating role of functional congruity on the relationship between self-congruity and online retail patronage intention, demonstrated that self-congruity and functional congruity had a positive relationship, representing that the higher the self-congruity, the higher the functional congruity was, and that functional congruity mediated the relationship between self-congruity and online retail patronage intention. Given the fact that the relationships examined in this study had been dealt with only in the context of product image-product choice and retail image-retail loyalty, this study made a stronger basis for the relationships among self-congruity, functional congruity, and online retail patronage intention to be generalized across different types of images (product vs. retail) and different types of retail formats (store based retail vs. online retail).

Moderating Role of Prior Experience on the Relationships among Self-Congruity, Functional Congruity, and Online Retail Patronage Intention for a General Merchandise Online Retailer

The moderating role of prior experience (H4), which was operationalized in this study as frequency of use or visiting, amount of spending, the length of use, and overall knowledge about the Internet and Amazon.com, on the relationship among self-

congruity, functional congruity, and online retail patronage intention was tested and not supported as hypothesized. However, it is interesting to note that there was the moderating effect of prior experience but the way of moderating the relationship among self-congruity, functional congruity, and online retail patronage intention was different from the hypothesis. In specific, the group with lower experience showed functional congruity → online retail patronage intention as the only significant path, whereas the group with higher experience showed both self-congruity → online retail patronage intention and functional congruity → online retail patronage intention as significant. This result is somewhat opposite to the previous research, which illustrated that consumers with low prior experience use more self-congruity than functional congruity and consumers with high prior experience use more functional congruity than self-congruity. One of the reasons for this discrepancy could be found in the different context: previous research that led to Hypothesis 4 focused on the product (or brand) image and the congruity effect on product evaluation or brand attitude, whereas this study examined the effect of self-congruity and functional congruity on online retail patronage intention. Moreover, online retailers exhibit more function (utility) dominated characteristics to gain a competitive edge against store based retailers. In this regard, this finding is significant in discovering that consumers initially depend on functional congruity attributes to decide their online retail patronage intention and later as they become experienced, they use self-congruity attributes for online retail patronage intention. Consumers' evaluation of products follows the process of using self image based attributes first then utilitarian attributes as they become more experienced. This result implies that online retailers could manipulate consumers' patronage intention, by

adjusting functional congruity to consumers with relatively low experience and by managing both functional and self-congruity of consumers with higher experience.

General Merchandise Online Retailer vs. Specialty Online Retailer

When comparing the general merchandise online retailer to a specialty online retailer, 84 Dell.com consumers did not show a positive relationship for all three paths: functional congruity is still a strong predictor for online retail patronage intention and a significant mediator for the relationship self-congruity → online retail patronage intention just as the relationships in Amazon.com, but the effect of self-congruity on online retail patronage intention was weakened compared to that of Amazon.com. Given the fact that the merchandise assortment of Dell.com specializes in computer and electronic goods, which are function-oriented and standardized in nature, the low direct effect of self-congruity on online retail patronage intention seems logical in a sense that consumers might not depend as much on psychological attributes, the level of congruity between their self image and Dell.com's image. Rather, they might set their minds to search or purchase a better product in terms of function with the lowest price and shopping efficiency, which are all related to functional congruity. Therefore, the resulting relationships in Dell.com, such as functional congruity directly affects online retail patronage intention and self-congruity indirectly affects online retail patronage intention mediated by functional congruity, seemed reasonable and functional congruity appeared to play a central role in the relationships.

In terms of testing the moderating role of prior experience in the relationships, prior experience, which was measured by the same items used for Amazon.com, failed to

exhibit a moderating effect on the relationships for Dell.com, by illustrating the same pattern of the relationships among self-congruity, functional congruity, and online retail patronage intention either for the lower experience group or the higher experience group. For both groups, only functional congruity showed a significant positive direct effect on online retail patronage intention. The direct effect of self-congruity on online retail patronage intention and the indirect effect of self-congruity on online retail patronage intention mediated by functional congruity were not significant. The insignificant direct effect of self-congruity on online retail patronage intention could be explained by Dell.com consumers' function-oriented shopping behavior mentioned earlier, however, the indirect effect of self-congruity on online retail patronage intention mediated by functional congruity was not evident for both groups. As an effort to find out what might cause this change, the measurement of prior experience was modified into only four items: length of use and overall knowledge of the Internet, and length of use and overall knowledge of Dell.com. The reason why the amount of spending and the frequency of visiting were excluded was that consumer behavior, in terms of amount of spending and frequency of visiting, could be extremely different depending on the product they purchase and the online retailer they patronize. As found in this study, in terms of spending, only 5.4% of consumers reported that they spent more than $301 in the past six months at Amazon.com, whereas 38.1% of Dell.com consumers were in the same spending category. In addition, Amazon.com consumers showed higher frequency of visiting (about 50% of the consumers reported three or more visits in the past six months) than Dell.com consumers (about 20% of the consumers reported three or more visits in the past six months). As a result, prior experience for Dell.com was redefined and based

on the redefinition, the moderating effect of prior experience was recovered, such that the lower experience group showed only the direct effect of functional congruity on online retail patronage intention, while the higher experience group presented both the direct effect of functional congruity on online retail patronage intention and the indirect effect of self-congruity on online retail patronage intention mediated by functional congruity. That is, the effect of self-congruity on online retail patronage intention changes depending on consumers' prior experience, and as consumers become experienced, they tend to start using the congruity between their self image and psychological dimensions of online retailers' image to evaluate functional congruity so that ultimately patronage intention is affected, even though they use functional congruity predominantly in evaluating patronage intention when their experience is immature.

Implications

Academic Implications

This study explored and identified online store image attributes and corresponding dimensions more exhaustively. Compared to previous online store image research that borrowed attributes from other construct related studies, such as e-satisfaction or e-service quality, this study retrieved several unique attributes strictly focusing on online store image from a series of in-depth interviews. In addition, compared to the previous research depicting a rough analogy between traditional store image attributes and dimensions and those of online retailing, this study identified online store image dimensions and attributes under each dimension through empirical analysis. In this

regard, the online store image dimensions and attributes found in this study should contribute to existing retail image research in a more significant and reliable way.

For the first time, the relationships among self-congruity, functional congruity, and online patronage intention, which had been examined exclusively in the context of product image/product choice and examined partly in store based retail image, was investigated in this study. Given that the overall resulting pattern of relationships was similar to previous studies, this study should provide additional evidence related to the important role self-congruity and functional congruity play regarding the criterion construct at hand, either product choice intention, store loyalty, or online retail patronage intention.

Additionally, the moderating role of prior experience was first tested in a retail setting in this study. Dissimilarities in the patterns of the effect of self-congruity and functional congruity on online retail patronage intention observed in this study, compared to the previous studies in the context of product (brand) image/product choice (brand attitude), should reinforce that more research focusing on the distinctive characteristics of online retailing and online consumers is needed.

Managerial Implications

Based on the online store image attributes and dimensions identified in this study, online retailers should be able to understand how their image is developed and what the important image attributes or dimensions are that they should focus on. Based on this study, for example, online consumers using Amazon.com evaluated a number of image attributes, such as ‘checkout procedure is clear,’ ‘order tracking features,’ and ‘carrying

brand names,' highly favorable, where as an image attribute 'return/exchange the items purchased' was evaluated less favorable (Appendix 5). This suggests that Amazon.com should be aware that consumers want better service regarding return and exchange processes, and focus on building strategies to serve this need. Also given the fact that the attributes and dimensions of online store image and traditional store image were not easily compared, online retailers should make an effort to develop unique strategies pertinent to online retailing, rather than borrowing and implementing strategies developed from store based retailing.

The significant moderating role of prior experience observed in this study should help online retailers design tailored or customized strategies for increasing patronage behavior, depending upon consumers' prior experience. Low experienced consumers were observed to be more sensitive to functional congruity than self-congruity on evaluating their online retail patronage intention, consequently, online retailers should focus on meeting or being superior to the standards of functional attributes that consumers have in their minds. For example, the lower experienced group in Study 2 showed (Appendix 5) low functional congruity on certain functional attributes, such as return/exchange items purchased or low shipping cost. Considering that the lower experienced group might be still in the process of learning or accumulating their knowledge about 'online shopping,' Amazon.com should provide special information to the lower experienced group to help them understand how return/exchange works or how shipping costs are calculated. On the other hand, consumers with more experience were found to use both functional and self-congruity for evaluating their patronage intention. Therefore for more experienced consumers, online retailers should concentrate on both

functional and psychological image attributes to be met or superior to the consumers' standards. In fact, several online driven features, such as cookies or registration/log-in, have been used by online retailers to achieve customization. Beyond the level of mass customization exercised currently, every consumer could have his/her own shopping environment with the help of technology advances in the near future, enabling online retailers to adjust to the level of functional and self-congruity for each and every individual consumer. But before that stage, online retailers should be able to use prior experience as a significant segmentation variable for developing customized strategies for each segment.

Limitations and Directions for Future Research

First of all, even though the retailers sampled in this study had been carefully selected through an elaborated screening process, the online store image attributes and dimensions identified were confirmed only by consumers using two online retailers, Amazon.com and Dell.com. In this regard, the resulting online store image attributes and dimensions should be tested and retested across various kinds of online retailers until those are theorized.

The relatively small sample sizes employed in Study 2 and 3 also seems to limit this study to achieve the highest level of generalization. Considering that the survey was initially distributed to 1000 consumers and only 418 (321 for Amazon.com and 97 for Dell.com) were used for Study 1 and this figure was even reduced to 364 (280 for Amazon.com and 84 for Dell.com) after stratification, over 600 respondents were lost during survey implementation and data analysis. One of the reasons for the sample

reduction could be found in the design and the wording of questions in the survey. In this study, online store image was defined as consumers' perceived store image resulting from at least one transaction between consumers and online retailers. Based on the definition, respondents were forced to choose either Amazon.com or Dell.com depending on their previous shopping experience, and the consumers who had not made a transaction with either of them were asked to stop taking the survey. If the online store image was initially defined in a broader way, such as consumers' perceived store image resulting from their previous online shopping experience in general, and the questions were worded in more generic terms to include experienced responses as well as responses from expectation, a larger sample could have been collected, since responses from consumers who happened to have only ideas about Amazon.com or Dell.com could be added to this study. Therefore, a study involving more broadly defined online store image could be conducted to examine whether there are any dissimilarities between the two studies based on a different definition, in terms of resulting online store image attributes and dimensions.

Lastly, it should be noted that the specialty online retailer used in comparison with the general merchandise online retailer, in terms of the relationships among self-congruity, functional congruity, and online retail patronage intention, was limited to Dell.com. As a result, both Amazon.com and Dell.com showed that functional congruity was more important than self-congruity in explaining online retail patronage intention. However, specialty retailers carrying more psychological or hedonic merchandise, such as apparel or accessories, could show a different result. Therefore, further study

involving various online retailers regarding width, depth, and type of merchandise should be conducted to enhance the generalizability of findings from this study.

REFERENCES

Abate, F. R. (Ed.). (1997). *The Oxford Desk Dictionary and Thesaurus.* New York: Oxford University Press.

Arons, L. (1961). Does Television Viewing Influence Store Image and Shopping Frequency. *Journal of Retailing*, 37, 1-13.

Babin, B. J. and Darden, W. (1996). Good and Bad Shopping Vibes: Spending and Patronage Satisfaction. *Journal of Business Research*, 35, 3, 201-206.

Baker, J., Grewal, D., & Parasuraman, A. (1994). The Influence of Store Environment on Quality Inferences and Store Image. *Journal of the Academy of Marketing Science*, 22, 4, 328-339.

Baker. J., Parasuraman, A., Grewal, D., & Voss, G. B. (2002). The Influence of Multiple Store Environment Cues on Perceived Merchandise Value and Patronage Intention. *Journal of Marketing*, 66, 120-141.

Belch, G. E. (1978). Belief Systems and the Differential Role of the Self-Concept in H. K. Hunt (Ed.), *Advances in Consumer Research, Vol. 5*, (pp. 320-325). Ann Arbor, MI: Association for Consumer Research.

Belch, G. E. and Landon, E. L. Jr. (1977). Discriminant Validity of a Product-Anchored Self-Concept Measure. *Journal of Marketing Research*, 14, 252-256.

Bellenger, D. N., Steinberg, E., & Stanton, W. W. (1976). The Congruence of Store Image and Self Image. *Journal of Retailing*, 52, 17-32.

Bentler, P. M. (1990). Comparative Fit Indexes in Structural Models. *Psychometrika*, 107, 2, 238-246.

Berry, L. L. (1969). The Components of Department Store Image: A Theoretical and Empirical Analysis. *Journal of Retailing*, 45, 3-20.

Birdwell, A. E. (1968). A Study of Influence of Image Congruence on Consumer Choice. *Journal of Business*, 41, 76-88.

Bloemer, J., & Schroder, G. O. (2002). Store Satisfaction and Store Loyalty Explained by Customer and Store Related Factors. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 15, 68-80.

Brown, M. W. and Cudeck, R. (1993). Alternative Ways of Assessing Model fit in K.A. Bollen & J.S. Long (Eds.), *Testing Structural Equation Models*, (pp. 445-455). Beverley Hills, CA: Sage.

Brucks, M. (1985). The Effect of Product Class Knowledge on Information Search Behavior. *Journal of Consumer Research*, 12, 1-15.

Burke, R. R. (2002). Technology and the Customer Interface: What Consumers Want in the Physical and Virtual Store. *Journal of the Academy of Marketing Science*, 30, 411-432.

Byrne, B. M. (2001). *Structural Equation Modeling with AMOS: Basic concepts, Applications, and Programming*. Mahwah, New Jersey: Erlbaum.

Cardozo, R. N. (1974). How Image Vary by Product Class. *Journal of Retailing*, 50, 85-98.

Chaiken, S. (1980). Heuristic versus Systematic Information Processing and the Use of Source versus Message Cues in Persuasion. *Journal of Personality and Social Psychology*, 39, 752-766.

Cohen, J. (1960). A Coefficient of Agreement for Nominal Scales. *Educational and Psychological Measurement*, 20, 37- 46.

Combs, A., Richards, A., & Richards, F. (1981). *Perceptual Psychology: A Humanistic Approach.* New York: Harper and Row.

Crane, F. G., & Clarke, T. K. (1988). The Identification of Evaluative Criteria and Cues Used in Selecting Services. *Journal of Services Marketing*, 2, 53-59.

CyberAtlas. (2002, April). Two-Thirds Hit the Net.
Retrieved on May 2, 2003, from
http://cyberatlas.internet.com/big_picture/geographics/article/0,,5911_151151,00.html

Dalgish, G. M. (Ed.). (1997). *Webster's Dictionary of American English.* New York: Random House.

Darden, W. B., Erdem, O., & Darden, D. K. (1983). A Comparison and Test of Three Causal Models of Patronage Intentions. In W. B. Darden and R. F. Lusch (Eds.), *Patronage Behavior and Retail Management* (pp. 29-43). New York: North Holland.

Darden, W. R. & Lusch, R. F. (Eds.). (1983). *Patronage Behavior and Retail Management.* New York: Elsevier Science Publishing Co., Inc.

Darden, W. R. (1979). A Patronage Model of Consumer Behavior. In R. Stampfl & E. C. Hirschman (eds.), *Competitive Structure in Retail Markets: The Department Store Perspective* (pp. 43-52). Chicago: American Marketing Association.

Darden, W. R., & Babin, B. J. (1994). Exploring the Concept of Affective Quality: Expanding the Concept of Retail Personality. *Journal of Business Research*, 29, 101-109.

DeCoster, J. (2003). Overview of Factor Analysis. Retrieved on June 6, 2004, from www.bama.ua.edu/~pysc/factor.pdf

Delozier, M. W. & Tillman, R. (1972). Self-Image Concepts – Can They Be Used to Design Marketing Programs? *Southern Journal of Business*, 7, 1, 9-15.

Dickson, J., & Albaum, G. (1977). A Method of Developing Tailer-made Semantic Differentials for Specific Marketing Content Areas. *Journal of Marketing Research*, 14, 87-91.

Dillman, D. A. (2000). *Mail and Internet Survey, The Tailored Design Method*, 2nd ed., New York: John Wiley & Sons.

Ditchter, E. (1985). What is an Image? *Journal of Consumer Marketing*, 2, 75-81.

Dolich, I. J. (1969). Congruence Relationship Between Self-Image and Product Brands. *Journal of Marketing Research*, 6, 80-84.

Donovan, R. J., & Marcoolyn, G., & Nesdale, A. (1994). Store Atmosphere and Purchasing Behavior. *Journal of Retailing*, 70, 3, 283-94.

Dornoff, R. J. & Tartham, R. L. (1972). Congruence Between Personal Image and Store Image. *Journal of the Market Research Society*, 14, 45-52.

Doyle, P., & Fenwick, I. (1974). How Store Image Affects Shopping Habits in Grocery Chains. *Journal of Retailing*, 50, 39-52.

Fan, X., Thompson, B., & Wang, L. (1999). Effects of Sample Size, Estimation Methods, and Model Specification on Structural Equation Modeling Fit Indexes. *Structural Equation Modeling: A Multidisciplinary Journal*, 6, 56-83.

Fleiss, J. L. (1981). *Statistical Methods for Rates and Proportions*. New York: John Wiley & Sons.

French, W. A. & Glaschner, A. B. (1971). Levels of Actualization as Matched Against Life Style Evaluation of Products. *Proceedings of the American Marketing Association*, 30, 358-362.

Gardner, W. P. (1995). On the Reliability of Sequential Data: Measurements, Meaning, and Correction. In J. M. Gottman (Ed.), *The Analysis of Change* (pp. 341-359). Mahwah, NJ: Lawrence Erlbaum.

Green, P. E., Maheshwari, A., & Rao, V. R. (1969). Self-Concept and Brand Preference: An Empirical Application of Multidimensional Scaling. *Journal of the Market Research Society*, 11, 343-360.

Grewal, D., & Monroe, K. B. (1989). The Effects of Contextual Information Cues on Buyers' Product Evaluations and Behavioral Intentions. In P. Bloom et al. (Eds.), *AMA Educators' Proceedings* (pp. 274). Chicago, IL: American Marketing Association.

Grubb, E. L. & Hupp, G. (1968). Perception of Self-Generalized Stereotypes, and Brand Selection. *Journal of Marketing Research*, 5, 58-63.

Grubb, E. L. & Stern, B. L. (1971). Self-Concept and Significant Others. *Journal of Marketing Research*, 8, 382-385.

Guttman, J. (1973). Self-Concepts and Television Viewing Among Women. *Public Opinion Quarterly*, 34, 388-397.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1995). *Multivariate Data Analysis* (5th ed.). Prentice Hall: Upper Saddle River, New Jersey.

Hamm, B. C. (1967). A Study of the Differences Between Self-Actualization Scores and Product Perceptions Among Female Consumers. *Proceedings of the American Marketing Association*, 26, 275-276.

Hamm, B. C. & Cundiff, E. W. (1969). Self-Actualization and Product Perception. *Journal of Marketing Research*, 6, 470-472.

Hansen, R. A., & Deutscher, T. (1977), An Empirical Investigation of Attribute Importance in Retail Store Selection, *Journal of Retailing*, 53, 59-72.

Harris Interactive. (2002). Surfing with Seniors and Boomers. Retrieved on March 17, 2003, from http://www.clickz.com/stats/big_picture/demographics/article.php/1573621

Harvey, O. J., Hunt, D. E., & Schroeder, H. M. (1961). *Conceptual Systems and Personality Organization*. New York: John Wiley.

Hawkins, D. I., Albaum, G., & Best, R. (1975). Reliability of Retail Store Images as Measured by the Staple Scale. *Journal of Retailing*, 52, 31-38, 92-93.

Hawkins, D. I., Best, R. J., & Coney, K. A. (2003). *Consumer Behavior: Building Marketing Strategy* (9th ed.). McGraw Hill: New York.

Hilderbrandt, L. (1988). Store Image and the Prediction of Performance in Retailing. *Journal of Business Research*, 17, 91-100.

Hirschman, E., Greeberg, B., & Robertson, D. (1978). The Intermarket Reliability of Retail Image Research: An Empirical Examination. *Journal of Retailing*, 54, 3-12.

Hopkins, C. D. & Alford, B. L. (2001, November). A Proposed Multi-Dimensional Scale to Measure the E-Tailer Image Construct. *In: Proceedings of the SMA 4th Annual Conference*, New Orleans, Louisiana.

Horney, K. (1937). *The Neurotic Personality of Our Time*. W. W. Norton: New York.

Hu, L. –T. & Bentler, P. M. (1999). Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria versus New Alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6, 1-55.

Hughes, G. D. & Guerrero, J. L. (1971). Automobile Self-Congruity Models Reexamined. *Journal of Marketing Research*, 8, 125-127.

Hughes, G. D. & Naert, P. A. (1970). A Computer Controlled Experiment in Consumer Behavior. *Journal of Business*, 43, 354-372.

Hui, M. K. & Bateson, J. E. (1991). Perceived Control and the Effect of Crowding and Consumer choice on the Service Experience. *Journal of Consumer Research*, 18, 174-185.

Jain, A., & Etgar, M. (1976). Measuring Store Image Through Multidimensional Scaling of Free Response Data. *Journal of Retailing*, 52, 61-70.

James, D. L., Durand, R. M., & Dreves, R. (1976). The Use of a Multi-Attribute Attitude Model in a Store Image Study. *Journal of Retailing*, 52, 23-34.

Johar, J. S., & Sirgy, M. J. (1991). Value Expressive versus Utilitarian Appeals: When and Why to Use Which Appeal. *Journal of Advertising*, 20, 23-34.

Joreskog, K. G., & Sorbom, D. (1988). *LISREL 7: A Guide to the Program and Applications*. Chicago: SPSS, Inc.

Keaveney, S., & Hunt, K. (1992). Conceptualization and Operationalization of Retail Store Image: A Case of Rival Middle-Level Theories. *Journal of the Academy of Science*, 20, 165-175.

Kelly, R. (1967). Estimating ultimate performance levels of new retail outlets. *Journal of Marketing Research*, 4, 13-19.

Kennedy, J. M., Kuh, G. D., & Carini, R. (2000, May). *Web and Mail Surveys: Preliminary Results of Comparisons Based on a Large-Scale Project.* Paper presented at the meeting of the American Association for Public Opinion Research, Portland, OR.

Kunkel, J., & Berry, L. L. (1968). A Behavioral Conception of Retail Image. *Journal of Marketing*, 32, 21-27.

Laasonen, M. (1993). Retail Patronage Dynamics: Learning about Daily Shopping Behavior in Contexts of Changing Retail Structures. *Journal of Business Research*, 28, 3-174.

Lamone, R. P. (1966). *The use of semantic differential in a study of self image, product image, and prediction of consumer choice.* Unpublished doctoral dissertation, University of North Carolina, Chapel Hill.

Landis, J.R., & Koch, G.G. (1977). The Measurement of Observer Agreement for Categorical Data. *Biometrics*, 33, 159-174.

Landon, E. L. Jr. (1974). Self-Concept, Ideal Self-Concept and Consumer Purchase Intentions. *Journal of Consumer Research*, 1, 44-51.

Lindquist, J. D. (1974). Meaning of Image. *Journal of Retailing*, 50, 29-38, 116.

MacCallum, R. C., Brown, M. W., & Sugawara, H. M. (1996). Power Analysis and Determination of Sample Size for Covariance Structure Modeling. *Psychological Methods*, 1, 130-149.

Maheshwari, A. K. (1974). *Self-Product Image Congruence: A Macro-Level Analysis.* Ann Arbor, MI: University Micro-films International.

Malhotra, N. K. (1981). A Scale to Measure Self-Concepts, Person Concepts and Product Concepts. *Journal of Marketing Research*, 18, 454-464.

Mangleburg, T., Sirgy, M. J., Grewal, D., Hatzios, M., Axsom, D., & Bogel, T. (1998). The Moderating Effect of Prior Experience in Consumers' Use of User-Image Based versus Utilitarian Cues in Brand Attitude. *Journal of Business and Psychology*, 13, 101-113.

Martineau, P. (1958). The Personality of the Retail Store Image. *Journal of Retailing*, 52, 37-46.

Mazursky, D., & Jacoby, J. (1986). Exploring the Development of Store Images. *Journal of Retailing*, 62, 145-165.

McDogall, G. H. G., & Fry, J. N. (1974). Combining Two Methods of Image Measurement. *Journal of Retailing*, 50, 53-61.

Mitchell, V. W. (2001). Re-conceptualizing consumer store image processing using perceived risk. *Journal of Business Research*, 54, 167-172.

Munson, J. M. (1974). *Typological Investigation of Self-Concept Congruity and Brand Preference: Toward a Predictive Model*, Ann Arbor, MI: University Microfilms International.

National Telecommunications and Information Administration. (2002). *Nation online*. Washington, DC: U.S. Department of Commerce.
Retrieved on May 13, 2003, from
http://www.ntia.doc.gov/ntiahome/dn/nationonline_020502.htm

Nielsen//NetRatings. (2003). Senior Surfing Surges.
Retrieved on March 14, 2004, from
http://www.clickz.com/stats/big_picture/demographics/article.php/3111871

Nunnally, J.C. (1978). *Psychometric Theory*. New York: Mc Graw-Hill.

Osgood, C. E., Suci, G. J., & Tannenbaum, P. H. (1975). *The Measurement of Meaning* (9th ed.). Urbana: University of Illinois Press.

Oxenfeldt, A. R. (1974). Developing a Favorable Price-Quality Image. *Journal of Retailing*, 50, 8-14, 115.

Pathak, D. S., Crissy, W. J. E., & Sweitzer, R. (1974). Customer Image Versus the Retailer's Anticipated Image. *Journal of Retailing*, 50, 21-28, 116.

Peterson, R. A. & Kerin, R. A. (1983). Store Image Measurement in Patronage Research: Fact and Artifact. In W. R. Darden, & R. F. Lusch (Eds.), *Patronage Behavior and RetailManagement* (pp. 293-306). New York: Elsevier Science Publishing Co., Inc.

Petty, R., & Cacioppo, J. T. (1986). *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*. New York: Spinger-Verlag.

Reibstein, D. J. (2000). Who is Buying on the Internet, 1999? Working Paper, The Wharton School of Business Administration, University of Pennsylvania.

Reibstein, D. J. (2002). What Attracts Customers to Online Stores, and What Keeps Them Coming Back? *Journal of the Academy of Marketing Science*, 30, 465-473.

Reynolds, F. D., Darden, W. R., & Martin, W. S. (1974-1975). Developing an Image of the Store-Loyal Customer. *Journal of Retailing*, 50, 73-84.

Rosenberg, M. (1979). *Conceiving the Self*. New York: Basic Books.

Rosenbloom, B. (1983). Store Image Development and the Questions of Congruency. In W. R. Darden, & R. F. Lusch (Eds.), *Patronage Behavior and Retail Management* (pp. 141-149). New York: Elsevier Science Publishing.

Ross, I. (1971). Self-Concept and Brand Preference. *Journal of Business of the University of Chicago*, 44, 38-50.

Samli, A. C., & Sirgy, M. J. (1981). A Multidimensional Approach to Analyzing Store Loyalty: A Predictive Model. In K. Bernhardt, & B. Kehoe (Eds.), *The Changing Marketing Environment: New Theories and Applications* (pp. 113-116). Chicago, IL: American Marketing Association.

Samli, A. C., Kelly, J. P., & Hunt, H. K. (1988). Improving the Retail Performance by Contrasting Management- and Customer-perceived Store Images: A Diagnostic Tool for Corrective Action. *Journal of Business Research*, 43, 27-38.

Schewe, C. D., & Dillon, W. R. (1978). Marketing Information System Utilization: An Application of Self-Concept Theory. *Journal of Business Research*, 6, 67-79.

Schonlau, M., Fricker, R. D. Jr., & Elliott, M. N. (2002). Conducting Research Surveys via E-mail and the Web. RAND.

Sheth, J. (1983). An Integrative Theory of Patronage Preference and Behavior. In W. Darden & R. Lusch (eds.), Patronage Behavior and Retail Management (pp 9-28). New York: Elsevier Science Publishing Co., Inc.

Singson, R. L. (1975). Multi-dimensional Scaling Analysis of Store Image and Shopping Behavior. *Journal of Retailing*, 51, 39-52, 93.

Sirgy, M. J. (1979). *Self-Concept in Consumer Behavior*. unpublished Ph.D. thesis, Department of Psychology, University of Massachusetts at Amherst.

Sirgy, M. J. (1982). Self-Concept in Consumer Behavior: A Critical Review. *Journal of Consumer Research*, 9, 287-300.

Sirgy, M. J. (1986). *Self-Congruity: Toward a Theory of Personality and Cybernetics*. New York: Praeger.

Sirgy, M. J., & Danes, J. (1982). Self-Image/Product-Image Congruence Models: Testing Selected Models. In A. Mitchell (Ed.), *Advances in Consumer Research, vol. 9* (pp. 556-561). Ann Arbor, MI: Association for Consumer Research.

Sirgy, M. J., & Johar, J. S. (1985). Self-Congruity Models versus Multiattribute Attitude Models: When to Use Which Positioning Model. In R. F. Lusch, et al., (Eds.), *1985 AMA Educators' Proceedings* (pp. 11-15). Chicago, IL: American Marketing Association.

Sirgy, M. J., & Samli, A. C. (1985). Path Analytic Model of Store Loyalty Involving Self-Concept Store Image and Self-Image, Socioeconomic Status, and Geographic Loyalty. *Journal of Academy of Marketing Science*, 13, 265-291.

Sirgy, M. J., Grewal, D., & Mangleburg, T. (2000). Retail Environment, Self-Congruity, and Retail Patronage: An Integrative Model and a Research Agenda. *Journal of Business Research*, 49, 127-138.

Sirgy, M. J., Johar, J. S., Samli, A. C., & Claiborne, C. B. (1991). Self-Congruity versus Functional Congruity: Predictors of Consumer Behavior. *Journal of Academy of Marketing Science*, 19, 4, 363-375.

Steenkamp, J. E., & Wedel, M. (1991). Segmenting Retail Markets on Store Image Using a Consumer-Based Methodology. *Journal of Retailing*, 67, 300-320.

Stephenson, R. P. (1969). Identifying Determinants of Retail Patronage. *Journal of Marketing*, 33, 57-60.

Stern, B. L., Bush, R. F, & Hair, J. F. (1977). The Self Image/Store Image Matching Process: An Empirical Test. *Journal of Business*, 50, 63-69.

Stores. (2000). VeriFone and Russell Reynolds Associates Top 100 Internet Retailers: Comprehensive study tracks the nation's biggest on-line retailers. Retrieved on March 5, 2004, from http://www.stores.org/archives/sept00cover.asp

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory (2nd ed.)*. Thousand Oaks, CA.: Sage.

Sujan, M. (1985). Consumer Knowledge: Effects on Evaluation Strategies Mediating Consumer Judgments. *Journal of Consumer Research*, 12, 32-46.

Szymanski, D. M., & Hise, R. T. (2000). E-Satisfaction: An Initial Examination. *Journal of Retailing*, 76, 309-322.

Thang, D. C. L, & Tan, B., L., B (2003). Linking Consumer Perception to Preference of Retail Stores: An Empirical Assessment of the Multi-Attributes of Store Image. *Journal of Retailing and Consumer Services*, 10, 193-200.

Titus, P. A., & Everett, P. B. (1995). The Consumer Retail Search Process: A Conceptual Model and Research Agenda. *Journal of the Academy of Marketing Science*, 23, 2, 106-119.

Tucker, W. T. (1957). *Foundations for a Theory of Consumer Behavior*. New York: Holt, Rinehart & Winston

U.S Census Bureau. (2003, March 19). E-Stats. Retrieved April 20, 2003, from http://www.census.gov/eos/www/papers/2001/2001estatstext.pdf

U.S. Census Bureau. (2004, May 21). Retail 1Q, 2004 E-Commerce Sales. Retrieved June 5, 2004. from http://www.census.gov/mrts/www/current.html

U.S. Department of Commerce (February 2002). Nation Online. Retrieved October 8, 2004, from www.ntia.doc.gov/ntiahome/dn/html/Chapter2.htm

Wakefield, K. W., & Blodgett, J. G. (1999). Customer Response to Intangible and Tangible Service Factors. *Psychology and Marketing*, 16, 51-68.

Weinberg, B. D. (2000). Don't Keep Your Internet Customers Waiting Too Long At the (Virtual) Front Door, *Journal of Interactive Marketing*, 14, 30-39.

Wilde, S. J., Kelly, S. J., & Scott, D. (2004). An Exploratory Investigation into e-Tail Image Attributes Important to Repeat, Internet Savvy Customers. *Journal of Retailing and Consumer Services*, 11, 131-139.

Wind, J., & Mahajan, V. (2001). Digital Marketing. New York: John Wiley & Sons, Inc.

Wong, J. K., & Teas, R. K. (2001). A test of the Stability of Retail Store Image Mapping Based on Multientity Scaling Data. *Journal of Retailing and Consumer Services*, 8, 61-70.

Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service Quality Delivery through Web Sites: A Critical Review of Extent Knowledge. *Journal of the Academy of Marketing Science*, 30, 362-375.

Zimmer, M. R., & Golden, L. L. (1988). Impressions of Retail Stores: A Content Analysis of Consumer Images. *Journal of Retailing*, 64, 265-293.

APPENDIX

Appendix 1. U.S. Electronic Shopping and Mail-Order Houses (NAICS 454110)

Total and E-Commerce Sales by Merchandise Line[1]: 2001 and 2000

Merchandise Lines	Value of Sales				Y/Y Percent Change		E-commerce as Percent of Total Sales	Percent Distribution	
	2001		2000					Total Sales	E-commerce Sales
	Total	E-commerce	Revised Total	Revised E-commerce	Total Sales	E-commerce Sales	2001	2001	2001
Total Electronic Shopping and Mail-Order Houses (NAICS 454110)	**109,238**	**25,680**	**110,211**	**21,209**	**-0.9**	**21.1**	**23.5**	**100.0**	**100.0**
Books and magazines	3,864	1,748	4,115	1,833	-6.1	-4.6	45.2	3.5	6.8
Clothing and clothing accessories (Includes footwear)	15,252	3,219	14,829	2,059	2.9	56.3	21.1	14.0	12.5
Computer hardware	22,134	5,678	26,462	6,128	-16.4	-7.3	25.7	20.3	22.1
Computer software	3,994	1,208	3,568	1,107	11.9	9.1	30.2	3.7	4.7
Drugs, health aids, and beauty aids	16,448	952	14,454	673	13.8	41.5	5.8	15.1	3.7
Electronics and appliances	3,718	1,448	3,338	1,080	11.4	34.1	38.9	3.4	5.6
Food, beer, and wine	1,847	447	1,902	566	-2.9	-21.0	24.2	1.7	1.7
Furniture and home furnishings	6,556	1,659	6,412	979	2.2	69.5	25.3	6.0	6.5
Music and videos	3,980	1,318	4,393	1,186	-9.4	11.1	33.1	3.6	5.1
Office equipment and supplies	6,454	1,987	6,936	1,439	-6.9	38.1	30.8	5.9	7.7
Sporting goods	1,655	466	1,514	377	9.3	23.6	28.2	1.5	1.8
Toys, hobby goods, and games	3,035	929	3,146	842	-3.5	10.3	30.6	2.8	3.6
Other merchandise[2]	16,142	3,062	15,933	1,863	1.3	64.4	19.0	14.8	11.9
Nonmerchandise receipts[3]	4,159	1,559	3,209	1,077	29.6	44.8	37.5	3.8	6.1

Retrieved April 20, 2003, from http://www.census.gov/eos/www/papers/2001/2001estatstext.pdf

Appendix 2. Attributes retrieved from In-depth interviews

Attributes	Freq.	Attributes	Freq.
Fast Delivery	4	Frustrating*	1
Reality features (touch, feel)	7	Pretty colors	1
Reality features (quality/larger pictures)	7	Tells me about stock-out situation	1
Easy Return	9	Notification about sale event	4
Easy Exchange items	9	Familiarity*	4
Good deal (best thing for the lowest price)	8	Easy to browse	2
Competitive price	11	Easy*	2
Variety of merchandise	11	Eye-catching site design	2
Fast shipping	2	Pleasant*	1
Low shipping cost	8	Carries items can't be found around	8
Safety of financial info. give-out	9	Payment option flexibility	1
Organized*	4	Vibrant*	1
Risky*	1	More comfortable*	1
Find my way around easily	5	Unfair*	1
Mention / promise on safety	2	Excited*	1
Modest*	1	Trendy*	1
Pin-pointing search engine	7	Detailed information on product description	2
Friends suggest to go to xxxxx.com (wom)	6	Casual*	1
Fast*	1	Convenient*	4
User rating, user comments	2	Big sales	2
Tracking system after order	1	Reliability of retailers / recognizable retailers	4
Knowledgeable*	2	Helpful contents (not only product info)	2
Good quality	3	Easy price comparison	1
Quick response, good customer service	3	Unique*	1
Good assortment	1	Friendly*	1
Every step has been confirmed	5	Rational*	1

* Psychological attributes are shaded in gray, and the rest of the attributes are functional in nature.

Appendix 3-1. Agreement between Judge A and Judge B

Judge A

Judge B

	Delivery	Website-	Price	Merchan-	Safety-	UF	Nav-	Promotion	CA	total
Delivery	3									3
Website-related		4								4
Price			3					1		4
Merchandise				5				1		6
Safety/Reliability					4					4
Use Facilitators		1		1	1	5		1		9
Navigation						2				2
Promotion										0
Consumer adoption								1		1
TOTAL	3	5	3	6	5	7	0	4	0	33

sum(agree)	24	sum(ef)	4.85
ef(d)	0.272727		
ef(w)	0.606061	Kappa	0.68
ef(pr)	0.363636		
ef(mer)	1.090909		
ef(saf)	0.606061		
ef(use faccil)	1.909091		
ef(nav)	0		
ef(prom)	0		
ef(con)	0		

Appendix 3-2. Agreement between Judge A and Judge C

Judge A

Judge C

	Delivery	Website-	Price	Merchan-	Safety-	UF	Nav-	Promotion	CA	total
Delivery	3				2					5
Website-related		4								4
Price			2					1		3
Merchandise				5				1		6
Safety/Reliability					3			2		5
Use Facilitators						3				3
Navigation		1	1	1		4				7
Promotion										0
Consumer adoption										0
TOTAL	3	5	3	6	5	7	0	4	0	33

sum(agree)	20	sum(ef)	3.82
ef(d)	0.454545		
ef(w)	0.606061	Kappa	0.55
ef(pr)	0.272727		
ef(mer)	1.090909		
ef(saf)	0.757576		
ef(use faccil)	0.636364		
ef(nav)	0		
ef(prom)	0		
ef(con)	0		

Appendix 3-3. Agreement between Judge B and Judge C

Judge B

Judge C

	Delivery	Website-	Price	Merchan-	Safety-	UF	Nav-	Promotion	CA	total
Delivery	3				1	1				5
Website-related		4								4
Price			3							3
Merchandise				6						6
Safety/Reliability					3	1			1	5
Use Facilitators						4				4
Navigation			1			3	2			6
Promotion										0
Consumer adoption										0
TOTAL	3	4	4	6	4	9	2	0	1	33

sum(agree)	25
ef(d)	0.454545
ef(w)	0.484848
ef(pr)	0.363636
ef(mer)	1.090909
ef(saf)	0.606061
ef(use faccil)	1.090909
ef(nav)	0
ef(prom)	0
ef(con)	0

sum(ef)	4.09
Kappa	0.72

Appendix 4. Standardized Residual Covariances

	v59	v41	v40	v46	v54	v53	v52	v48	v44	v45	v35	v37	v36	v42	v43	v39	v55	v56	v62	v61	v65	v66	v60	v57
v59	0																							
v41	0.23	0																						
v40	-0.3	0	0																					
v46	-1.3	0.08	0.92	0																				
v54	-0.7	0.2	1.19	-0.5	0																			
v53	0.26	-0.4	-0.2	-0	0.67	0																		
v52	0.77	0.35	1.42	0.43	-0	-0.6	0																	
v48	0.63	1.59	1.18	0.26	0.26	1.56	0.41	0																
v44	-0.2	0.07	0.19	0.24	-0.7	0.92	-0.3	0.08	0															
v45	0.05	-1.1	-0.7	0.16	-0.6	0.24	-0.5	-0.5	0.16	0														
v35	-0.6	-0.5	0.85	0.12	-0.4	-0.6	-0.6	-0.1	-0.9	-0.1	0													
v37	-0.2	-0.5	0.72	1.93	-0.4	-1	0.31	-0.1	-0.7	-0.1	0.29	0												
v36	0.76	1.32	1.99	-0.5	1.09	0.55	0.23	0.76	1.67	1.03	-0.2	-0.3	0											
v42	0.23	0.49	1.32	-0.5	0.21	-0.3	-0.1	1	0.09	-0.3	-0.8	-1.1	-0.1	0										
v43	0.67	0.43	0.05	0.12	0.2	-0.7	-0.3	1.23	0.35	0.3	-1.2	-1	0.23	0	0									
v39	-0.4	-0.7	-0.1	-0.3	0.38	0.09	-0.8	0.52	-0.1	-0.3	0.44	0.21	0.81	-0	0	0								
v55	-0.2	-1.3	-0.3	-0.9	0.76	0.6	-0.6	0.04	-0.4	0.47	0.99	-0.3	0.11	0.2	-0.2	-0.1	0							
v56	0.37	-0.6	0.21	-0.5	2.06	1.29	0.01	0.11	-0.5	-0.2	-0.1	-0.1	0.43	0.26	0.04	-0.1	0	0						
v62	0.47	-1	-0.2	-0.6	-0.4	-0.2	-0.9	-0.3	-0.4	0.32	0.15	-0.5	0.4	-0.9	-0.7	-0	-0.4	-1	0					
v61	-0	-0.9	-0.1	-0.1	-0.2	-0.3	-0.4	-0.5	-0.7	-0.2	-0.3	-0.3	0.31	-1	-0.8	-0.5	-0.8	-1	0	0				
v65	0.31	0.22	0.64	1.08	0.37	-0.2	-0.3	0.5	-0.3	0.36	-0.9	-0.1	-1	1.73	1.21	1.29	0.57	0.25	0.34	0.36	0			
v66	0	0.5	1.19	1.53	-0.6	-0.2	0.19	0.11	-0.4	0.17	0.31	0.59	-0.9	0.73	0.53	0.74	0.55	0.44	0.39	0.11	0	0		
v60	-0.4	-1.1	-0.4	0.65	-0.3	0.71	0.55	0.04	-0.6	-0.1	0.46	-0.4	-0.6	-1	-0.6	-0.7	-0.3	-0.5	1.06	1.33	-1.1	-0.7	0	
v57	0.24	-0.3	0.31	0.51	-0.3	-0.1	-0.4	0.31	0.58	0.83	0.11	0.67	1.37	0.07	0.29	0.8	0.79	0.46	-0.5	-0.4	-0.2	-0.3	-0.2	0

Appendix 5. Total and group mean for functional congruity

Variable Name	Groups	N	Mean	Variable Name	Groups	N	Mean
v35	1	134	3.910448	**v53**	1	134	3.626866
	2	135	4.17037		2	135	3.933333
	Total	269	4.040892		Total	269	3.780669
v36	1	134	3.507463	**v54**	1	134	3.537313
	2	135	3.903704		2	135	3.985185
	Total	269	3.70632		Total	269	3.762082
v37	1	134	3.671642	**v55**	1	134	3.925373
	2	135	4.02963		2	135	4.066667
	Total	269	3.851301		Total	269	3.996283
v39	1	134	3.813433	**v56**	1	134	3.723881
	2	135	4.096296		2	135	3.948148
	Total	269	3.95539		Total	269	3.836431
v40	1	134	3.119403	**v57**	1	134	3.992537
	2	135	3.348148		2	135	4.407407
	Total	269	3.234201		Total	269	4.200743
v41	1	134	3.11194	**v59**	1	134	3.492537
	2	135	3.288889		2	135	3.748148
	Total	269	3.200743		Total	269	3.620818
v42	1	134	3.701493	**v60**	1	134	3.970149
	2	135	3.911111		2	135	4.437037
	Total	269	3.806691		Total	269	4.204461
v43	1	134	3.791045	**v61**	1	134	4
	2	135	3.933333		2	135	4.407407
	Total	269	3.862454		Total	269	4.204461
v44	1	134	3.783582	**v62**	1	134	3.992537
	2	135	4.125926		2	135	4.362963
	Total	269	3.95539		Total	269	4.178439
v45	1	134	3.873134	**v63**	1	134	3.820896
	2	135	4.162963		2	135	4.192593
	Total	269	4.018587		Total	269	4.007435
v46	1	134	4.029851	**v64**	1	134	3.925373
	2	135	4.37037		2	135	4.340741
	Total	269	4.200743		Total	269	4.133829
v48	1	134	3.358209	**v65**	1	134	3.925373
	2	135	3.674074		2	135	4.281481
	Total	269	3.516729		Total	269	4.104089
v52	1	134	3.589552	**v66**	1	134	3.902985
	2	135	3.918519		2	135	4.281481
	Total	269	3.754647		Total	269	4.092937

Group 1 = lower experienced group
Group 2 = higher experienced group

Appendix 6. Invitation Letter and Survey Questionnaire

UNIVERSITY OF TENNESSEE

Department of Retail and Consumer Sciences

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June 3, 2004

Dear Respondent:

I am writing to ask your help in a study of online consumers being conducted by University of Tennessee Department of Retail and Consumer Sciences. This study is part of an effort to learn what attracts consumers to shop online, and what makes you satisfied as you shop online.

You are the one of a carefully selected sample of consumers being asked to give their opinion about this topic. I would greatly appreciate it if you would complete the linked questionnaire. It will take approximately 10 minutes to complete this questionnaire.

Your answers are completely confidential and will be released only as summaries in which no individual's answers can be identified.

If you have any questions or comments about this study, please contact me at mkim2@utk.edu, or you can write us at the address on the letterhead.

Thank you very much for helping with this important study.

Sincerely,

Min Kim
Doctoral Candidate

Please click the link below to go to the survey
http://www.surveyz.com/TakeSurvey?id=15846

The following questions are about your online shopping experience in general. Please mark your level of agreement or one response category for each question.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
(1) I know a great deal about the Internet	❍	❍	❍	❍	❍

(2) Approximately, how long have you used the Internet? *

❍ Less than 6 months
❍ 6 to 11 months
❍ 1 to 3 years
❍ 4 to 6 years
❍ 7 to 9 years
❍ 10 years or more

(3) Approximately, how much would you estimate you have spent on the Internet, in the past six months? *

❍ Less than $50
❍ Between $50 and $100
❍ Between $101 and $150
❍ Between $151 and $200
❍ Between $201 and $300
❍ Between $301 and $400
❍ Between $401 and $500
❍ More than $501

(4) Approximately, how often did you make a purchase on the internet in the past six months? *

- ❍ None
- ❍ Once
- ❍ Twice
- ❍ 3 times
- ❍ 4 times
- ❍ 5 times
- ❍ 6 times or more

Think about yourself when you are on the Internet shopping!

Please mark how you see yourself, between the following sets of words.

When I shop online, I see myself as being:

Comfortable	❍	❍	❍	❍	❍	Uncomfortable
Casual	❍	❍	❍	❍	❍	Formal
Excited	❍	❍	❍	❍	❍	Calm
Unique	❍	❍	❍	❍	❍	Similar to the others
Organized	❍	❍	❍	❍	❍	Disorganized
Modest	❍	❍	❍	❍	❍	Showy
Risky	❍	❍	❍	❍	❍	Secure
Experienced	❍	❍	❍	❍	❍	Inexperienced
Trendy	❍	❍	❍	❍	❍	Traditional
Fast	❍	❍	❍	❍	❍	Slow
Rational	❍	❍	❍	❍	❍	Emotional

The rest of the survey questions are either about Amazon.com or about Dell.com. Please select one online store, Amazon.com or Dell.com to consider, when responding to the rest of the questions.

Which online store would you choose? *

- ❍ I choose Amazon.com to answer the rest of the survey

(Hyperlink to Amazon.com survey on page 179)

- ❍ I choose Dell.com to answer the rest of the survey

(Hyperlink to Dell.com survey on page 184)

- ❍ I have no shopping experience either with Amazon.com or with Dell.com

(Hyperlink to Demographics part on page 189)

Amazon.com survey

The following questions are about your online shopping experience with Amazon.com. Please mark your level of agreement or one response category for each question.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
(1) I know a great deal about making a purchase at Amazon.com	❍	❍	❍	❍	❍

(2) Approximately, how long have you used Amazon.com for an online purchase? *

❍ Less than 6 months
❍ 6 to 11 months
❍ 1 to 3 years
❍ 4 to 6 years
❍ 7 years or more

(3) Approximately, how much would you estimate you have spent at Amazon.com, in the past six months? *

❍ Less than $50
❍ Between $50 and $100
❍ Between $101 and $150
❍ Between $151 and $200
❍ Between $201 and $300
❍ More than $301

(4) Approximately, how often did you make a purchase at Amazon.com, in the past six months? *

- ❍ none
- ❍ once
- ❍ twice
- ❍ 3 times
- ❍ 4 times
- ❍ 5 times
- ❍ 6 times or more

The following questions are about your impression of Amazon.com. Please mark your level of agreement for each statement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know
(1) Shipping by Amazon.com is fast	❍	❍	❍	❍	❍	❍
(2) Amazon.com offers me a low shipping cost	❍	❍	❍	❍	❍	❍
(3) I can get my product delivered as quickly as I want from Amazon.com	❍	❍	❍	❍	❍	❍
(4) The product presentation from Amazon.com helps me to get real feel for the product	❍	❍	❍	❍	❍	❍
(5) Amazon.com offers quality pictures of the products	❍	❍	❍	❍	❍	❍
(6) When I have had to return the item purchased from Amazon.com, the process was easy	❍	❍	❍	❍	❍	❍
(7) When I have had to exchange the item purchased from Amazon.com, the process was easy	❍	❍	❍	❍	❍	❍
(8) The site design of Amazon.com is eye catching	❍	❍	❍	❍	❍	❍
(9) Amazon.com uses attractive colors on their sites	❍	❍	❍	❍	❍	❍
(10) Amazon.com offers me a good deal	❍	❍	❍	❍	❍	❍
(11) The prices offered by Amazon.com are competitive	❍	❍	❍	❍	❍	❍

(12) Amazon.com carries a lot of brand names	❍	❍	❍	❍	❍	❍
(13) Amazon.com has notified me when it has a sales event	❍	❍	❍	❍	❍	❍
(14) Amazon.com has big sales events	❍	❍	❍	❍	❍	❍
(15) Amazon.com lets me compare prices easily	❍	❍	❍	❍	❍	❍
(16) Amazon.com has everything I want	❍	❍	❍	❍	❍	❍
(17) Amazon.com offers good quality products	❍	❍	❍	❍	❍	❍
(18) Amazon.com has told me about a stock-out situation when it affected my order	❍	❍	❍	❍	❍	❍
(19) Amazon.com carries items I cannot find locally	❍	❍	❍	❍	❍	❍
(20) Other customers' comments provided by Amazon.com help my shopping process	❍	❍	❍	❍	❍	❍
(21) Amazon.com offers me a detailed product description	❍	❍	❍	❍	❍	❍
(22) Amazon.com offers a lot of helpful information beyond product information	❍	❍	❍	❍	❍	❍
(23) Amazon.com is a reliable place to shop	❍	❍	❍	❍	❍	❍
(24) My friends shop at Amazon.com	❍	❍	❍	❍	❍	❍
(25) When I contact Amazon.com, it responds to me as quickly as I want	❍	❍	❍	❍	❍	❍
(26) Amazon.com lets me track my orders	❍	❍	❍	❍	❍	❍
(27) The checkout procedure on Amazon.com is clear	❍	❍	❍	❍	❍	❍
(28) The checkout procedure on Amazon.com is easy	❍	❍	❍	❍	❍	❍
(29) I believe Amazon.com protects my financial privacy	❍	❍	❍	❍	❍	❍
(30) I can easily find my way around in Amazon.com	❍	❍	❍	❍	❍	❍
(31) The Amazon.com website is easy to browse	❍	❍	❍	❍	❍	❍
(32) Amazon.com makes searching simple by typing key-words	❍	❍	❍	❍	❍	❍
(33) Amazon.com offers me flexible payment options	❍	❍	❍	❍	❍	❍

Let's imagine Amazon.com is a person you could meet in your everyday life! Based on this way of thinking, the following questions are about your impressions of Amazon.com. Please mark how you see Amazon.com in the following sets.

I see Amazon.com as being:

Comfortable	❍	❍	❍	❍	❍	Uncomfortable
Casual	❍	❍	❍	❍	❍	Formal
Excited	❍	❍	❍	❍	❍	Calm
Unique	❍	❍	❍	❍	❍	Similar to the others
Organized	❍	❍	❍	❍	❍	Disorganized
Modest	❍	❍	❍	❍	❍	Showy
Risky	❍	❍	❍	❍	❍	Secure
Experienced	❍	❍	❍	❍	❍	Inexperienced
Trendy	❍	❍	❍	❍	❍	Traditional
Fast	❍	❍	❍	❍	❍	Slow
Rational	❍	❍	❍	❍	❍	Emotional

The following questions are about your expectations on future shopping at Amazon.com. Please mark your level of agreement for each statement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
(1) I expect to make a purchase at Amazon.com again during the next 6 months.	❍	❍	❍	❍	❍
(2) When I am at Amazon.com, I often loose track of time.	❍	❍	❍	❍	❍
(3) When I have something to buy, Amazon.com will be one of the online sites I will go to.	❍	❍	❍	❍	❍
(4) When I want to entertain myself, Amazon.com will be one of the online sites I will go to.	❍	❍	❍	❍	❍
(5) I expect to spend more at Amazon.com than other online sites I usually shop.	❍	❍	❍	❍	❍
(6) I expect to recommend Amazon.com to others for a good place to purchase online.	❍	❍	❍	❍	❍
(7) If someone were looking for something entertaining to do online, I would recommend Amazon.com	❍	❍	❍	❍	❍

(Hyperlink to Demographics part on page 189)

Dell.com survey

The following questions are about your online shopping experience with Dell.com. Please mark your level of agreement or one response category for each question.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
(1) I know a great deal about making a purchase at Dell.com	❍	❍	❍	❍	❍

(2) Approximately, how long have you used Dell.com for an online purchase? *

❍ Less than 6 months
❍ 6 to 11 months
❍ 1 to 3 years
❍ 4 to 6 years
❍ 7 years or more

(3) Approximately, how much would you estimate you have spent at Dell.com, in the past six months? *

❍ Less than $50
❍ Between $50 and $100
❍ Between $101 and $150
❍ Between $151 and $200
❍ Between $201 and $300
❍ More than $301

(4) Approximately, how often did you make a purchase at Dell.com, in the past six months? *

- ❍ none
- ❍ once
- ❍ twice
- ❍ 3 times
- ❍ 4 times
- ❍ 5 times
- ❍ 6 times or more

The following questions are about your impression of Dell.com. Please mark your level of agreement for each statement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know
(1) Shipping by Dell.com is fast	❍	❍	❍	❍	❍	❍
(2) Dell.com offers me a low shipping cost	❍	❍	❍	❍	❍	❍
(3) I can get my product delivered as quickly as I want from Dell.com	❍	❍	❍	❍	❍	❍
(4) The product presentation from Dell.com helps me to get real feel for the product	❍	❍	❍	❍	❍	❍
(5) Dell.com offers quality pictures of the products	❍	❍	❍	❍	❍	❍
(6) When I have had to return the item purchased from Dell.com, the process was easy	❍	❍	❍	❍	❍	❍
(7) When I have had to exchange the item purchased from Dell.com, the process was easy	❍	❍	❍	❍	❍	❍
(8) The site design of Dell.com is eye catching	❍	❍	❍	❍	❍	❍
(9) Dell.com uses attractive colors on their sites	❍	❍	❍	❍	❍	❍
(10) Dell.com offers me a good deal	❍	❍	❍	❍	❍	❍
(11) The prices offered by Dell.com are competitive	❍	❍	❍	❍	❍	❍

(12) Dell.com carries a lot of brand names	❍	❍	❍	❍	❍	❍
(13) Dell.com has notified me when it has a sales event	❍	❍	❍	❍	❍	❍
(14) Dell.com has big sales events	❍	❍	❍	❍	❍	❍
(15) Dell.com lets me compare prices easily	❍	❍	❍	❍	❍	❍
(16) Dell.com has everything I want	❍	❍	❍	❍	❍	❍
(17) Dell.com offers good quality products	❍	❍	❍	❍	❍	❍
(18) Dell.com has told me about a stock-out situation when it affected my order	❍	❍	❍	❍	❍	❍
(19) Dell.com carries items I cannot find locally	❍	❍	❍	❍	❍	❍
(20) Other customers' comments provided by Dell.com help my shopping process	❍	❍	❍	❍	❍	❍
(21) Dell.com offers me a detailed product description	❍	❍	❍	❍	❍	❍
(22) Dell.com offers a lot of helpful information beyond product information	❍	❍	❍	❍	❍	❍
(23) Dell.com is a reliable place to shop	❍	❍	❍	❍	❍	❍
(24) My friends shop at Dell.com	❍	❍	❍	❍	❍	❍
(25) When I contact Dell.com, it responds to me as quickly as I want	❍	❍	❍	❍	❍	❍
(26) Dell.com lets me track my orders	❍	❍	❍	❍	❍	❍
(27) The checkout procedure on Dell.com is clear	❍	❍	❍	❍	❍	❍
(28) The checkout procedure on Dell.com is easy	❍	❍	❍	❍	❍	❍
(29) I believe Dell.com protects my financial privacy	❍	❍	❍	❍	❍	❍
(30) I can easily find my way around in Dell.com	❍	❍	❍	❍	❍	❍
(31) The Dell.com website is easy to browse	❍	❍	❍	❍	❍	❍
(32) Dell.com makes searching simple by typing key-words	❍	❍	❍	❍	❍	❍
(33) Dell.com offers me flexible payment options	❍	❍	❍	❍	❍	❍

Let's imagine Dell.com is a person you could meet in your everyday life!

Based on this way of thinking, the following questions are about your impressions of Dell.com. Please mark how you see Dell.com in the following sets.

I see Dell.com as being:

Comfortable	❍	❍	❍	❍	❍	Uncomfortable
Casual	❍	❍	❍	❍	❍	Formal
Excited	❍	❍	❍	❍	❍	Calm
Unique	❍	❍	❍	❍	❍	Similar to the others
Organized	❍	❍	❍	❍	❍	Disorganized
Modest	❍	❍	❍	❍	❍	Showy
Risky	❍	❍	❍	❍	❍	Secure
Experienced	❍	❍	❍	❍	❍	Inexperienced
Trendy	❍	❍	❍	❍	❍	Traditional
Fast	❍	❍	❍	❍	❍	Slow
Rational	❍	❍	❍	❍	❍	Emotional

The following questions are about your expectations on future shopping at Dell.com. Please mark your level of agreement for each statement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
(1) I expect to make a purchase at Dell.com again during the next 6 months.	❍	❍	❍	❍	❍
(2) When I am at Dell.com, I often loose track of time.	❍	❍	❍	❍	❍
(3) When I have something to buy, Dell.com will be one of the online sites I will go to.	❍	❍	❍	❍	❍
(4) When I want to entertain myself, Dell.com will be one of the online sites I will go to.	❍	❍	❍	❍	❍
(5) I expect to spend more at Dell.com than other online sites I usually shop.	❍	❍	❍	❍	❍
(6) I expect to recommend Dell.com to others for a good place to purchase online.	❍	❍	❍	❍	❍
(7) If someone were looking for something entertaining to do online, I would recommend Dell.com	❍	❍	❍	❍	❍

(Hyperlink to Demographics part on page 189)

Demographics

The following questions are only for statistical purpose.

Please select one of the choices for each question.

Please indicate the highest level of education completed. *

- ❍ Some High School
- ❍ High School or equivalent
- ❍ Some College
- ❍ College Graduate
- ❍ Graduate Degree (Master's, Doctoral)
- ❍ Professional Degree (MD, JD, etc.)
- ❍ Other

Approximately what was the total annual income for your household during 2003? *

- ❍ Less than $15,000
- ❍ $15,000 - $24,999
- ❍ $25,000 - $34,999
- ❍ $35,000 - $49,999
- ❍ $50,000 - $74,999
- ❍ $75,000 and above

What is your age category? *

- ❍ Under 18
- ❍ Between 18 and 24
- ❍ Between 25 and 34
- ❍ Between 35 and 44
- ❍ Between 45 and 54
- ❍ Between 55 and 64
- ❍ Over 65

What is your gender? *

- ❍ Female
- ❍ Male

VITA

Minsung Kim was born in Seoul, Korea in 1971 and graduated from Jin-Sun Women's High School in 1990. She received a Bachelor of Arts in Library and Information Sciences from Yonsei University in 1993. After completing her undergraduate degree, she worked for Samsung Electronics as an assistant marketing manager. In 1995, she began her MBA with a specialization in marketing and consumer behavior in the Graduate School of Business at Yonsei University. She completed her MBA in 1997 with a thesis titled, "Consumer Adoption and After-Adoption Behavior on the Internet." During this time she participated in the national project on the Korean multi-media industry and consumers' multi-media adoption behavior. In 1999, she began her second master's degree in the Department of Statistics at the University of Tennessee, Knoxville. She completed her Master of Science degree in Statistics in 2001, with a thesis titled "Developing Factor Analysis under Multivariate Power Exponential Distribution." She began her doctorate in the Department of Retail and Consumer Sciences at the University of Tennessee, Knoxville in 2001. She completed her doctoral program with a major in Retail and Consumer Sciences, and her doctoral degree was conferred in December 2004.