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Mei-Li Chou

Lynn University

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INFLUENCE OF TAIWAN CONSUMER BELIEFS IN WEB SITE ATTRIBUTES AND E-SHOPPING ATTITUDES ON E-SHOPPING INTENTIONS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

Lynn University

By

Mei-Li Chou

March, 2006
INFLUENCE OF TAIWANESE CONSUMER BELIEFS IN WEB SITE ATTRIBUTES AND E-SHOPPING ATTITUDIES ON E-SHOPPING INTENTIONS

Mei-Li Chou, Ph.D.
Lynn University, 2006

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INFLUENCE OF TAIWANESE CONSUMER BELIEFS IN WEB SITE ATTRIBUTES AND E-SHOPPING ATTITUDES ON E-SHOPPING INTENTIONS

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INFLUENCE OF TAIWANESE CONSUMER BELIEFS IN WEB SITE
ATTRIBUTES AND E-SHOPPING ATTITUDES ON E-SHOPPING
INTENTIONS

Mei-Li Chou

Abstract

This study aimed at investigating Taiwanese consumers' beliefs in Web site attributes and their e-shopping attitudes that influence their intentions to shop for books in e-bookstores. This study utilized the Theory of Reasoned Action (TRA) as the framework to explain the interrelationships among belief in Web site attributes, e-shopping attitude, and e-shopping intention. This study, using the method of two-stage quota sampling, used a sample of male and female students at different levels of several departments of Far East College. The survey questionnaires were non-randomly distributed to the voluntary participants. The survey was administered to a sample of undergraduate and graduate students who were students at Far East College of Taiwan and had purchased books in e-bookstores. The procedure of this non-experimental study guaranteed participants' anonymity. Three hundred and fifty-one questionnaires were usable for data analysis.

The three most important variables in this study were belief in Web site attributes, e-shopping attitude, and e-shopping intention. Independent variables were belief in Web site attributes and e-shopping attitude, and the dependent variable was e-shopping intention. Web site attributes consisted of four dimensions: Web site content, trustworthiness, interactivity, and marketing mix. In the questionnaire, six important constructs (belief in Web site content, belief in trustworthiness, belief in interactivity,
belief in marketing mix, e-shopping attitude, e-shopping intention) were measured on a five-point semantic differential scale. The scale items for these six constructs were developed by modifying instruments in prior studies that had been conducted by different scale developers. The content of the questionnaire was composed of two parts: the first part contained three items inquiring about participants’ gender, age, and length of e-shopping experience; the second part contained 26 items to inquire about participants’ beliefs in Web site attributes, e-shopping attitudes, and e-shopping intentions. The collected data were processed on SPSS to conduct reliability analysis, factor analysis, descriptive analysis, simple regression, t-test analysis, analysis of variance, and multiple-regression.

Findings indicated that e-shopping attitude was a predictor of e-shopping intention and had a positive and significant effect on e-shopping intention. Also, belief in Web site content, belief in trustworthiness, and belief in interactivity were antecedents of e-shopping attitude, but belief in marketing mix did not have an influential effect on e-shopping attitude. Furthermore, belief in marketing mix played an important role in affecting e-shopping intention. Practical implications, limitations, and recommendations for future research are further discussed.
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Antecedents of Consumer E-Shopping Intention
CHAPTER 1
INTRODUCTION TO THE STUDY

Introduction and Background to the Problem

In Taiwan, online shopping population and e-shops have been growing in recent years, along with the development of Internet technology (E-Usage, 2005). The Internet shrinks information asymmetry and offers an advantage for customers and retailers (Yang, Jun & Peterson, 2004). However, according to the Ministry of Economic Affairs of Taiwan, by the end of December of 2004, 26% of online retailers were not profitable (Chen, 2005). The prevalence of online sales did not appear to attract purchases (E-Usage, 2004).

In 2004, Internet users accounted for 14.6% of the world population (Internet World Stats, 2005). Sixty-eight percent of North Americans had access to Internet technology, while 49.2% of Australians and 36.8% of Europeans did. Computers and assistive technology have become the predominant tool to communicate with people everywhere (Geroge, 2004).

Along with the rapid adoption of the Internet as the mediating technology and as a commercial tool, customers and retailers can be connected at any given time. ComScore Networks Corporate reported that e-shopping increased from 41.2 billion in 2002 to 65.1 billion in 2004 (Infoplease, 2005). Skyrme (2001) demonstrated major benefits for suppliers to make electronic shopping popular: being open 24 hours a day, being able to operate at a lower cost, improving consumer service, adjusting the market environment, and extending market scope (Afuah & Tucci, 2003). The benefits of a Web-based environment are instant transactions (Song & Zehedi, 2001), shopping
privacy (Lee, 2002), low purchase costs, convenience (Joines, Scherer, & Scheufele, 2003), ease of gaining information (Koufaris, Kambil, & IaBarbera, 2002), and reduced hassles (Kolter, 2000).

Similar to e-shopping around the world, the shift from traditional to online retailing is a current trend in Taiwan. According to the Ministry of Economic Affairs, Taiwanese e-commerce of B2C in 2004 boomed simultaneously in line with consolidation of domestic information infrastructure, and B2C e-shopping in 2004 increased 57.2%, over 2003 (Eastern Online, 2005). As Internet shopping is becoming popular, Taiwanese consumers are turning to online purchasers. According to the Ministry of Economic Affairs, 32% of B2C e-shops were profitable in 2004, rising 3.6% from 2003 (E-Usage, 2005). Based on survey from Yamcom, in 2003, the highest stated product category which was bought from online stores was “books”. In addition, in 2004, “books” still was rated as the category which was bought most in the Internet (42%) (Chen, 2005). NetValue (2005) reported that, in 2004, there were 20% additional visiting rate for Taiwanese online stores. Online visitors obviously have increased, time lags for their staying in online stores also have become longer, and more pages have been downloaded.

Although patrons of brick and mortar customers have increased their online presence, B2C business worldwide still face challenges. The development of e-commerce and e-shopping activities is influenced by a reduction in e-retailers’ profitability, distribution disintermediation, technology limitations, and consumers’ characteristics and habits (Reibstein, 2002). Also, Kotler (2000) stated that the key barriers to Internet business growth in the world were associated with skewed user
psychographics and demographics, consumer backlash, and ethical concerns over the monitoring of consumers’ return visits. In addition, Skyrme (2001) pointed out the challenges that e-businesses were facing, such as consumers’ concerns about legal enforceability of contracts, the suppliers’ authenticity, transaction confidentiality, and transaction security. According to Eastern Online (2005), 80% of people who put books in online shopping carts finally give up giving ordering bills because of the concern of the extra payment for shipping, waiting time for delivery, and complicated function of online transaction system. Even though the utilization of Internet technology by vendors and consumers has been rapidly expanding, the development of e-shopping is still slow (Lu, Hsu & Hsu, 2005).

According to Taiwan’s Ministry of Economic Affairs, as of November 4, 2004, most online consumers were between 20 to 39 years of age, and few were older than 40 (Eastern Online, 2005). E-commerce acceptance indexes of 2004 reported by the Department of Commerce showed only slight growth, and the prevalence of online sales only demonstrated marginal growth (less than 2%) (E-Usage, 2004). The Taiwanese, like people everywhere, are concerned about the same issues related to e-shopping. In Taiwan, 33% of online consumers did not trust e-shopping security, 25% were not accustomed to e-shopping, and 20% were worried about personal privacy. Also, less than 10% of the respondents thought that legislation had improved the safety of online transactions (E-News, 2005). The security of online credit card usage remains unstable, despite the widespread use of credit cards in Taiwan (Electronic Commerce Times, 2005). In spite of an electronic signature law in Taiwan, the detailed provisions that define the obligations of vendors, buyers and intermediaries have not yet been available (E-News,
In addition, the convenience of Taiwanese transportation and dense distribution of retailers within Taiwanese neighborhoods might inhibit the diffusion of B2C commerce in Taiwan (Eastern Online, 2005). Many people in Taiwan still perceive offline shopping more enjoyable than online shopping; also, the penetration of Internet technology appears not to generate the greatest effect on trading activities (Chen, 2005).

With the competition of Internet business, the issue of how to utilize the potential of Internet to deliver the greatest values to customers in the new competitive environment has been emphasized by marketers and researchers (Shanklin, 2002). Consumer e-shopping behavior is one of the important issues that is associated with the B2C e-commerce market. Nevertheless, consumer e-shopping behavior is difficult to be directly observed, so consumer online intention has become an important predictor of consumer e-shopping behavior (Lee & Littrell, 2005).

E-shopping intention is the possibility that the consumer is willing to purchase a product online (Lee & Littrell, 2005). Chen (2004) defined e-shopping intention as the subjective tendency of buying objectives that serves as a key index for predicting online consumer behavior. E-shopping intention was examined via a number of studies (e.g., Salisbury Pearson, Pearson, & Hiller, 2001; Lu et al., 2005; Cheong & Park, 2005). Wakefield and Blodgett (1994) tested consumers’ desire to stay in the context of shopping. Wakefield and Baker (1998) evaluated online shopping behavior using the items that were commonly used to assess traditional shopping behavior. Keaveney and Parthasarathy (2001) conducted an exploratory study in the USA to observe consumer online shopping perceptions by examining switching intention and repatronage intention. Jayawardhena (2004) suggested that e-shopping intention may be associated with the
desire to browse, switching intention, and purchase intention. In his study, consumer e-shopping intention was examined by evaluating desire to browse, repatronage intention, and switching intention.

Online marketing researchers and practitioners have taken e-shopping intention as the most precise predictor of consumer e-shopping behavior (Huang, 2004). Hence, related research about consumer e-shopping intention has suggested that e-shopping intention has an important role in explaining the success and failure of e-commerce (e.g., Lee & Littrell, 2005; Peng, Fan, & Hsu, 2004; Thou, 2004). Consumers' e-shopping intentions can reveal their motives, perceptions, and attitudes, and subsequently serve as the basis of e-marketing (Salisbury et al., 2001).

**Purpose of the Study**

The purpose of this quantitative, non-experimental, and explanatory study was to measure the factors that predict consumer e-shopping intention for e-bookstores in Taiwan. Several studies have found that consumers' positive e-shopping attitudes significantly increased their willingness to shop online (e.g., Shim, Estlick, Lotz, & Warrington, 2001; George, 2002; Lee & Littrell, 2005; Kim, Kim, & Kumar, 2003; Yoh, Damhorst, Sapp & Lazniak, 2003; Chen, 2003; Chen, 2004). Also, Web site attributes are important components in predicting consumers' online consumption intentions (e.g., Kim & Kim, 2004; Jun, Yang, & Kim, 2004; Cai & Jun, 2003; Yang & Fang, 2004; Kao, 2004; Wang; 2004; Wu, 2002). Therefore, the objectives of this research were to:

1. Identify important influences upon consumer e-shopping intention for e-bookstores in Taiwan;
2. Assess the relationship between consumer e-shopping attitude and e-shopping intention for e-bookstores in Taiwanese;

3. Evaluate the relationship between belief in Web site attribute dimensions and consumer e-shopping intention for e-bookstores in Taiwan;

4. Explore the relationship between belief in Web site attribute dimensions and consumer e-shopping attitude for e-bookstores in Taiwan.

Definitions of Terms

Independent Variables

E-Shopping Attitude

Theoretical definition. E-shopping attitude is defined as general beliefs of whether e-shopping is good, bad, beneficial, or non-beneficial (Lee & Littrell, 2005).

Operational definition. In this study, e-shopping attitude is defined as general beliefs of whether e-shopping on the e-bookstore is good, bad, beneficial, or non-beneficial. Two items ask respondents to indicate whether they believe e-shopping on the e-bookstore is good and beneficial. The e-shopping attitude items were developed by modifying the instrument used in a previous study conducted by Jayawardhena (2004). This scale consists of two items and is shown in Appendix C.

Belief in Web Site Content

Theoretical definition. Belief in Web site content is defined as the cognitive acceptance of Web site content (Cai & Jun, 2003).

Operational definition. In this study, belief in Web site content is defined as combined cognitive evaluations of various aspects of Web site content of the e-bookstore as either good or bad. This scale consists of eight items and is shown in Appendix C.
The aspects are organization and structure of online catalogs, aesthetic features, content, Web site speed, perceived playfulness, and site accessibility. In this study, Web site content was developed by modifying the *Web Site Quality Scale* developed by Cai and Jun (2003).

**Belief in Trustworthiness**

*Theoretical definition.* Belief in trustworthiness is defined as the cognitive evaluation of elements that generate consumer trustworthiness (Cai & Jun, 2003).

*Operational definition.* In this study, belief in trustworthiness is defined as the cognitive evaluation of elements of the e-bookstore that generate consumer trustworthiness as either good or bad. This scale consists of three items and is shown in Appendix C. These elements were transaction security, privacy confidentiality, and online firms' reputation and image. In this study, trustworthiness items were developed by modifying the *Web Site Quality Scale* developed by Cai and Jun (2003).

**Belief in Interactivity**

*Theoretical definition.* Belief in interactivity is defined as the cognitive evaluation of elements of related to interactivity attributes (Constantinides, 2004).

*Operational definition.* In this study, belief in interactivity is defined as the cognitive evaluation of two main groups of elements of the e-bookstore related to interactivity attributes as good or bad. This scale consists of seven items and is shown in Appendix C. In this study, one group of elements was interactivity with online Web users; the other one was interactivity with e-retailers. The elements were: (a) the ability of the media offering to interact with other online Web users; (b) offering of prompt/reliable services, including prompt response, accurate billing recording, and
responsible delivery action from online firms; (c) availability of a method of
communication with vendors; (d) availability of an offline helpdesk. In this study,
interactivity items were developed by modifying the instrument used in a previous study
conducted by Jang and Burns (2004).

Belief in Marketing Mix

Theoretical definition. Belief in marketing mix is defined as the cognitive
evaluation of elements of the marketing mix.

Operation definition. In this study, belief in marketing mix is defined as the
cognitive evaluation of elements of the e-bookstore of marketing mix as either good or
bad. This scale consists of three items and is shown in Appendix C. In this study, the
elements of marketing mix were product information that was shown on the Web,
availability of price information, and availability of online promotion. In this study,
marketing mix items were developed by modifying the instrument used in a previous
study conducted by Jang and Burns (2004).

Dependent Variable

E-Shopping Intention

Theoretical definition. E-shopping intention is defined as the possibility that the
consumer will purchase a product or service over the Internet (Kim et al., 2003).

Operational definition. In this study, e-shopping intention is the possibility that
a consumer will revisit and repatronize the e-bookstore in the future. This scale consists
of two items and is shown in Appendix C. E-shopping intention items were developed
by modifying the instrument used in a previous study conducted by Jayawardhena
(2004).
This study can be useful to both practitioners and academics. It may assist Taiwanese Web site designers and Internet retailers to identify aspects of special concern when designing, establishing, or assessing their online company. This study may help Taiwanese Internet retailers recognize how e-shopping customers develop preferential attitudes and behaviors toward Web sites through incorporating more comprehensive perceptual Web site attribute dimensions. Moreover, by linking the attitudinal psychology model to the elements of most concern to online firms, this study expected to be able to show marketers how to cope with the most pressing managerial issues of their online businesses. This study revealed Web customers’ preferences and purchase intention; hence, the proposed theoretical model may serve as a strategic framework that maximizes e-business Web investments. Also, this study’s findings had the potential to contribute to the knowledge of the influence of Web site attributes on online customers, and to improve Web site designers’ ability to evaluate and adjust their policies while designing Web site content.

For Taiwanese academic researchers, this paper may serve as a basis for forming new research questions and hypotheses that generate better mapping of Taiwanese consumers’ e-shopping behaviors. Also, the framework may allow Taiwanese researchers to focus on better recognizing the nature and weight of Web site attributes. Also, this study may reflect the importance of theory replications and extensions in the social sciences of Taiwan. Moreover, the present research may be a supplementary point for Taiwanese e-marketing scholars to analyze the effects of belief in Web site attributes on e-shopping attitudes. Furthermore, this cultural-specific study may provide
insight into e-shopping activities for Taiwanese researchers who are interested in
cross-cultural comparisons. The attitudes and intentions toward Web site attributes in
different virtual markets in Taiwan can also be investigated through this study.

In the same vein, this present study may contributes to the knowledge of global
researchers. Researchers can replicate this present study in different cultures to test
global perspectives of Web site attributes and e-shopping intention. Further research
may be explored either from the aspect of isolation of Web site attributes or from the
perspective of interaction with other Web site attributes. Focusing on both the logical
derivations and feasible empirical design, this study should have the potential to
contribute to the establishment and testing of theories for the B2C e-commerce literature.
Extending previous theoretical arguments into the Internet shopping context, this study
may help identify ways to evaluate the existing theoretical models.

Previous studies examining belief in Web site attribute, e-shopping attitude, and
e-shopping intention in Taiwanese e-bookstores were scant. Therefore, this study had
its importance in the field of e-marketing. Moreover, this study was researchable
because it contained scientific questions and measurable variables. Furthermore, this
study was feasible because of available sample, measurable concepts, and completion in a
reasonable amount of time.

**Delimitations and Scope**

1. The subjects were adults (at least 18 years old) who were living in Taiwan, and Taiwanese nationals.
2. The subjects had had experience buying books online.
3. The subjects were incumbent students at Far East College of Taiwan.
4. The setting was in the classrooms of the Far East College, Tainan county, Taiwan.

5. With an official endorsement, the questionnaire was translated into Chinese and back to English by a professional linguist who is fluent in both the English and Chinese languages to confirm that content remained the same meaning.

6. The subjects agreed to participate in the study and completed the questionnaire.

7. The subjects can read Chinese.

The delimitation in the setting was to generate a homogenous sample. In this way, the influence of extraneous variables (e.g., students who were under 18 years old or international students in the Far East College) could be reduced. Online shoppers' belief in Web site attributes and e-shopping attitude were delimited to students who had had experience buying books online. The English language competence varied among the students in the Far East College; hence, the questionnaire was translated from English into Chinese. In order to reply to the questions on the questionnaire, a participant had to be able to read Chinese. Informed consent procedure was conducted due to ethical considerations and participants' rights.

Chapter 1 of the study provides an overview of the study. It contains a background to the study problem, the purpose of the study, the definitions of terms, justification, and the delimitations. Chapter 2 of the study provides an in-depth review of e-shopping in Taiwan, the theory of reasoned action, e-shopping intention, e-shopping attitude, Web site attribute. This chapter provides a critical analysis of theoretical and
empirical literature regarding e-shopping intention, e-shopping attitude, and Web site attribute. The conceptual framework and research questions are based on foundations addressed in literature review.
CHAPTER 2
LITERATURE REVIEW, THEORETICAL FRAMEWORK, AND HYPOTHESE

Literature Review

The Theory of Reasoned Action

The Theory of Reasoned Action (TRA) originated in the field of social psychology (Chao, 2004). After 1862, psychologists began to formulate theories about the effects of attitude upon behavior. In the nineteenth century, the field of psychology began to explain human action in terms of “attitude” (Ajzen & Fishbein, 1980). Allport (1935), and Guttman (1944) used the concept of attitude to explain the formation of individual behaviors. In the early 1960s, social scientists also started to regard attitude as a predictor for behavior (Chen, 2004). As a result of these developments by psychologists and social scientists, Fishbein and Ajzen investigated ways of predicting behaviors (Wang, 2004). They revised and expanded the TRA, and suggested that behavioral intentions, not attitudes, were the main predictors of behaviors. The proposition was based on the assumption that people considered the implications of their actions before they acted (Ajzen & Fishbein, 1980). According to the TRA model, human beings are cognitive and make systematic use of information when making decisions. Working backward from behavior, the TRA model suggests that the best predictor of behavior is the intention to act. Behavioral intention is an outcome of one's attitude toward the behavior and the subjective norm. Attitude toward performing the behavior is further shown to be a mixed outcome of the individuals' beliefs and their evaluation of those beliefs. Subjective norm is defined as persons’ perception that most people who are important to them consider whether or not they should perform the
behavior in question (Fishbein & Ajzen, 1980). According to Fishbein and Ajzen (1980), subjective norm is a combination of beliefs that specific referents should or should not perform the behavior, and the motivation to comply with the specific referents.

Sheppard, Hartwick, and Warshaw (1988) asserted that the model and the theory performed very well in predicting goals and forecasting activities involving an explicit choice among alternatives. Additionally, the predictive utility of the model remained strong across conditions. Baker, Morrison, Carter and Verdon (1996) have stated: "The strength of the TRA model lies in the clear definition of variables, the use of well-supported measurement scales, a clear statement of the relationship between variables, the 'grounding' of the model in the belief in the population under study, and in its parsimony" (p. 529). The TRA model underpins numerous studies which address behaviors related to social psychology, including science learning activities (Butler, 1999), seeking help for alcohol abuse (Codd, & Cohen, 2003), sexual initiation among adolescents (Carvajal et al., 1999), moral behavior in sports (Vallerand, Deshaies, Cuerrier, Pelletier, & Mongeau, 1992), marijuana use (Morrison, Golder, Keller, & Gillmore, 2002), sightings of unidentified flying objects (Patry & Pelletier, 2001), and physical activity of corporate employees (Kimiecik, 1992).

Also, the TRA model has been applied in health psychology and has been useful in predicting smoking (Marin, Marin, Perez-Stable, Otero, & Sabogal, 1990), tooth brushing (Syrjala, Niskanen, & Knuuttila, 2002), contraceptive use (Miller & Grush, 1986), and dental hygiene (Toneatto & Binik, 1987; Dunkle & Hyde, 1995).
Several educational psychologists expanded the applicability of the TRA model by assessing the participants' beliefs, attitudes, and experiences. Burak (2004) examined and predicted college students' reading intentions and behaviors; Felton, Dimnik, and Northey (1995) evaluated participants' accountant career choice; Roberto, Meyer, Boster and Roberto (2003) investigated adolescents' decisions regarding verbal and physical aggression; Becker and Gibson (1998) predicted behavioral intentions for enrolling in distance education courses.

Because of its usefulness in predicting behavior, the TRA model also has been incorporated into research and studies in the field of management, and has been useful in predicting personal behaviors such as a sales force's use of automation (Jones, Sundaram, & Chin, 2002) and strategic information systems (Mykytyn & Harrison, 1993), senior management's behavior in reengineering process (Wu, 2003) and hotel management (Buttle & Bok, 1996).

Later, the TRA model was borrowed by consumer researchers to explore consumer behaviors related to beliefs, evaluations, intention, and consistency of purchases (e.g., Wang, 2004; Huang, 2002; Lee & Littrell, 2005). The researchers who investigated consumer behaviors held these rationales: if they were interested in predicting behavior, they would directly measure intention; however, if they were also interested in the underlying factors that contributed to a consumer's intention, they would look behind intention by exploring the consumer's attitude toward the behavior and the subjective norm. The TRA model has been found to be useful in understanding and predicting consumer behavior related to coupon usage (Shimp & Kavas, 1984), salt intake (Shepherd & Farleigh, 1986), consumption of soy products (Rah, Hasler, Painter,
& Novakofski, 2004), brand loyalty (Ha, 1998), voting (Singh, Leong, Tiong, & Wong, 1995), milk consumption (Shepherd, Sparks, Bellier, & Raats, 1991), and high-fat and low-fat food alternatives (Stafleu, Graff, Staveren, & Jong, 1994). Most of these studies used attitude questionnaires framed within the TRA model and performed sensory evaluations to determine the factors influencing consumers’ use or avoidance of products.

Since the TRA modeled an individual’s intention toward a behavior as a function of his or her beliefs about that behavior, researchers who investigated consumer intention behavior toward shopping also incorporated the TRA model. Huang (2000), Shih (2004), Wu (2002), Chen (2001), Wang (2004), Lee and Littrell (2005), Vijayasarathy and Jones (2000), Vijayasarathy (2002), Evans, Christiansen, and Gill (1996), Battacherjee (2000), George (2002), Suh and Han (2003), and Khalifa and Limayem (2003) have adapted the TRA model in their studies of electronic shopping. Some of these studies are discussed in the following section.

**Empirical Studies about Online Consumer Behavior: Application of Theory of Reasoned Action**

The TRA model has been used as a basis of some research studies (e.g., Lee & Littrell, 2005; Chao, 2004). Empirical studies that were based on the TRA model to investigate consumer behaviors are presented in this section.

Wu (2002) conducted an experimental survey to examine the components that increased trust in shopping on the Web, using a sample of Taiwanese online shoppers. The findings showed that trust in shopping the Web was influenced by beliefs about customer control, Web site branding, Web site security, and the disposition to trust. In addition, users’ attitudes toward shopping on the Web significantly and directly
influenced both purchase intention and intention to provide personal information. Interestingly, belief in service quality and Web site branding had different effects on people who did and did not have experience purchasing products online. For experienced consumers, belief in service quality had the most significant influence on their attitude toward a Web site. For respondents who had never bought products online, belief in Web site branding was the most significant influence. However, in both groups, attitude toward shopping on the Web was influenced by their beliefs in Web site security and customer control. Furthermore, belief in Web site security and customer control indirectly influenced purchase intention.

Wang (2004) investigated the causal relationship between e-bookstore consumers' technology attitudes and their consumption behaviors in the context of an e-bookstore. The survey group was a sample of undergraduate and graduate students at a university in the northern area of Taiwan. A total of 797 usable self-administered questionnaires were utilized for statistical analysis. The results demonstrated that attitudes toward technology were not associated with purchase intention; however, the respondents with higher levels of technology recognition had a tendency to spend more when they purchased books online. Another interesting finding was that respondents with higher levels of interest in technology and evaluation of technology were be more satisfied with the e-bookstore.

Wang (2003) used a behavioral perspective to examine the components that were associated with e-shopping behavior. The survey was administered on a convenience sample of students attending three technology universities in central Taiwan. E-bookstores were the focal objects. Three findings were significant. First, attitude
toward Web site and subjective norms positively influenced e-shopping intention. Second, relative advantage, compatibility, and ease of use of Web site attitude were positively related to e-shopping intention. Third, when consumers believed that the relative advantages outweighed the risk costs, their attitude toward risk did not influence their e-shopping intention.

Shih (2004) conducted an experimental survey on a sample of students at a Taiwan university. The study explored the relationships among perception of service quality of Web site, perceived risk, e-shopping attitude, and e-shopping intention. The findings were as follows. First, service quality of the Web site directly and positively influenced e-shopping attitude, but indirectly influenced e-shopping intention. Secondly, perceived risk had a negative influence on e-shopping attitude, but no influence on e-shopping intention. Thirdly, interactivity was the most significant attribute among service quality components to be associated with e-shopping attitude, while merchandise information had the strongest effect on e-shopping intention.

Chen (2001) conducted a study in Taiwan to examine consumers' shopping behaviors. The sample was a group of business workers in Taiwan who had online purchasing experience. The data was collected through an Internet survey. The findings showed that the more positive the consumer e-shopping attitude, the stronger was the intention to shop online. Moreover, the usefulness attribute of the Web site and the ease of use of the Web site positively influenced e-shopping attitude, and indirectly influenced online purchase intention. Also, the results reported that the usefulness attribute of Web site was most influenced by perceived risk, and was slightly positively influenced by transaction cost, information system quality, and ease of use.
Furthermore, ease of use was positively affected by how familiar consumers were with the Web site and with their knowledge of information systems. Also, the researchers found that consumers' knowledge of information systems indirectly influenced their intention to purchase online, while perceived risk and transaction cost did not have any significant relationship to online purchase intention.

Basing their research on Fishbein and Ajzen's (1975) the TRA model, Lee and Littrell (2005) conducted a survey in the USA to investigate the interrelationships among consumer shopping values, belief in attributes of the Web site, attitude toward Internet shopping, consumer online behavior, and intention toward online cultural products. A Web survey invited Web site browsers to respond to a questionnaire aimed at understanding consumers' shopping for cultural products online. The results of data analyses showed that Web site attributes were positively related to attitude toward online shopping. The authors indicated that information quality, merchandising, and interface/protection were critical attributes of a Web site. Furthermore, only the merchandising aspects of the Web site significantly influenced online shopping intention, while information quality and interface/protection did not.

Lu, Hsu, and Hsu (2005) conducted a survey to explain the acceptance of online applications under security threats. In their research model the independent variables were perceived ease of use, perceived usefulness, perceived risk; the latent variable was attitude toward use; the dependent variable was behavioral intention to use. Totally 1259 usable registered users who had used a free trial version of online antivirus (OLA) applications were solicited from the online survey to examine their perceptions of ease of use, usefulness, risk, attitudinal use, and behavioral intention to use. Five constructs
were evaluated on a five-point Likert scale, ranging from "disagree strongly" (1) to "agree strongly" (5). The Cronbach's alpha reliability coefficient for perceived risk was 0.72, ease of use 0.80, usefulness 0.86, attitude toward using 0.89, and behavioral intention 0.89.

The results of the study showed that attitude and perceived usefulness positively and significantly influence consumers' use intention. Perceived risk was shown to indirectly impact consumers' use intention via attitude and perceived usefulness. Perceived usefulness and perceived risk were shown to significantly influence attitude toward the use of OLA. However, there was no significant correlation between ease of use and attitude toward OLA use. Perceived ease of use and perceived risk had a direct influence on perceived usefulness. Perceived risk was shown to significantly impact the continuous-use group more than the trial-and-leave group. Hence, the authors explained that in the first stage, perceived usefulness controlled attitudes toward the use of an innovative technology. However, in the second stage, among the consumers who intended to continue using the technology, securing a commitment became an important concern. The study had two limitations. The self-selected sample may not been generalizable to the population. Generalizing these results to other online security applications should be done cautiously.

Examining the willingness to use the M-Internet in Korea, Cheong and Park (2005) utilized the technology acceptance model (TAM), which was based on the TRA model, to test Mobile Internet acceptance level in the M-Internet context. A market research company, which owned the largest online panels in Korea, conducted an online survey for this study. The population was the people who own mobile equipment. A
total of 1279 usable replies were used for data analysis. A pilot test was conducted by
the graduate students who majored in IT management. Bilingual students and experts in
the Information Systems research area reviewed and modified the outcome of the pilot
test. Twenty-nine items with a seven-point Likert scale, ranging from “strongly
disagree” to “strongly agree,” were used to measure nine constructs. The dependent
construct was intention to use Mobile Internet. Eight independent constructs were used
to serve as the predictors of intention to use Mobile Internet: perceived system quality,
perceived content quality, Internet experience, perceived usefulness, perceived ease of
use, perceived playfulness, perceived price level, and attitude toward M-Internet. All of
the constructs were found to be reliable because Cronbach's Alpha coefficients exceeded
0.80. Convergent and discriminant validity were upheld through exploratory factor
analysis. The findings showed that the attitude toward M-Internet was the most
significant factor for predicting intention to use M-Internet. The authors suggested that
this result resupported the argument that attitude plays a crucial role in predicting
intention in the subsequent research of technology acceptance and consumer behavior.
Compared to perceived ease of use, perceived playfulness was found to have a more
significant influence on the attitude toward M-Internet. Cheong and Parker (2005)
concluded that the importance of utilizing perceived playfulness in the technology
acceptance model had been consistently supported such as Moon and Kim in 2001. The
content quality was found to have a more significantly positive influence on perceived
usefulness than system quality. Compared to perceived usefulness and playfulness,
perceived ease of use was found to have a relatively weaker influence on attitude, and did
not directly influence intention. However, perceived ease of use played a crucial role in
Electronic Commerce

There are several definitions of electronic commerce (e-commerce). Zwass’ definition (1996) referred to sharing business information, keeping business relationships, and performing business transactions using Internet-based technology. Savoie and Raisinghani (1999) regarded e-commerce as a way to connect a customer with what he/she needs or wants at any given time through click of a mouse. Anderson Consulting (1999) stated that e-commerce was the conduct of e-business between consumers and e-enterprise. Cox and Dale (2001) define e-commerce as the selling information and products/services over the Internet. Murphy (2001) claimed that e-commerce included the provision of information to customers, marketing activities, and other support activities. Based on Lin’s (2003) definition, e-commerce is both a broad and narrow term. In its broadest terms, e-commerce is the use of the Internet for the purpose of advertising and presenting information about products/services; in its narrowest sense, the term refers to the utility of business transactions, e.g., ordering and payment on the Internet. The realization of e-commerce success relies on recognizing customers. “The technology of e-commerce determines what can be offered to customers, but only customers decide which of those technologies will be accepted” (Lin, 2003, p. 79).

In B2C commerce, businesses sell products or services to retail consumers. Online retailers have no limit to the number of products that they can present in their virtual malls or storefronts (Simon, 2004). The advantage is that buyers do not need to wait in line. In B2C e-commerce, online companies can collect customer data which
can customize for customers (Constantinides, 2004). The time moderator property of the Internet means that customers have 24-hour access to e-shops (Afuah & Tucci, 2003). The universality and low cost create an environment in which consumers with Internet access can e-shop anywhere and maintain privacy (Wu & Huang, 2004).

**Electronic B2C Commerce and Electronic Shopping**

The significance of e-commerce has been increased by the recent advancements of telecommunications and computer networks. "The research on the influence of e-commerce is based on the Internet" (Lin, 2003, p. 6). Some researchers argue that the Internet will negatively influence physical stores, while others predict that Internet stores will not attract shoppers all the time, and traditional shopping will still dominate purchasing (Schoenbachler & Gordon, 2002). Worzala and McCarthy (2002) predicted that by 2010, half of all shopping will be online, and half of the retail stores in America will be shut down. However, Markham (1998) observed that customers enjoy shopping and that the online shopping method will never replace traditional shopping. In any case, a great number of consumers have embraced e-commerce. Although at present, online business is only a small portion of total commerce, e-commerce is regarded significantly enjoyable by the great majority of consumers (Cheong & Park, 2005). The effect of e-commerce is confirmed by consumers' expectations that e-commerce creates significant outcomes both for consumers' shopping activities and for business developments (Liang & Lai, 2002).

Marketers utilize e-commerce to provide a physical and service space through which product consumption and delivery processes are enacted (Foucault & Scheufele, 2002). Skyrme (2001) demonstrated major benefits to retail suppliers who make
e-commerce popular: being open 24 hours a day, products acquired at a lower cost, improved consumer service, appropriate adjustments to the market environment, extended market scope, and efficiency gains. Also, a Web-based environment offers benefits to online customers (Foucault & Scheufele, 2002). The benefits are instant transactions (Song & Zehedi, 2001), privacy (Lee, 2002), cost savings (Joines et al., 2003), ease of finding information (Koufaris et al., 2002), reduced hassles (Kolter, 2000), and convenience (Joines et al., 2003).

The increased use of the Internet may bring about disadvantages to both online vendors and online customers (Lin, 2003). Because online users are more technology-oriented, they may prefer electronics, computers and financial services, rather than mainstream products (Lin, 2003). An unsteady offering of information may generate uneven product quality (Daugherty, Li, & Biocca, 2003). One-way interaction usually takes place between the Web site and the online customers (Cox & Dale, 2001). The lack of human interaction prevents product scrutiny (Skyrme, 2001). With the lack of direct contact between the staff of the company and the customer, it is harder to establish customer loyalty and for customers to switch products (Jayawardhena, 2004). When an online customer is disappointed in the required level of accountability, he/she will usually switch to an alternative outlet (Constantinides, 2004).

Many shoppers waste valuable time shopping for everyday goods (Madu & Madu, 2002). Hence, making shopping more enjoyable has recently become an issue of concern for retailers. The retailing field uses promotion, advertising and merchandising to impact the customers’ purchase choices (Jang & Burns, 2004). The impact of new information technology on shopping through the Internet is evident. The loss of
store-based sales from numerous product categories, such as consumer electronics, as well as books and music, has had a devastating influence on store profitability (Cai & Jun, 2003).

In order to meet consumers’ needs, the first shopping centers were conveniently located in areas where people congregated. Nevertheless, taking purchases to the car and transporting them home is a burden (Markham, 1998). Transportation and parking are additional inconveniences (Lin, 2003). The concept of online shopping has made geocentric shopping advantages less important (Worzala et al., 2002). By reducing the location value of retail sites, the Internet page allows shoppers to shop from home. A wide range of self-service applications, such as travel reservations and overnight shipping, are available to the customer 24 hours per day (Lu et al., 2005). Information and services can be directly and efficiently offered to customers through Web sites (Lu et al., 2005). If shoppers spend time searching for online information, they may find a mass of relevant data about the products that they desire to buy. Some Web sites such as eBay and Amazon remind consumers of items that they often purchase (Afuah & Tucci, 2003). The customer database of the Internet can electronically suggest to the customer any special properties regarding their goods (Constantinides, 2004). Through e-shopping, actual physical products, such as books, can be delivered to shoppers’ homes, and digital services, such as software, can be downloaded to customers’ computers (Daugherty et al., 2003). The burden of taking the purchased products to the car and transporting them home can be alleviated via online shopping.

Customers pay much attention to relationships with sellers and to their prior service experiences (Cheong & Park, 2005). The companies using Web site interface
may be able to customize their services to individuals (Schoenbachler & Gordon, 2002). Web sites seize customer information and notice returning customers by recognizing an e-mail address or identifying information (Cox & Dale, 2001). When customers place an online order with a payment option form, customization is quickly completed (Jang & Burns, 2004). Customer information is routed efficiently and directly to the vendors and manufacturers in real time (Greis & Kasarda, 1997).

**Internet Usage, B2C E-Commerce, and E-Shopping in Taiwan**

In January, 2005, Taiwan Network Information Center (TWNIC) (2005) reported that a growing number of Internet users was in Taiwan. According to TWNIC’s survey of January, 2005, ten million people in Taiwan had experience in using the Internet by June, 2004, while 13.32 million had used the Internet by the end of December, 2004; of these, 11.82 million users were 12 and above, with the highest populations and percentages being between the ages of 16-20 and 21-25.

The Ministry of Economic Affairs reported that Taiwan’s online shopping population and e-shops had been growing in recent years along with the development of the Internet technology (E-Usage, 2005). Taiwanese e-commerce of B2C increased 57.2% in 2004, along with consolidation of domestic information infrastructure (Eastern Online, 2005). Hence, a shift from traditional retailing to online retailing is a current retailing trend (Keen, de Ruyter, & Feinbery, 2002). In sum, Internet shopping is becoming an increasingly popular way to purchase goods and services (Donthu, 1999); consumers are turning into online purchasers in Taiwan in greater numbers (Lim & Dubinsky, 2004). Taiwanese consumers also appear to be moving in this direction.
According to the Ministry of Economic Affairs, the majority of online consumers were between 20 and 39 years of age, while few consumers were over 40 (Ministry of the Interior, 2006). Even though online shopping in 2004 increased 57.2% from 2003, according to the Ministry of Economic Affairs, by the end of December, 2004, 26% of e-retailers were not profitable (E-Usage, 2005). This phenomenon showed that the fierce competition of B2C e-commerce is still taking place among online vendors. Many businesses have struggled to incorporate Internet technology into their services. Hence, retailers encounter the challenge of not being able to utilize the same form for traditional and online business (Burke, 2002).

TWNIC (2005) reported that by the end of 2004 a slight gender difference was found, with females accounting for a slightly lower percentage of Internet users. The percentage of female users was 48.2%, while that of male Internet users was 51.8%. Also, a survey conducted by the Department of Commerce in 2005 found that more men than women shopped online, with reported percentages of 54% and 46% respectively (Electronic Commerce Times, 2005).

According to the report of TWNIC (2005), 67.51% of participants reported using the Internet to browse Web pages, 48.65% for E-mails, and 19.63% for information searching. A survey conducted by the members of the Ministry of Economic Affairs found that in 2004, 20.68% of Internet users spent more than one hour but less than two hours online daily, 16.06% spent more than two hours but less than three hours, and 12.99% spent more than half an hour but less than one hour (E-News, 2005, June, 30). This information suggests Internet shopping may more effectively fulfill some consumer needs than traditional shopping does (Grewal, Lyer, & Levy, 2002).
Based on these reports, Taiwanese consumers can efficiently acquire critical knowledge or information about firms, brands, or products online. Nevertheless, Taiwanese consumers might purchase products offline because of the dense distribution of retailers within their neighborhood. Generally, electronic communications and chatting introduce the younger generation to the Internet environment and thereafter, online gaming prompts through popularity and penetration of the Internet (Chen, 2005). Owing to the dense distribution of retailers in Taiwan, many consumers search for information online, and subsequently make their purchases in offline shops (E-Usage, 2005, March 4).

Internet use maintained steady growth from 2003 to 2004, and most sub-categories such as corporate use of secure servers or corporate websites reached saturation levels (Infoplease, 2005). Also, in 2004, installation of company websites (35.7%) showed faster growth, rising 8.7%, compared to 27% in 2003 (E-News, 2005). Nevertheless, e-commerce acceptance indexes of 2004 reported by the Department of Commerce showed only slight growth. The prevalence of online sales did not appear to attract fast-growing purchasing because their marginal growth was less than 2% (E-Usage, 2005). Interestingly, Enterprise Resource Planning (ERP) had the highest prevalence rate, and Customer Relations Management (CRM) had the second highest prevalence rate (E-Usage, 2005). Attention has been paid to consumer behavior, which has been found to serve as an important tool to compete among online vendors and to acquire the competitive advantages in the B2C e-commerce market.

Consumers in Taiwan spent an average of 12.6 hours per week on the Internet outside of work, and 40% of these consumers spent time above the global average of 8.9
hours per week in 2004 (E-News, 2005). However, according to FIND in December of 2004, 7.6% of businesses carried out e-selling via Internet technology in 2004, up slightly from 6.5% in 2003 (E-Usage, 2005). This indicates that the development of e-shopping is still slow at the moment, and the penetration of business into peoples’ lives via Internet technology is still not significant.

Optimistic about the future of the B2C market, 97% of Taiwan’s e-shops believed there would be huge room for growth (Eastern Online, 2005), but the Department of Commerce found that in 2005, 33% of online consumers did not trust e-shopping security, 25% were unfamiliar with e-shopping, and 20% were worried about personal privacy (E-News, 2005). We can infer that even though online shopping is similar to traditional shopping, consumers are not achieving the same level of satisfaction (Lohse & Spiller, 1999). In addition to the concerns about data security and personal privacy, Internet purchasers might miss the experience of traditional shopping, e.g., negotiating with a salesperson, trying the merchandise, and feeling the atmosphere (Monsuwe’ et al., 2004). Nevertheless, online shopping provides consumers with added value such as convenience of obtaining critical information and knowledge about firms, brands, or products; hence, a growing number of Taiwanese consumers prefer Internet shopping (Electronic Commerce Times, 2005).

**Consumer E-Shopping Intention and Consumer E-Shopping Attitude**

There is a positive relationship between consumer attitude and purchase intention toward traditional business (Kim & Park, 2005). Similarly, a past studies have found that consumers’ positive e-shopping attitudes significantly increased their willingness to shop online (e.g., Shim et al., 2001; George, 2002; Lee & Littrell, 2005). Kim, Kim,
and Kumar (2003) reported that the more favorable e-shopping attitude a consumer had, the more e-shopping intention that customer had for clothing shopping. Yoh et al. (2003) confirmed a positive causal relationship between attitude toward apparel shopping on the Web and online consumption. Watchravesringkan and Shim (2003) found that online buying intention was positively and significantly influenced by consumers’ e-shopping attitude. Kim and Park (2005) found that consumer e-shopping attitude had an indirect influence on online consumer purchase intention.

Chen (2001) conducted a study in Taiwan to examine consumers’ shopping behaviors. The findings showed that a more positive e-shopping attitude and high intention to shop online were positively related. Jayawardhena (2004) found that attitude toward e-shopping from a sample of undergraduates in the USA was directly related to e-shopping behavior.

**Web Site Attributes**

Along with the rapid growth of B2C e-commerce, an expanding interest in Web site attributes had been demonstrated in the literature on e-commerce. Table 1 lists various Web site attributes proposed by a large number of researchers.

Curious about the relationship among perceived risk, consumer involvement, perceived quality, and perceived value toward Web stores, Liu (2003) conducted a survey on a convenience sample of Taiwanese online navigators who were asked to complete the questionnaire corresponding to the sites they visited. Perceived quality was composed of five elements: tangibility, reliability, responsiveness, warranty, and aesthetics. Perceived value was influenced most by store image, perceived price, and perceived Web service quality.
Exploring Taiwanese female online consumption behavior toward cosmetics, Ho (2003) proposed that perception of Web site attributes was the factor most influencing female consumer online behavior. Perception of Web site attributes resulted from global evaluations of various aspects of Web site attributes. These aspects were product availability, product information offering, product price, transaction procedure, after-sales service, interactivity, and content allocation. The results of the survey showed that all of these aspects of Web site attributes significantly influenced consumer revisiting intention and repurchasing intention.

Lu (2004) was curious about what factors brought about the success of shopping on the Web, and attempted to offer competitive strategies for online firms. A survey was designed in Taiwan to inquire members of a specific Web site about the levels of their concerns about and their satisfactions with Web site attributes. Based on Web site functions in five stages of purchase process (demand recognition, information search, information evaluation, purchase decision, and post-purchase evaluation) proposed by Liang and Lai (2002), the author developed several dimensions resulting in the success of shopping on the Web: shopping convenience, Web convenience, merchandising value, merchandising information, Web site design, Web site function, and security. After principal component factor analysis on the collected data, four dimensions of Web site attributes were generated: deep and broad product line, merchandise’s price and transmission speed, graphics allocation and message board, and comprehensive information on the merchandising. Interestingly, one of the findings was that consumers were concerned about and were dissatisfied with three categories of Web site attributes:
price competition information, product presentation, and product description. These three categories involved comprehensive information on merchandising.

Wang (2004) conducted a survey in Taiwan and proposed that attitudes toward Internet technology were a factor influencing consumer behaviors. Five key elements of attitude toward Internet technology were proposed: technology usability, technology usefulness, technology recognition, interest in technology, and evaluation of technology value.

Wang (2003) conducted a survey in Taiwan and suggested that one of the factors that influenced consumer shopping intention was attitude toward Web sites. Attitudes toward Web sites were categorized into five dimensions: relative advantage, compatibility, ease of use, enjoyment, and risk. Chao’s (2004) study proposed that perception of Web site service quality was composed of four components of Web sites: merchandise information, Web site design, convenience, and interactivity.

Chen (2001) conducted a study in Taiwan to examine evolutions of consumers’ shopping behaviors. Evaluation of Web sites was proposed to be an influential component of online shopping intention. Evaluation of Web sites was composed of six dimensions: online transaction cost, perceived risk, information system quality, Web familiarity, ease of use, and usefulness.

Yang and Fang (2004) conducted an exploratory study to investigate the relationship between Web attributes and consumer satisfaction in the context of online securities brokerage services. They uncovered 16 service quality dimensions based on their analysis of 740 consumer reviews and found that eight factors were frequently
mentioned in the reviews: service reliability, access, security/privacy, responsiveness, competence, ease of use, timeliness, and system reliability.

With the email and Web survey of 689 Webmasters of Fortune 1,000 companies’ Web sites, Liu, Arnett, & Litecky (2000) revealed prominent elements that generated the success of a Web site: playfulness, information and service quality, and system design quality. However, the scale including these elements was likely to measure interface design rather than Web site service quality (Zeithaml, 2002).

In the same vein, Loiacono, Watson, and Goodhue’s (2002) scale consisted of 12 dimensions to measure Web users’ interaction perceptions (Zeithaml et al., 2002). These 12 dimensions were flow, substitutability, trust, visual appeal, information fit to task, integrated communication, intuitiveness, interaction, design, business process, innovativeness, and response time.

Conducting a study to investigate Americans’ perceptions of Internet and print catalogs and examining factors that affect consumers’ attitudes and purchase intentions using the two types of media, Vijayasarathy and Jones (2000) proposed five factors that influenced consumers’ perceptions of e-shopping quality: pre-order information, post-selection information, reliability, tangibility, and empathy.

Kaynama and Black (2000) studied online travel agencies’ services through literature review and evaluation sites, and uncovered seven service attribute categories for online travel agencies: design and presentation, personalization and customization, content and purpose, background, accessibility, responsiveness, and navigation.

Zeithaml, Parasuraman, and Malhotra (2001) assessed consumer experiences of online retailing services and revealed 12 dimensions of Web service quality: price
knowledge, assurance/trust, site, personalization, flexibility, access, security/privacy, reliability, responsiveness, efficiency, aesthetics, and ease of navigation. Later, these 12 dimensions were combined into 7 dimensions: privacy, contact, efficiency, responsiveness, fulfillment, reliability, and compensation.

Perceiving that the Internet risks were barriers to Internet usage, Liebermann and Stanshersky (2002) conducted a review of literature and interviewed both online consumers and Internet experts in Israel, and identified nine different risk elements: Internet credit card stealing, supplying personal information, pornography and violence, vast Internet advertising, information unreliability, lack of physical contact, not supplying the Internet product purchased, missing the human side in Internet purchases, and Internet usage addiction.

Based on a literature review, Madu and Madu (2002) provided 17 categories of Web service: assurance, strong capacity, security, system integrity, responsiveness, customization, structure, performance, trust, aesthetics, serviceability, reliability, features, reputation, empathy, product/service differentiation, and Web store policies. Based on the outcome of a survey of 1013 panel members and focus group interviews, Wolfinbarger and Gilly (2002) listed four online retailing experience elements: privacy/security, Web site design, customer service, and reliability.

Arguing that advanced technology could not solve the fear of people’s utilization of the Internet, So and Sculli (2002) conducted a study in Hongkong to examine four basic components of doing business, and attempted to give solutions for potential problems for online purchases that originated in the four components. These four components were composed of eighteen variables that were reported by the Boston
Consulting Group (2001) as the factors that caused consumers to increase online purchases. So and Sculli (2002) categorized these 18 variables into four factors: trust, quality, value, and risk.

Based on reviewed literature and results of personal interviews with consumers who had recently shopped online, Cai and Jun (2003) developed scale items to evaluate online consumers’ perceptions of Web site service quality. The resulting factor analysis categorized these items into four derived factors: Web site design/content, prompt/reliable service, trustworthiness, and communication.

Based on a literature review of e-commerce in the USA and Korea, Choi and Lee (2003) conducted a study on a sample of students in the USA and Korea. They aimed at examining the differences in online purchase risk perceptions between Koreans and Americans and between online apparel purchasers and non-apparel purchasers. A total of eight risk perception items based on reviewed literature were divided into three factors using factor analysis: product delivery, transaction security, and customer service. The original eight risk perception items were ease of contacting customer service, security of credit card information, ease of return, trustworthiness of online retailers, the extent to which delivered products match the description, confidentiality of personal information, on-time delivery, and undamaged delivery.

To determine what constituted a successful Web site, Yang et al. (2003) conducted a study in Singapore to examine consumer preferences for commercial Web site designs in the Asia-Pacific region. Eighteen variables were proposed as the components that influence consumer perceptions of Web site effectiveness: security, privacy, downloading time, brand, customer recommendations, user-friendliness, promptness of delivery,
warranty, convenience, information content, mode of payment, discount price, graphical interface, customer support, unique merchandise, types of merchandise, banner advertisements, and affiliates.

Jang and Burns (2004) conducted a study in the USA to examine the effects of components of apparel Web sites. Three Web site components were proposed to measure online apparel retailers' perceptions of factors influencing e-business between online retailers and online consumers: merchandise, promotion, and customer service. However, the authors indicated that these three components were related to functional qualities rather than psychological attributes. Merchandise components included product price and availability, search function, product description, product presentation, the product offering, and product size. Promotion components were service promotion, advertising promotion, and product promotion. Customer service components were Web services, delivery and returns, and order processing.

Yang et al. (2004) integrated information systems quality, product portfolio management, and theories about customer service quality into online service quality, and conducted a survey in Singapore to measure Web service quality. A confirmatory factor analysis was conducted and produced six dimensions of Web service quality: ease of use, reliability, product portfolio, competence, security, and responsiveness.

Constantinides (2004) reviewed forty-eight academic papers that focused on consumer behavior in the context of the Internet. Based on the literature review, the author identified the controllable variables that influenced Internet buying behavior. The controllable variables were grouped into three main categories and five sub-categories. The three main categories were functionality factors, psychological
factors, and content factors. In the main category of functionality factors, sub-categories were usability and interactivity. Usability was composed of components such as convenience, search facilities/search process, information architecture, site navigation, site accessibility and findability, site speed, and ordering/payment processes; and interactivity contained two categories of components: “interactivity with the online vendor” and “interactivity with other Web users” (Constantinides, 2004, p. 117). The category of psychological factors contained one sub-category of online trust. Online trust was composed of different elements: customer data safety and transaction security, clean ordering, payment and refunding procedures, uncertainty-reducing elements, guarantees and return policies, as well as customer data abuse. The category of content factors was divided into two sub-categories: aesthetics and marketing mix. Aesthetics were comprised of two crucial elements: Web site design and atmosphere/style of Web sites. Marketing mix elements contained product elements influencing the Web experience, fulfillment, promotion, price, and communication.
<table>
<thead>
<tr>
<th>Dimensions of Web Site Attribute</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web site content</td>
<td>Bell and Tang (1998); Loiacono et al. (2002); Kaynama and Black (2000); Zeithaml et al. (2001); Madu and Madu (2002); Cai &amp; Jun (2003); Cheong and Park (2005); Thou (2004); Hung (2004); Shih (2004); Ho (2003); Lu (2004)</td>
</tr>
<tr>
<td>Competence, Performance, Competency</td>
<td>Yang et al. (2004); Lee (2003); Madu and Madu (2002); Huang (2004)</td>
</tr>
<tr>
<td>Web site speed (downloading time)</td>
<td>Yang et al. (2003); Constantinides (2004)</td>
</tr>
<tr>
<td>Structure and organization of catalog</td>
<td>Madu and Madn (2002); Peng et al. (2004)</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>Zeithaml et al. (2001); Constantinides (2004); Liu (2003)</td>
</tr>
<tr>
<td>Appearance; Web feature</td>
<td>Cox and Dale (2001); Chen (2004); Madu and Madu (2002)</td>
</tr>
<tr>
<td>Content design presentation</td>
<td>Kaynama &amp; Black (2000)</td>
</tr>
<tr>
<td>Interface appeal</td>
<td>Bell and Tang (1998); Loiacono et al. (2002); Van Riel et al. (2001); Yang et al. (2003)</td>
</tr>
<tr>
<td>Convenience</td>
<td>Yang et al. (2003); Thou (2004); Shih (2004); Lu (2004)</td>
</tr>
<tr>
<td>Navigation; search facilities</td>
<td>Kaynama and Black (2000); Zeithaml et al. (2001); Constantinides (2004)</td>
</tr>
<tr>
<td>Ease of ordering and payment processes</td>
<td>Lohse and Spiller (1998); Lee and Littrell (2005); Constantinides (2004); Huang (2004); Ho (2003); Jang and Burns (2004)</td>
</tr>
<tr>
<td>Ease of product return</td>
<td>Ernst (2001); Constantinides (2004); Jang and Burns (2004)</td>
</tr>
<tr>
<td>Informativeness</td>
<td>Liu et al. (2000); Lohse &amp; Spiller (1998); Loiacono et al. (2002); Ho (2003); Yang et al. (2003); Kao (2001); Chen (2004); Chen (2001)</td>
</tr>
<tr>
<td>Information accuracy</td>
<td>Liebermann and Stanshersky (2002); Huang (2004); Hung (2004); Peng et al. (2004)</td>
</tr>
<tr>
<td>Pre-order information, post-selection information</td>
<td>Vijaysarathy &amp; Jones (2000)</td>
</tr>
<tr>
<td>System design quality; system integrity; system reliability</td>
<td>Liu et al. (2000); So and Sculli (2003); Chen (2004); Madu and Madu (2002); Chen (2001); Lee (2003)</td>
</tr>
<tr>
<td>Site fundability and accessibility</td>
<td>Zeithaml et al. (2001); Kaynama and Black (2000); Yang and Jun (2002); Constantinides (2004)</td>
</tr>
<tr>
<td>Playfulness, entertainment, enjoyment</td>
<td>Liu et al. (2000); Kao (2001); Peng et al. (2004); Peng et al. (2004); Wang (2004); Huang (2004)</td>
</tr>
<tr>
<td>Usability</td>
<td>Yang and Fang (2004); Yang et al. (2004); Lu et al. (2005); Cheong and Park (2005); Lee (2003); Wang (2004)</td>
</tr>
<tr>
<td>Dimensions of Web Site Attribute</td>
<td>Authors</td>
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<td>----------------------------------</td>
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<tr>
<td>Ease of use, users friendliness</td>
<td>Yang et al. (2003); Yang and Jun (2002); Lu et al. (2005); Wang (2003); Chen (2001)</td>
</tr>
<tr>
<td>Usefulness</td>
<td>Cheong and Park (2005); Wang (2004); Chen (2001)</td>
</tr>
<tr>
<td><strong>Trustworthiness</strong></td>
<td>Watson and Goodhue (2002); Zeithaml et al. (2001); Constantinides (2004); Wu (2002)</td>
</tr>
<tr>
<td>Transaction security</td>
<td>Liu et al. (2000); Lee and Littrell (2005); Yang and Jun (2002); Liebermann and Stanshersky (2002); Choi and Lee (2003); Yang et al. (2003); Yang and Fang (2004); Constantinides (2004); Kao (2001); Hung (2004); Wu (2002); Lu (2004)</td>
</tr>
<tr>
<td>Privacy confidentiality</td>
<td>Liu et al. (2000); Lee and Littrell (2005); Zeithaml et al. (2001); Wolfinbarger and Gilly (2002); Yang et al. (2003); Yang and Fang (2004); Constantinides (2004); Hung (2004)</td>
</tr>
<tr>
<td>Web reputation</td>
<td>Madu and Madu (2002); Lee (2003); Wu (2002)</td>
</tr>
<tr>
<td>Reliability; credibility</td>
<td>Vijayasarathy and Jones (2000); Zeithaml et al. (2001); Yang et al. (2004); Liu (2003); Cox and Dale (2001); Yang and Jun (2002); Madu and Madu (2002); Thou (2004)</td>
</tr>
<tr>
<td>Assurance</td>
<td>Yang et al. (2003); Constantinides (2004); Thou (2004); Zeithaml et al. (2001); Madu and Madu (2002); So and Sculli (2003); Cai and Jun (2003)</td>
</tr>
<tr>
<td>Familiarability</td>
<td>Lee (2003); Wang (2004); Chen (2001)</td>
</tr>
<tr>
<td><strong>Interactivity</strong></td>
<td>Constantinides (2004); Watson and Goodhue (2002); Zeithaml et al. (2001); Liebermann and Stanshersky (2002); Gounaris and Dimitriadis (2003); Constantinides (2004); Kao (2001); Peng et al. (2004); Shih (2004); Ho (2003)</td>
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<tr>
<td>Pre-sales, after-sales service</td>
<td>Hung (2004); Ho (2003)</td>
</tr>
<tr>
<td>Serviceability</td>
<td>Madu and Madu (2002); Cai and Jun (2003); Yang and Fang (2004); Jang and Burns (2004); Liu et al. (2000); So and Sculli (2003); Choi and Lee (2003); Wu (2002)</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>Watson and Goodhue (2002); Cai and Jun (2003); Kaynama and Black (2000); Zeithaml et al. (2001); Zeithaml et al. (2001); Madu and Madu (2002); Yang et al. (2004); Liu (2003); Liu et al. (2000); Yang and Fang (2004)</td>
</tr>
<tr>
<td>Accuracy of product delivery</td>
<td>Reibstein (2001); Choi and Lee (2003); Yang et al. (2003); Watson and Goodhue (2002); Cai and Jun (2003); Cox and Dale (2001)</td>
</tr>
<tr>
<td>Communication</td>
<td></td>
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<tr>
<td>Efficiency</td>
<td>Zeithaml et al. (2001)</td>
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<tr>
<td>Tangibility</td>
<td>Vijayasarathy and Jones (2000); Liebermann and Stanshersky (2002); Zeithaml et al. (2001); Liu (2003)</td>
</tr>
<tr>
<td>Empathy</td>
<td>Madu and Madu (2002); Vijayasarathy and Jones (2000); Thou (2004); Lee (2003)</td>
</tr>
<tr>
<td>Personalization customization</td>
<td>Kaynama and Black (2000); Zeithaml et al. (2001); Yang &amp; Jun (2002)</td>
</tr>
</tbody>
</table>
Dimensions of Web Site

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing mix</td>
<td>Constantinides (2004)</td>
</tr>
<tr>
<td>Product information</td>
<td>Yang et al. (2003); Yang and Burns (2004); Jang and Burns (2004); Chen (2004); Hung (2004); Lee (2003); Shih (2004); Lu (2004)</td>
</tr>
<tr>
<td>Product in stock</td>
<td>Lee and Littrell (2005); Ernst (2001); Liebermann and Stanshersky (2002); Chen (2004); Ho (2003)</td>
</tr>
<tr>
<td>Product brand</td>
<td>Yang et al. (2003); Hung (2004); Lee (2003)</td>
</tr>
<tr>
<td>Price information</td>
<td>Lee and Littrell (2005); Ernst (2001); Yang et al. (2003); Constantinides (2004); Chen (2004); Huang (2004); Hung (2004); Lee (2003); Ho (2003)</td>
</tr>
<tr>
<td>Price knowledge</td>
<td>Zeithaml et al. (2001)</td>
</tr>
<tr>
<td>Promotion</td>
<td>Yang and Burns (2004); Jang and Burns (2004); Huang (2004)</td>
</tr>
<tr>
<td>Advertising</td>
<td>Liebermann and Stanshersky (2002); Yang et al. (2003)</td>
</tr>
</tbody>
</table>

Web Site Content

Researchers have suggested different Web site content components such as ease of use (Ruyter et al., 2001), easy understanding of the processes of ordering and settling online transactions (Constantinides, 2004), clear policy description of product returning procedures (Torkzadeh & Dhillon, 2002), easily accessible information and easy site navigation (Salisbury et al., 2001), and the aesthetic elements (Constantinides, 2004). Reorganizations of consumer profiles and needs are vitally important factors to be taken into consideration when a Web is designed (Lassar, Manolis, & Lassar, 2005).

Powerful tools for decreasing e-shopping transaction anxiety, increasing the power of customer trust and obtaining competitive advantages are provided by Web retailers or companies (Jang & Burns, 2004). Simultaneous existence of online ease of use and online security are necessary (Ruyter et al., 2001). Consumers are irritated with lengthy and cumbersome processes of ordering and settling online transactions (Constantinides, 2004). It has been reported that clear policies that describe product
returning procedures and reimbursement have a positive influence on e-business success (Torkzadeh & Dhillon, 2002). Hence, on the Web site, the terms and conditions should be easy to understand (Cai & June, 2003).

A well-designed business Web site must be connected with search engines that offer reliable and fast outcomes, assisting customers to locate information in the site quickly (Yan & Fang, 2004). Easily accessible information and convient site navigation are always expected by online customers (Salisbury et al., 2001).

Through the aesthetic elements, the Web site’s atmosphere is created and has the effect of inducing visitors to stay, browse, and possibly interact with the site (Constantinides, 2004). Aesthetics components were regarded by the majority of online users as the primary clue of Web site and vendor credibility (Dadzie et al., 2005). Internet consumers spend very limited time in browsing Web pages when searching for products or information online; hence, atmosphere and design of Web sites seize online consumers’ interest in a very short time (Yang et al., 2003). The atmosphere is an essential retailing quality element that influences new customers’ impressions about a sales outlet. Design style and atmosphere of Web sites play an important role in shaping the purchase decision making process (Madu & Madu, 2002). Also, atmosphere is a factor in predicting the new customers’ further actions and behaviors (Kotler, 2003). Fogg et al. (2002) in their research found about fifty percent of the respondents regard the design look as the most crucial credibility indicator, followed by information design/structure. Aesthetics play an important role in indicating Internet vendor quality (Constantinides, 2004). Design components such as site layout, color,
and domain name contribute to the Web experience that influences the vendor’s success with e-commerce (Dadzie et al., 2005).

It is necessary for online users to use different kinds of Web browsers if the e-retailers or Web site designers expect to obtain a competitive advantage in e-commerce (Yang et al., 2004). Most Web consumers make use of online directories and search engines to search for services or products. A well-designed search engine strategy delivers the usability value to the online users (Lu et al., 2005). The average time customers view per page online is low and is consistently decreasing over time (Cockburn & McKenzie, 2001). Fast Web site speed is expected by online consumers (Van Riel et al., 2001).

**Trustworthiness**

Trustworthiness is seen as a significant component of Web site attributes (Cai & Jun, 2003). Practitioners and researchers frequently associate trust with the factor of e-commerce success (Ruyter et al., 2001). Trustworthiness that is associated with the safety of private consumer information and transaction security is a significant determinant of consumer e-shopping behavior (Yang et al., 2003). Intention to shop on the Web is influenced by transaction services such as privacy safety, the minimal returning time or cost, product guarantees, and payment security (Shim et al., 2001). Online consumers are seriously concerned about abuse of private information and transaction safety (Choi & Lee, 2003). Cohen (2000) discovered that Europeans were unwilling to utilize their debit or credit cards on the internet because of the consideration of security and privacy in e-commerce.
It is necessary to identify components that enhance trust among online consumers' perceptions and try to recognize how the components affect potential customers (Cai & Jun, 2003). Lack of personal contact, the physical distance, and the anonymity of the Web all generate the consumer's risk and loss perceptions (Yang et al., 2004). Privacy-minded consumers are concerned about whether personal information given to online companies is utilized for other types of business purposes against their will and knowledge (Choi & Lee, 2003). The proper organizational infrastructure is responsible for delivering the online mix of trust-establishing component (So & Sculli, 2002) because Internet companies who lack physical presence and strong brand awareness appear to have difficulty in obtaining online consumers' trust (Gounaris & Dimitriadis, 2003). Yoon (2002) found that transaction security is the antecedent of e-shopping intention. Han and Maclaurin (2002) reported that consumers' intention to shop the products from the Web is affected by their concerns about information privacy.

An explosive growth of online scams, fraud, and spam has brought about a growing concern among online users (Dadzie et al., 2005). Therefore, the safety of private consumer information and transaction security is the main concern of online consumers (Yang et al., 2004). “Display of consumer data on clandestine Web sites and hacking into online vendors’ databases are frequent Internet incidents” (Constantinides, 2004, p. 118).

Good reputation reduces the Internet consumers' demands for integrity credentials (Joines et al., 2003). Multi-channel companies with well-recognized brands and reputations are found to gain online consumers' trust (Jang & Burns, 2004). Customers of physical companies tend to place trust on high levels of brand awareness (Madu &
Madu, 2002). Hence, for online companies, in addition to online trust-enhancing components, the offline vendor reputation and image are critical elements necessary to decrease customer anxiety and transaction risk (Choi & Lee, 2003). The length of time that vendors have been selling products on the Web is seen as a criterion for customers to make purchase decisions (Choi & Lee, 2003). The effect of third-party endorsement and approvals is argued to be helpful in obtaining the consumer’s online trust (Loebbecke, 2003).

**Interactivity**

Interactivity is regarded as an important component to contribute to a successful Web site design (Constantinides, 2004). Constantinides (2004) suggested that the interactivity components be grouped into two categories: “interactivity with the online other Web users” (p. 117) and “interactivity with vendors” (p. 117). Networking with other online customers helps customers to disseminate and empower market knowledge (Yan & Fang, 2004). Typical tools of Internet B2C interaction such as guest books, chat rooms, and bulletin board are important tools for enhancing Web site quality. However, recent literature notes that these vehicles are limited (Constantinides, 2004). Technological innovations allow B2C online consumer transactions and interaction outside the traditional environment, or even the classic Internet trade environment (Yang et al., 2003). The communication of Internet allows Internet vendors to enhance consumers’ Web behaviors by providing the consumers more personalized services and helping them to interact with other Internet users who are willing to share suggestions and experience on the Web (Zeithaml et al., 2001). When customers experience difficulty in using the site, communication elements strengthen interactivity to aid in
interacting with vendors (Madu & Madu, 2002). By using active or passive interfaces such as bulletin boards or chat rooms, Web site communication and interaction are enhanced (Wolfinbarger & Gilly, 2002). Hence, networking and the possibility of building contacts with other online users are regarded as factors to facilitate online communication and interaction (Liebermann & Stanshersky, 2002).

Interactivities between customers and online vendors are executed by means of providing service/after sale service to online customers, offering channels for customers to interact with company personnel and customizing (Torkzadeh & Dhillon, 2002). Jayasuriya (1998) found that assurance and responsiveness were the most important roles in evaluating Web site service quality. In case there are problems with purchased services or products, Web consumers expect a quick response to e-mail inquiries and complaints, efficient reverse logistics, or offline or online helpdesks from the vendor (Madu & Madu, 2002). The most common phenomenon in e-commerce is that online retailers do not promptly respond to customers’ inquiries, especially to e-mail inquiries (Griffith & Krampf, 1998).

 Customers are more confident with e-business vendors when some helpful online activities are provided, e.g., strict security, concrete customer polices, as well as clear ordering, payment and refunding procedures (Zeithaml et al., 2001). Security-minded customers are satisfied with multiple payment alternatives which are offered by online vendors (Loiacono et al., 2002). The clarity of ordering conditions, terms of delivery, and the quality of information about the online companies’ products compensate for the deficiency of the customer’s physical contact, and decrease e-consumption uncertainties of online consumers (Cheong & Park, 2005).
Flexible delivery options, speedy delivery, and alternative payment methods are frequently mentioned (Zeithaml et al., 2002). The way Internet retailers follow up orders and deliver products is a crucial factor that influences the willingness of online consumers to order and to repatronize e-business on the Web site in the future (Torkzadeh & Dhillon, 2002).

Interactivity and communication elements result in a positive customer experience and behavior because they decrease uncertainty that occurs during the online transaction and the possible cognitive dissonance (Zeithaml et al., 2002). Online consumers enhance their trust when being allowed easy access to information such as conflict-resolution policies, site map, or “frequently asked questions” (FAQs) (Cheong & Park, 2005). These uncertainty-reducing components reduce the number of inquiries of online consumers (Yan & Fang, 2004). Interactions between customers and online vendors are executed by means of providing after sales services to online customer such as sending customized thank notes or sending a note of the handling and shipping information (Torkzadeh & Dhillon, 2002).

**Marketing Mix**

Marketing mix associated with the marketing 4Ps (product, price, place, and promotion) is suggested to influence consumers’ experiences toward the Web (Constantinides, 2004). Product feature, product size, product presentation, product description, product availability, and product offerings usually influence consumers’ experience with and attitude toward a Web site (Jang & Burns, 2004). Online assortment and online brands are also taken into consideration when consumers select products online (Constantinides, 2004). Jang and Burns (2004) found that virtual
e-retailers offered more detailed information in price comparison than other types of retailers. This means that price competition was regarded as the most important ingredient of Web site attributes to attract consumers to visit the Web site. Elements related to the price offered on the Web site are price transparency, discounts, promotional actions, and the price level (Constantinides, 2004).

Relevant about literature promotion is rather limited. However, the promotion element is identified as the primary factor to enhance online consumption (Constantinides, 2004). Jan and Burns’ (2004) study showed that more advertising sections may replace consumers’ in-store pleasure with on-screen pleasure in a non-store shop, and found that catalog companies provided as much online advertising as possible. Components associated with online promotions are incentive programs, sales promotions, and free extra services (Constantinides, 2004). Jang and Burns (2004) associated promotional elements with activities such as service promotion, advertising promotion, and product promotion.

**Consumer E-Shopping Attitude and Belief in Web Site Attributes**

Table 2 lists Web site attributes which researchers believe to be associated with e-shopping attitudes. Attitudinal research related to behavioral science and marketing research has been fruitful (Peng et al., 2004). The attitudinal research associated with the Web site environments has expanded from the literature of attitude toward advertising to studies that investigate causes and consequences of e-commerce (Singh & Dalal, 1999). Since the Web is a powerful medium for marketing communication toward certain market segments, it is critical to recognize why and how people develop positive attitudes toward Web site shopping to improve the business performance of Web sites (Peng et al.,
Recognition of the antecedent and outcome variables for attitudes toward Web site shopping could explain Web users’ site preferences and subsequent e-commerce behaviors (Balabanis & Reynolds, 2001). According to Balabanis and Reynolds (2001), the antecedent variables were vividness, interactivity, organization, entertainment, and informativeness. The outcome variables were Web site shopping and loyalty toward the Web site.

Thou (2004) conducted a survey in Taiwan and found that the antecedents of e-shopping attitudes were credibility, responsiveness, empathy, and warranty. The results of a survey administered by Peng et al. (2004) showed that information, entertainment, and organization significantly influenced Web shopping attitudes. Chen et al. (2002) suggested that antecedents of attitude toward commercial company sites were usefulness, ease of use, and enjoyment, focusing on the system function and site holders’ brand perceptions.

Wu (2000), in a lab survey in Taiwan, suggested that the five antecedents of attitude toward a book shopping site were convenience, ease of navigation, economic incentive, entertainment, and informativeness. The attitudes toward book shopping sites emphasize Web system function, Web interface, marketing elements, promotion components, and Web content. Coyle and Thorson’s (2001) experimental study found that interactivity and vividness were antecedents of attitude toward the shopping sites. Lee and Littrell (2005) conducted a study in the USA to investigate the interrelationships among consumer shopping value, beliefs about attributes of the Web site, attitude toward Internet shopping, and consumer online behavior intention toward cultural products. The hypothesis that Web site attributes were positively related to attitude toward online
shopping was supported. The authors indicated that information quality, merchandising, and interface/protection were critical attributes of a Web site that significantly influence attitudes toward online cultural products. Other antecedent views for a positive attitude toward e-shopping include user characteristics (Balabanis & Reynolds, 2001), shopping information (Huang, 2000), Web design style (Singh & Dalal, 1999), content (Chen et al., 2002), and marketing promotions (Wu, 2000).

Table 2

<table>
<thead>
<tr>
<th>Authors</th>
<th>Proposed Web Site Attributes Related to E-Shopping Attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peng et al. (2004)</td>
<td>Information, entertainment, and organization</td>
</tr>
<tr>
<td>Chen et al (2002)</td>
<td>Usefulness, ease of use, and enjoyment, Web site content</td>
</tr>
<tr>
<td>Wu (2000)</td>
<td>Convenience, navigation, economic incentive, entertainment, and informativeness, marketing promotions</td>
</tr>
<tr>
<td>Coyle and Thorson (2001)</td>
<td>Interactivity and vividness</td>
</tr>
<tr>
<td>Lee and Littrell (2005)</td>
<td>Information quality, merchandising, and interface/protection</td>
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<tr>
<td>Huang (2000)</td>
<td>Shopping information</td>
</tr>
<tr>
<td>Singh and Dalal (1999)</td>
<td>Web design style</td>
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<tr>
<td>Lee and Littrell (2005)</td>
<td>Information quality, merchandising, and interface/protection</td>
</tr>
<tr>
<td>Wang (2003)</td>
<td>Compatibility, ease of use, enjoyment, and risk</td>
</tr>
<tr>
<td>Chen (2001)</td>
<td>Information system quality, Web familiarability, ease of use, and usefulness</td>
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</tbody>
</table>
E-Shopping Intention, E-Shopping Attitude, and Belief in Web Site Attributes

This section describes empirical studies about the relationship among consumer e-shopping intention, e-shopping attitude, and belief in Web site attributes. Kao (2001) surveyed mothers with newborn babies from the south, north, and middle districts of Taiwan. Three hundred respondents replied to the distributed questionnaires, of which 209 were usable for data analysis. The product of the survey was baby diapers. The results of data analyses were as follows. First, attributes of entertainment and information positively influenced online purchase intention. Secondly, perceived usefulness and perceived ease of use had a significant and positive influence on online purchase intention. Thirdly, brand image positively impacted online purchase intention, but the mediating effect of brand image on the relationship among the other variables was not significant. Finally, product innovation significantly and negatively affected online purchase intention, and generated a positive mediating effect on the relationship between Web information offering and online purchase intention.

To identify the factors that generated success of B2C e-commerce, Hung (2004) examined the predictors of Taiwanese consumer purchase intention and purchase determination. The findings showed that three dimensions (design, security and privacy, and information content) of Web site attributes significantly and positively influenced perceived Web site quality. Consequently, when online firms improved Web site design, security and privacy and information content, consumers had more positive perceptions of the Web site's quality. Moreover, product attributes positively influenced perceived product quality. In addition, perceived Web site quality did not have a significant influence on e-shopping determination and e-shopping intention.
Interestingly, assurance and empathy dimensions had a negative influence on purchase determination. In addition, perceived product quality significantly influenced e-shopping intention and e-shopping determination.

Peng et al. (2004) conducted a lab survey in Taiwan to examine the psychological activities of Web navigators who were exposed to content Web sites. The convenience sample was composed of 183 students from three universities in the north of Taiwan. The students were asked to visit three e-news sites and answer questions about them. The findings showed that four of the antecedents of attitude toward the Web site (information, entertainment, organization, and interactivity) significantly influenced students’ Web site attitude, while vividness did not. Moreover, students’ attitudes toward the Web site significantly influenced their Web site usage and loyalty toward the Web site. In additions, the effects of interactivity on entertainment, vividness of entertainment, and organization of information were all strongly significant.

Thou (2004) utilized linear structure relationship analysis (LISREL) to examine the relationship between e-shopping intention and its predictors. After surveying the sample, the total number of usable cases was 447, which generated the usable response rate of 84.82%. The criterion for selecting participants was that the participants be Taiwanese and have had prior experience in purchasing products online. The data that were collected from Web sites and email addresses were also analyzed. Significant results were found via LISREL analysis. First, Web site design and convenience were the two most important elements. Secondly, warranty, credibility, and responsiveness were crucial factors in establishing high levels of Web site service quality. Empathy was shown to have no significant relationship to Web site service quality. Also, service
quality had a positive and directly significant influence on e-shopping attitudes. Web site design and service quality positively and indirectly influenced e-shopping intention. Web site service quality was found to have the greater effect on e-shopping intention than all of the other variables.

Huang (2004) conducted a study of Taiwanese navigators on his experimental supermarket Web to investigate the factors that were associated with e-shopping intention. The survey questionnaires were distributed on the author’s Web. The 138 persons navigated the experimental Web site, and 62 replied to the questionnaire. Fifty-six usable cases were used for analysis. The dependent variable was e-shopping intention. The independent variables were Web site promotion attraction, and Web site involvement. The mediating variable was perception of B2C Trustworthy Payment System. After principal component factor analysis, Web site promotion attraction was composed of four dimensions: reasonable price, transparent information, rebate, and ease of transaction. These four dimensions accounted for 73.68% of the variance of Web site promotion attraction.

The findings showed that promotion attraction was a predictor of e-shopping intention. Among these four dimensions of promotion attraction, reasonable price generated the strongest effect on e-shopping intention, followed by ease of transaction. The transparent information showed the weakest influence on e-shopping intention. Moreover, the relationship between promotion attraction and perception of B2C Trustworthy Payment System was not significant. Perception of B2C Trustworthy Payment System did not influence the effect of promotion attraction on e-shopping intention. The author inferred that when consumers decided to buy products online
because of promotion attraction, they tended to overlook transaction safety and privacy security. However, perceptions of B2C Trustworthy Payment System were shown to significantly influence the relationship between consumer involvement and e-shopping intention. The author inferred that when consumers search for more information about one Web site, they increase their trust in that Web site, and subsequently would be willing to purchase products from it.

Lee (2003) developed a model to predict level of e-shopping intention. The data were collected from a sample of Taiwanese members of one specific Web site that was owned and operated by the business department of Taiwan. Student subjects accounted for 23.3% of the total respondents, with the highest ratio in the occupation category. The results of data analysis showed that familiarity with the Web site and trustworthiness positively influenced e-shopping intention. Compared to trustworthiness, familiarity with the Web site had a more influential effect on e-shopping intention. Moreover, familiarity with the Web site and merchandising attributes were positively associated with trustworthiness. Familiarity had a very strong effect on trustworthiness. In addition, attributes of the Web site environment had a direct influence on trustworthiness and e-shopping intention. The fulfillment dimension of Web site attributes influenced trustworthiness and e-shopping intention more than the convenience and communication dimensions.

Chen (2004) conducted a study in Taiwan to examine consumer purchase intention in the B2C commerce environment. These data were gathered in response to Web members of www.ubox.org.tw. The Web site, owned by the Department of Agriculture, sold agricultural products. The data were obtained by Web page and e-mail
survey. The 414 respondents participated in the survey and 373 usable cases were utilized for analysis. A number of results were presented via Pearson correlation analysis and path analysis. The most significant Web site dimension was Web appearance, followed by system design and information content. The shoppers’ perception of the Web site influenced e-shopping intention dependently of the effects of e-shopping value and attitude. The most significant factors in predicting e-shopping intention were utilitarian e-shopping value and positive affection. Hence, the author suggested that consumers were willing to purchase products online if the Web site provided the activities or tools that facilitated consumers’ efficient online activity. Also, offering a playful and enjoyable Web site environment for consumers to navigate might increase consumers’ e-shopping intentions.

Based on a literature review and personal interviews with consumers who recently shopped online, Cai and Jun (2003) developed scale items to evaluate online consumers’ perceptions of Web site service quality. Content validity analysis was conducted to evaluate measurement scales of the questionnaire in a pretest. The final survey questionnaire was composed of two parts: the first part inquired into the demographic characteristics of the participants, and the second part investigated the consumers’ perceptions of specific attributes for online service quality and overall service quality. Three categories of respondents were generated through on the selection of three options: online buyers group, information searchers group, and others group.

Subsequently, an exploratory study was conducted to observe the perceptions of two groups of Internet users on online service quality. The sample consisted of MBA students, undergraduates, the members of a local chapter of the Institute for Supply
Management, and the members of a local chapter of the American Society for Quality. Two hundred and twenty-eight usable questionnaires were collected and the response rate reached 87.7%. Excluding the "others" group, 171 responses were utilized for data analysis. A principal component analysis with a varimax rotation was conducted twice. Nineteen items were labeled as four derived factors: trustworthiness, communication, Web site design/content, and prompt/reliable service. The Cronbach's alpha coefficient for the four extracted factors were 0.87, 0.78, 0.82, and 0.89, respectively. Items of trustworthiness were associated with customer trust in online retailers and online transaction security. Items of communication were related to the accessibility of communication tools such as chat room, e-mail, bulletin board frequently asked questions, and language options. Items of Web site were concerned with organization and structure of online catalogs, aesthetic features, and content. Items of prompt/reliable service measured whether online retailers offered prompt and reliable service for customers. Among the four constructs, the largest proportion (42.0% of the total) explained that Web site design/content accounted for varying perceptions of overall e-service quality. Online purchasers were significantly more likely to have perceptions of service quality than information searchers. Information searchers had less confidence in online service quality. These researchers inferred that this phenomenon may be owing to the negative information provided by the media or consumers' prior dissatisfaction with online value.

Moreover, the results of data analysis showed the trustworthiness factor was the variable with the most positive influence on perceived overall service quality in regression analysis models for both the online buyers and information searchers. These
authors also suggested several policies concerning risk reduction to online retailers to obtain visitors' trust and increase their purchase intention, e.g., showing proof of security on the Web sites. Also, the findings revealed that trustworthiness, communication, and Web site design/content had significant and positive effects on perceived overall e-commerce service quality. In other words, the security characteristics, capabilities, and appearance of Internet retailers' Web site played significant positive roles to influence the perceived overall e-commerce service quality.

The authors concluded from the results of this study that Web sites had the ability to transform information searchers into online purchasers. In other words, Internet non-purchasers' perceptions of overall service quality and their online purchase intention were influenced by personalized service, online transaction security, and accessibility of the Web site (Yang & Jun, 2002). Therefore, Cai and Jun (2003) suggested that online retailers should use their storefront to meet the needs and wants of the information searchers and invoke their purchase willingness through customization of personal software and utilization of FAQ.

The study's limitations, according to the authors, were related to external validity (generalizability) and the small sample size. The authors also provided directions for future research. First, a diversified random sample could be used to verify the findings of their study. Second, a confirmatory factor analysis could be used to clarify the factor structure of Internet quality. Third, a structural equation modeling tool could explore the causal relationship between Web site service dimensions and perceived overall Web site quality. Fourth, consumers' perceptions of Web site service quality could be explored in the context of cultural or cross-national differences. Fifth, consumers'
perceptions of Internet retailer’s service quality in a business-to-business environment could be explored.

Perceiving that the Internet risks were barriers to Internet usage, Liebermann and Stanshersky (2002) conducted a review of literature and interviewed both online consumers and Internet experts in Israel. They identified nine risk elements: Internet credit card stealing, misuse of personal information, pornography and violence, spam, information unreliability, lack of physical contact, not supplying the Internet receiving the product, missing the human side in Internet purchases, and Internet addiction. Subsequently, the authors developed a model in which two factors influenced the Internet’s perceived risk elements. These two factors were usage behavior characteristics and demographic traits. Demographic traits contained four sub-categories: age, gender, marital status, and education; usage behavior characteristics were divided into three sub-categories: user/non-user, usage volume, and bought online.

Employed adult Israelis from different organizations was used in the survey. The response rate reached about 85%. The findings showed that the most important perceived risk element was Internet credit card stealing, and the second was misuse of personal information. Further, users had a higher perception of risk of these two elements than non-users.

The authors inferred that the people who made purchases online cared about their online security, while the people who had no purchase intention did not. Two limitations were reported by the authors. One limitation was that the study did not sufficiently identify all of the additional factors affecting the online business. Another
limitation was that this longitudinal study did not explore the effects of perceived risk components on actual instantaneous online purchase behavior.

Based on literature review on e-commerce in the USA and Korea, Choi and Lee (2003) examined the differences in online purchase risk perception between Korea and the USA, and between online apparel purchasers and non-apparel purchasers. Students at large urban colleges in the USA and Korea were given a questionnaire. They were asked whether they were online apparel purchasers or non-apparel purchasers. Eight risk perception items, based on reviewed literature, were divided into three factors using factor analysis: product delivery, transaction security, and customer service. The results of t-test analysis showed that Korean and American consumers differed in their choice of online products. Also, Korean subjects were likely to have a higher level of perceived risk toward online purchases than Americans did. The Korean consumers were influenced by all three risk factors when purchasing online, while the American online purchasers placed more emphasis on product delivery and transactions security. In other words, the American consumers were not seriously concerned about the customer service aspect of online purchases. The researchers inferred that this may be because well-defined customer service policies and more service information were provided by more American than Korean online retailers.

The results of the study showed that in an online shopping context, American non-apparel purchasers were significantly more concerned about product delivery and customer service than apparel purchasers. In other words, the purchasers who were willing to buy online had a lower level of perception of risk of transaction security online. The authors concluded that the more confidence the people had in the quality of Web site
attributes, the more they trusted the security that was provided by online retailers. Hence, the authors suggested that Korean apparel online retailers or practitioners should pay more attention to transaction security to generate the high level of acceptance in doing e-shopping. Furthermore, the findings showed transaction security has a significant influence on purchase intention for both American and Korean online consumers. The authors noted several limitations of their study. First of all, some factors associated with e-commerce infrastructure such as customer systems, delivery system, and price system were not measured. Second, generalization of the survey to a large population was limited because of utilization of a sample of college students. Third, biases with respect to response style and social-desirability level may be generated in such a cross-cultural study.

To determine the components of a successful Web site, Yang et al. (2003) conducted a study in Singapore to examine consumer preferences for commercial Web site design in the Asia-Pacific region. The attracting, informing, positioning, and delivering (AIPD) model proposed by Simeon (1999) served as the theoretical framework for Yang et al.'s research. In the first phase of their study, a focus group methodology was utilized to develop a preliminary list of critical variables that impacted consumers’ use of a Web site. The focus group consisted of 18-to-28-year-old Asia-Pacific adults who used the Internet once a week. Participants were asked to select Web site attributes from a checklist developed by Olsinaet, Godoy, Lafuente and Rossi (1999), and evaluate which attributes they felt were important when evaluating the performance of a Web site. Eighteen variables that were mentioned at least three times in the focus group discussion were utilized in Yang et al.'s questionnaire. Their questionnaire with a five-point Likert
scale was composed of two parts. One part investigated respondents' socio-economic demographics, including gender, age, occupation, education, ethnicity, Internet surfing frequency, and frequency of online purchase. Another part inquired into respondents’ preferences on the eighteen variables that influenced their use of a Web site. A random sample was selected from among people from a variety of occupations. A response rate of 59.8% with 299 usable questionnaires was reported. The findings showed that among the 18 variables, security was rated highest in importance, privacy the second highest, and downloading time the third highest. The researchers noted that the perception of risk of security and invasion of privacy limited the number of online shoppers. Also, the study ranked virtual branding fourth. The authors suggested that if online retailers expect to deliver the brand promise to consumers, while enhancing their satisfaction and purchase intention, they should work on either product brand or retailer reputation. The authors also concluded that retailer reputation was in relation to the quality of Web site and the retailer’s characteristics. Banner advertising and affiliate programs were least valued. The authors inferred that people surfing on Web pages found banner advertisements a nuisance because they may slow site navigation and downloading speed. The authors mentioned the limitations of the study. Simeon’s untested AIPD model precluded direct comparison of Yang et al.’s study with others. Moreover, a quota-based convenience sample that was used for the focus group discussion may have affected the results. Furthermore, the small sample size may limit generalizability.

Vijayasarathy and Jones (2000), with a sample of students recruited from upper-level business courses in the USA, investigated individuals’ perceptions of Internet
and print catalogs and examined factors that influenced consumers' attitudes and purchase intention. Two treatment groups were assigned: print catalog shopping group (T1) and Internet catalog shopping group (T2). A sample of undergraduate students in the business department of a university in the USA was recruited to perform shopping simulation activities: browsing through catalogs, choosing a product, and completing an order form. After T1 read print catalogs and T2 read online catalogs, structured questionnaires were distributed to the study's participants. The 29-item questionnaire contained a demographic profile, consumer risk, consumer service, shopping experience, product value, attitude, and shopping intention. Factor analysis was conducted to judge the strength of loading of a particular item on the factor. Cronbach's alpha coefficient and item-total correlation coefficient that were indicators of reliability of measures were reported. Factor analysis revealed that consumer service constructs fell into five elements: pre-order information, post-selection information, reliability, tangibility, and empathy. The Cronbach's alpha coefficients of all of the factors were above 0.7 except that of shopping experience (=0.65). A multivariate analysis of variance and analysis of variance were conducted to test whether perceived differences between the two shopping media existed.

The findings showed there were differences in the shopping factors of tangibility, reliability, and consumer risk between the print and online media. In this study, Internet catalog shopping was perceived as less reliable than print catalog shopping; and the subjects perceived print catalogs to be superior to Internet catalogs. In other words, trustworthiness toward e-shopping was a subject of concern for participants. Through multiple regression analysis, consumer risk, pre-order information, shopping experience,
and product value were found to influence online attitudes and purchase intention. Limitations were given by the authors. The shopping simulation lacked realism. Also, print catalogs were used to promote a limited variety of products. Based on the findings, the authors suggested that retailers should be more concerned about reliability and reputation of Internet catalogs.

Ruyter, Wetzels, and Kleijen (2001) conducted an experimental study in the Netherlands to assess consumers' attitudes and behavior toward e-service. In the study, three independent variables were organizational reputation, perceived risk, and relative advantage, while three dependent variables were trust, perceived service quality, and consumers' behavioral intentions to adopt e-service. An experimental design of role-playing scenarios was developed. The 202 respondents participated in these hypothetical role-playing scenarios. The coefficient alpha for trust factor was 0.8, for perceived quality was 0.69, and the intention to adopt e-service was 0.77. The results suggested that the three independent variables appeared to be important to form consumers' attitudes and behaviors, except that relative advantage did not significantly influence customer trust. Perceived risk and organizational reputation had more influential effects on trust than relative advantage. Also, perceived risk significantly impacted trust, perceived quality, and consumer behavioral intention to adopt e-service. The impact of perceived risk on the three dependent variables was mediated by organizational reputation.

The authors cited the following limitations. The hypothetical scenarios limited the generalizability of the finding to real-life settings. Secondly, the experimental design only allowed respondents to base their judgments of hypothetical cases on limited
information. Third, a single service episode restricted evaluative judgment. Fourth, applicability of the signaling and the entire adoption theory on innovative services needed exploring.

Several managerial implications were suggested by the authors. First, communication of a strong e-image with communication channels is crucial for companies to increase the level of trust. Second, attention should be given to the advantages of convenience, service content, and prices to strengthen perceived quality and intention to use e-service. Third, to gain the e-customers' trust, the relative advantage should be accompanied by a good corporate reputation and low-level risk. Fourth, reducing the risk of e-service such as by implementing a strong warranty policy may form consumers' positive attitudes and behavior toward using e-service.

Socio-Demographic Characteristics

Personal characteristics, like socio-demographics, have been widely used to profile consumers. Household income, education, and age are the most widely adopted identifiers for consumers (Cai & Jun, 2004). Liebermann and Stashevsky (2002) indicated that one potential source influencing consumer decisions and attitudes was their individual demographic traits. In their study, socio-demographic characteristics were attributed to why given online shopping risk elements were ranked differently by respondents. Liebermann and Stashevsky (2002) found that four socio-demographic traits (gender, age, marital status, and education) have an effect on perceived online shopping risk formation. They suggested that these socio-demographic traits findings could be utilized by marketers in the personalization process. Sathye (1999) found that wealthy, educated, and young consumers were among those most likely to adopt online
shopping in Australia. Mattila, Karjaluoto, and Pento (2003) found that education and household income predicted which consumers were likely to be willing to adopt internet banking in Finland.

In 1974, Ostlundt claimed that demographic effects were weak (as cited in Im, Wang, Kim, & Chung, 2003). However, Im et al. (2003) found that online consumers who generally had higher levels of education and income were likely to frequently visit online malls. Each individual can be approached more efficiently according to his or her expected specific Web site attributes (Liebermann & Stashevsky, 2002). Ballantine (2005) also suggested multiple socio-demographic characteristics could be attributed to eliciting consumer satisfaction in using a Web site.

Even though Vijayasarathy and Jones (2000) indicated length of internet experience can be configured to attract online shoppers, Blake, Neuendorf, and Valdiserri (2005) found that long and short online shopping experience groups in the US and Canada did not differ noticeably with regard to preferences for Web site features. Holloway, Wang, and Parish (2005) found that length of online purchasing experience moderated certain key attitudinal and behavioral consequences of the service failure encounter. Holloway et al. (2005) found that if the group with low levels of purchasing experience was dissatisfied following a service failure encounter, it is more likely to engage in negative word of mouth. Also, they found that attitude was more predictive of repurchase intentions in the highly experienced group than the less experienced group.

**Study Orientations**

This section presents an overview of reviewed literature and controversial points originating in theories as well as findings of empirical studies. Also, this section tries to
find the unsolved issues in theoretical and empirical studies, as well as provide rationales and methods to help in filling the gaps in literature on e-shopping. Also, along with the rationales and methods, a study can be conducted and may be able to contribute to further increasing future theory formations. Discussions are from both theoretical and empirical perspectives.

**Theoretical**

From the theoretical perception, an area causing particular dispute is the question of the effects of Web site attributes and e-shopping attitudes on consumer online purchase intention. It seems obvious that consumers have more positive e-shopping attitudes toward the Web sites that are paid more attention than those that do not (Kim & Park, 2005). According to reviewed research, beliefs about individual aspects of Web site attributes have a different level of influence on consumer e-shopping attitudes (Kao, 2001; Lee & Littrell, 2005) or e-shopping intention (Hung, 2004; Liebermann & Stanshersky, 2002). Hence, when a researcher is researching this topic, he/she needs to be concerned with four points. First, theories regarding consumer e-shopping intention are concerned with the interaction of Web site attributes and consumer e-shopping attitudes. In the currently available research, there are still spaces and gaps to fill to understand all these constructs (Web site attributes, consumer e-shopping attitudes, consumer e-shopping intention) and behavior-related marketing theories (Lee & Littrell, 2005). Hence, for this study, it would be important to examine whether or not consumers care about Web site attributes, and investigate perceptions of consumer e-shopping attitudes and e-shopping intention.
Second, as to consumer online behavior, a great difference of behavioral findings was noted. In the consumer e-shopping behavior research, consumer e-shopping intention is considered to be an important factor resulting in a successful business (Choi & Lee, 2003). However, in the online shopping research, the theories regarding e-shopping attitudes and e-shopping intention are controversial. Two reasons generate this controversial situation. First, theories regarding attitude and intention originated in attitudinal-toward-behavior theories and the TRA model. Earlier psychologists and social scientists developed theories to indicate how attitudes affect behaviors and regarded attitudes as the main indicators to predict behaviors (Wang, 2004).

Nevertheless, Fishbein and Ajzen’s (1980) TRA model refined these theories and premises, and suggested that intentions rather than attitudes were the main predictors of behaviors. Also, the TRA model indicated that attitudes were antecedents of intentions. Several researchers such as Codd and Cohen in 2003 doubt that attitude is an antecedent of intention while several other researchers such as Morrison et al. in 2002 agree on it.

Second, based on reviewed literature, some researchers (e.g., Party & Pelletier, 2001; Syrjala, 2002) who insisted on using e-shopping attitudes and e-shopping intention to measure e-shopping behavior found that e-shopping attitude was an antecedent of e-shopping intention, complying with the proposition of the TRA model that suggested individuals’ attitudes influenced their intentions toward the specific object. To fill the gap in literature, this study attempts to explore whether consumer e-shopping attitudes can predict e-shopping intention. Hence, this study attempted to use the TRA model as an underlying basis for the constructs to investigate a way to predict consumer online
behavior. Using the TRA model as the framework, this research showed additional information explaining social phenomena.

Third, further research in consumer e-shopping intention is important because findings across studies are inconsistent. Some researchers (e.g., Yang et al., 2003; Lee, 2003) found a positive relationship between belief in Web site attributes and consumer e-shopping intention, while Shih (2004) found no relationship. Hence, the concept of belief in Web site attributes and consumer e-shopping intention has been intensively investigated for a number of years (Cheong & Park, 2005), but the theories about beliefs in Web site attributes and consumer e-shopping intention need to be developed to help to explain the phenomena.

In fact, there are a number of studies (e.g., Huang, 2004; Kao, 2001) examining the linkage of belief in Web site attributes and e-shopping intention in the context of Taiwanese online markets. However, because some researchers (e.g., Wu, 2002; Lee & Littrell, 2005) found e-shopping attitude played a mediating role in governing the relationship between belief in Web site attributes and e-shopping intention, theories which are used to explain the direct relationship of belief in Web site attributes and e-shopping intention appear inadequately supported.

Fourth, the information about aspects of Web site attributes may be combined in complex ways. Web site attributes are too complicated to be captured into one dimension (Cai & Jun, 2003), so there is still one explicit problem about the limitation of measuring belief in Web site attributes and consumer e-shopping intention. This study categorized all of reviewed Web site attributes into several dimensions, with the expectation of recognizing the effects of various aspects of Web site attributes on
e-shopping attitudes and e-shopping intention. In this study, through Web site attributes as a multi-dimensional concept, the effects of aspects of Web site attributes on e-shopping intention and e-shopping attitude were identified.

**Empirical**

Some exploratory studies and some descriptive studies were presented in the literature review. Several limitations in the presented studies were mentioned. First, some samples were too small for their analysis designs (e.g., S’anchez-Franco & Rold’an, 2005; Huang, 2004). Some empirical studies such as Huang’s (2004) showed that the small size of sample generated problems in multicollinearity. This present research used 15 subjects for each independent variable to increase the statistical validity.

Second, many reviewed empirical studies utilized shopping simulations to obtain the data for analysis (e.g., Huang, 2004; Ruyter et al., 2001; Chen, 2004). Nevertheless, the experimental Web page that the author designed might not be able to offer respondents a realistic simulation environment (Huang, 2004). To prevent the problem of lack of generalizability of the finding to real-life settings, this research asked respondents to use their judgments of real consumption experiences online to rate the individual items on the questionnaire. Using consumers’ e-shopping experiences at several Web sites improved the external validity of this study.

Third, some empirical studies such as Raymond in 2001 only selected technology attributes regarding the Web site environment to predict e-shopping intention, and did not include marketing Web attributes such as promotion or advertising, or psychological attributes. A single episode restricted evaluative judgment. Hence, this study
attempted to list important dimensions of Web site attributes with regard to psychology, aesthetics, content, and marketing factors.

Fourth, the problem about generalizability to the population generally exists in most of the empirical studies (Hair et al., 1995). Hence, to increase population and ecological validity of this study, the researcher of this study used tried to overview the e-shopping-related literature that was supported by known researchers. The purpose was to account for applicability of this research design and found the information that demonstrated student subjects as the appropriate sample for e-shopping research.

**Theoretical Framework**

This study used Fishbein and Ajzen’s (1980) Theory of Reasoned Action (TRA) to examine the interrelationship among belief in Web site attributes, consumer attitude toward e-shopping, and consumer e-shopping intention. Fishbein and Ajzen (1980) refined the attitude-toward-behavior theory and a basic tri-component attitude model, and also developed the TRA model. The model examined behavioral intentions as the main predictors of behaviors (Fishbein & Ajzen, 1980). Working backward from behavior, the TRA model suggests that the best predictor of behavior is the intention to act. Behavioral intention is an outcome of two factors: one’s attitude toward the behavior, and subjective norms. The former is a mixed outcome of the individuals’ beliefs and their evaluation of those beliefs. The latter, subjective norm, is defined as a person’s perception that most people who are important to him approve of or disapprove of the behavior in question (Fishbein & Ajzen, 1980). Because of the TRA model achieved in developing a means of predicting consumer behaviors, it was used by consumer researchers to explore the whole universe of consumer behaviors.
researchers are solely interested in predicting behavior, they will directly measure intention, which is one of the variables influencing behavior. However, if they are also interested in recognizing the underlying factors that contribute to a consumer’s intention to act in a particular situation, they will look behind intention and consider the factors that result in intention, which are the consumer’s attitude toward the behavior and the subjective norm.

Based on the TRA, researchers have determined a positive relationship between consumer attitude and purchase intention toward fashion businesses (e.g., Kim & Park, 2005). Similarly, a number of studies found that consumers’ positive e-shopping attitudes significantly increased their willingness to shop online (e.g., Thou, 2004; Chen, 2004; Shim, Estlick, Lotz, & Warrington, 2001; George, 2002; Lee & Littrell, 2005). Chen (2004) reported that e-shopping attitude predicted e-shopping intention of Taiwanese online consumers. Kim, Kim, and Kumar (2003) reported that customers with a more favorable attitude toward e-shopping also had a higher intention to shop for clothing online. Kim and Park (2005) found that Korean consumers’ e-shopping attitude influences online consumer purchase intention.

Nevertheless, Volk (2001) found that this attitude-intention-behavior relationship on the Internet may happen differently. Volk (2001) reported that not all of consumer attitudes generated consumer intention toward online transactions. E-shopping intention is influenced by consumer’s perceptions of Web site shopping. Nevertheless, the controversial issue that e-shopping attitudes do not absolutely influence e-shopping intention is also posed; Volk (2001) explored what factors generate consumer e-shopping
intention. This study tested Volk's (2001) proposition that e-shopping attitude is an explanatory variable of e-shopping intention. Hence, hypothesis 1 was tested.

Fishbein and Ajzen (1980) indicated that in the TRA model, the attitude toward performing the behavior is a mixed outcome of the individuals' beliefs and their evaluation of those beliefs. Fishbein and Ajzen (1980) believed that beliefs influence intentions, with the mediating effect of attitudes. In the same vein, the path between consumer e-shopping attitude and belief in Web site attributes helps in predicting consumer e-shopping intention (Lee & Littrell, 2005; Chao, 2004). Since the Web is a powerful medium for marketing communication, it is critical to recognize why and how people develop positive attitudes toward Web site shopping if retailers are to improve the business performance of Web sites (Peng et al., 2004; Chen, 2003).

Researchers have paid much attention to attitudes to Web sites or Web site shopping (e.g., Thou, 2004; Peng et al., 2004). Recognition of the antecedent and outcome variables for an attitude toward Web site shopping could explain Web users' Web site preferences and subsequent e-commerce behaviors (Balabanis & Reynolds, 2001). One of the antecedents is associated with the belief in the Web site attributes (Chen, Clifford & Wells, 2002; Chen, 2003). Chen et al. (2002) used a sample of students at a university in Hawaii to conduct their research. Their findings indicated that antecedents of attitude toward commercial company sites were usefulness, ease of use, and enjoyment, focusing on the system function and site holder's brand perceptions. Thou (2004) reported that respondents with experience in purchasing products online perceived that Web site design and convenience positively influenced e-shopping attitude. Coyle and Thorson (2001) carried out an experimental study of 68 subjects, including
students at a large Midwestern university in the United States and the persons living in the city in which this university was located. Coyle and Thorson (2001) found that interactivity and vividness were antecedents of the attitude to the shopping site.

Basing their research on Fishbein and Ajzen’s (1980) TRA model, Lee and Littrell (2005) conducted an exploratory correlational study in the USA and analyzed the response data that was collected from Eziba.com, a Web site that was owned by Eziba Company, which sold cultural products. White and European Americans accounted for 84% of all respondents. The empirical findings supported the premise that beliefs in Web site attributes were positively related to attitudes to online shopping. The authors concluded that information quality, merchandising, and interface/protection were critical attributes of a Web site that significantly influenced attitudes toward online cultural products. Other antecedent views for a positive attitude toward e-shopping include user characteristics (Balabanis & Reynolds, 2001), shopping information (Huang, 2000), Web design style (Singh & Dalal, 1999), content perception (Chen et al., 2002; Ho, 2003), and marketing promotions (Wu, 2000).

Peng et al. (2004) conducted a survey on a convenience sample of volunteer students from three universities in northern Taiwan and found that effective content perceptions formed the Web site users’ positive attitudes toward Web sites, and subsequently developed preferential behavior consequences such as loyalty. Interactivity, vividness, organization, entertainment, and informativeness were also found to be strongly significant in explaining a positive attitude toward Web site commerce (Peng et al., 2004).
Based on the TRA model and reviewed literature, recognition of the antecedent variables for attitudes toward Web site shopping could explain Web users’ Web site preferences and subsequent e-commerce behaviors (Balabanis & Reynolds, 2001). This study tested this proposition that belief in Web site attributes explains consume e-shopping attitudes in Taiwan. Hypothesis 2 was tested.

Although the TRA model propose that beliefs influence intention dependently of attitudes, some researchers invoked the controversial proposition that beliefs affect behavioral intentions without the mediating effect of attitudes, and might directly influence consumer intentions (e.g., Liska, 1984; Schlegel & DiTecco, 1982). These researchers stated that belief structures are frequently too complicated to be captured in attitude. For example, a consumer who holds a preferential e-shopping attitude does not necessarily have the intention to purchase online because of his/her concern about online security transaction. Actually, some research regarding e-commerce has shown a direct influence on beliefs about Web site attributes and consumers’ purchase intentions (e.g., Kim & Kim, 2004; Jaywardhena, 2004; Choi & Lee, 2003; Cheong & Park, 2005; Chao, 2004; Chen, 2004). Consumers’ belief in Web site attributes have been seen as important components in consumers’ online consumption intentions (Kim & Kim, 2004).

Based on the TRA model, the effects of the beliefs or evaluations on purchase intentions will be generated with the mediating effect of attitudes. However, according to the literature, Web site attributes are one of the factors that directly influences consumers’ purchase intentions toward Web sites (e.g., Kim & Kim, 2004; Cheong & Park, 2005; Chen, 2004). This study tested the proposition that belief in Web site attributes is a factor explaining e-shopping intention. Hence, hypothesis 3 was tested.
This study further tested propositions that socio-demographic characteristics, belief in Web site attributes and e-shopping attitude explain e-shopping intention; hence, hypothesis 4 and 5 were tested.

Hypotheses

Based on a review of theoretical and empirical studies, as well as the theoretical framework for this study, hypotheses for this study were proposed as follows.

Hypothesis 1. Consumer e-shopping attitude is a significant explanatory variable of consumer e-shopping intention for e-bookstores in Taiwan.

Hypothesis 2. Consumer belief in Web site attributes is a significant explanatory variable of consumer e-shopping attitude for e-bookstores in Taiwan.

Hypothesis 3. Consumer belief in Web site attributes is a significant explanatory variable of consumer e-shopping intention for e-bookstores in Taiwan.

Hypothesis 4. Belief in Web site attributes and consumer e-shopping attitude are significant explanatory variables of consumer e-shopping intention.

Hypothesis 5. Gender, Age, length of e-shopping experience, belief in Web site attributes, and consumer e-shopping attitude are significant explanatory variables of e-shopping intention.

Based on the literature about the relationship among Web site attributes, e-shopping attitude, and e-shopping intention, this study regarded four attribute
dimensions (Web site content, trustworthiness, interactivity, and marketing mix) as factors that contribute to a high level of Web site quality. The rationale was as follows. First, a well-designed Web site delivers usability value to online users (Lu et al., 2005). Web site content is an influential attribute dimension in achieving a high level of overall Web site quality (Cai & Jun, 2003; Jun et al., 2004; Lee, 2003). Second, lack of personal contact, the physical distance, and the anonymity of the Web all generate risk and loss perceptions (Yang et al., 2004). Hence, trustworthiness is a significant element of Web site attributes (Cai & Jun; Wu, 2003). Third, interactivity is an important component to contribute to a successful Web site design (Constantinides, 2004; Chao, 2004). Interactivity and communication elements result in a positive customer experience and behavior because they decrease uncertainty that occurs during the online transaction and the possible cognitive conflict (Zeithaml et al., 2002). Fourth, marketing mix associated with the marketing 4Ps (product, price, place, and promotion) is an important element of Web site attributes and is suggested to influence consumers' experience toward the Web (Constantinides, 2004). The model for e-shopping for this study was presented as follows.
Chapter 2 of the study provides an in-depth review of e-shopping in Taiwan, the theory of reasoned action, e-shopping intention, e-shopping attitude, Web site attribute. This chapter provides a critical analysis of theoretical and empirical literature regarding e-shopping intention, e-shopping attitude, and Web site attribute. Also, a hypothesized conceptual framework and research questions are presented in this chapter. The content of chapter 3 is composed of research design, population and sampling plan, procedures and ethical aspects, instrumentation, methods for data analysis.
CHAPTER 3

RESEARCH METHODOLOGY

The purposes of this study were: (1) to satisfy the author’s curiosity and desire to understand the effect of the key variables (belief in Web site attributes and e-shopping attitudes) on consumer shopping intention in online shopping context; (2) to identify the most influential Web site attributes in achieving a high level of e-shopping attitudes from consumers’ perspectives; (3) to test the feasibility of a model of consumer intention with respect to online shopping; and (4) to develop the methods to be utilized in any subsequent research as to the relationship between Web site attributes and consumer e-shopping intention. The hypotheses evolved from gaps in the literature, testing propositions, and the importance of consumers’ beliefs in Web site attributes and e-shopping attitudes in developing consumers’ e-shopping intentions. This chapter describes the research design, the sampling plan, instrumentation, human ethical consideration, data collection procedures, and methods of data analysis.

Research Design

The hypotheses are presented as follows.

Hypothesis 1. Consumer e-shopping attitude is a significant explanatory variable of consumer e-shopping intention for e-bookstores in Taiwan.

Hypothesis 2. Consumer belief in Web site attributes is a significant explanatory variable of consumer e-shopping attitude for e-bookstores in Taiwan.
Hypothesis 3. Consumer belief in Web site attributes is a significant explanatory variable of consumer e-shopping intention for e-bookstores in Taiwan.

Hypothesis 4. Belief in Web site attributes and consumer e-shopping attitude are significant explanatory variables of consumer e-shopping intention.

Hypothesis 5. Gender, Age, length of e-shopping experience, belief in Web site attributes, and consumer e-shopping attitude are significant explanatory variables of consumer e-shopping intention.

This research was a quantitative, non-experimental, explanatory and correlational design. This study used a correlational and explanatory survey research design to analyze a social science problem. With an official endorsement, the questionnaire was translated into Chinese and back translated into English by a professional linguist who is fluent in both the English and Chinese languages. The two translations verified that the content remained the same in the English and Chinese versions of the questionnaire. Survey research is the preferred method available to social researchers because they are able to collect original data to describe a population that is too large to observe directly (Babbie, 2001).

Before conducting this survey, the researcher wanted to make certain that subgroups in the population of Far East College would be adequately represented in the sample, so 2-stage quota sampling was used. Based on the quota sampling, students were asked to participate in this study survey. The participants volunteered to complete
this survey. Their anonymity was guaranteed. The subjects used around ten minutes to complete the survey during interval between classes.

In this study, the dependent variable was e-shopping intention, and the independent variables were belief in Web site attributes and e-shopping attitudes. The data collected from the sample were processed on SPSS software. Descriptive and inferential statistics were included. Methods of data analysis were reliability analysis, factor analysis, t-test analysis, analysis of variance (ANOVA), simple regression, and multiple regression.

Population and Sampling Plan

Target Population

In this study, the target population was all Taiwanese online consumers who had purchased books from e-bookstores. In December, 2005, Taiwan had a population of 22,615,307. There were 11,502,202 males, accounting for 51% of the total population. The number of females was 11,113,105, which accounted for the remaining 49% (Ministry of the Interior, 2006). The Taiwanese online shopping population was approximately 2.5 million (E-Usage, 2005). Among these people, 29.6% had 3-5 years of online purchasing experience (Yamcom, 2006). According to the Ministry of Economic Affairs, as of December, 2005, 69.8% of Taiwanese online consumers were between the ages of 20 and 39 (Digital, 2006). In 2005, male consumers were 50.2% of the all online consumers, and female consumers were 49.8% (Internet in Taiwan, 2005). Taiwanese e-bookstore shoppers was 70,027 (Chen, 2005), which was the number of target population of this study.
Accessible Population

In this study, the accessible population was students who attended the Far East College and had purchased books from e-bookstores. Far East College is located in Tainan county, Taiwan. In 2005, 4.9% of Taiwan’s population lived in Tainan county (Taiwan University, 2006). As of December 31, 2005, there were 1,714,842 male and 1,424,546 female students in Taiwan (Yamcom, 2006). The percentages of male and female students were 54.6% and 45.4%, respectively. At the end of December 2005, among the Taiwanese graduate and undergraduate students who had bought products online, 71.1% were aged 20-39 (Ministry of the Interior, 2006). As of the end of December 2005, in the Far East College, the number of males was 2,421, which accounted for 53.1% of the total students. The number of females was 2,138, which accounted for 46.9% of the total students.

Eligibility Criteria And Two-Stage Quota Sampling

Eligibility Criteria

1. The subjects were adults (at least 18 years old) who were living in Taiwan, and were Taiwanese nationals.

2. The subjects had experience in buying books online.

3. The subjects were incumbent students at Far East College of Taiwan.

4. The subjects had to be able to read Chinese.

5. The subjects agreed to participate in the study and completed the questionnaire.
Two-Stage Quota Sampling

Buying books via the Internet has become popular in Taiwan (Huang, 2002). Also, online book sales have risen steadily in Taiwan (E-News, 2005). The reasons why the selection of the subjects was regarded as appropriate were the following: (1) students in Taiwan had been using the Internet to buy books (Yamcom, 2006); (2) according to the Ministry of Economic Affairs, student groups accounted for 44% of the total groups who navigated on Webs (Digitalwall, 2005); (3) a telephone survey conducted by the Department of Commerce of Taiwan found that 33.7% of all Web users were aged 20-24, and most of them were students, representing the highest occupational percentage (E-News, 2005); (4) students and non-students in Taiwan had no significant difference in their motivation and quality perceptions when using the Internet (Chao, 2004); (5) the majority of adult online users in Taiwan were university educated, and people who were university-educated were the fastest growing group of online consumers (Chen, 2003).

In fact, surveys conducted in other countries also found that students constituted an acceptable sample for online shopping research. According to an American survey conducted by Choi and Lee (2003), students had much Internet purchasing experience. Also, Cai and Jun (2003) conducted a survey in the United States and found that student and professional groups had no significant differences in replying to the questions about their perceptions of Web site quality.

For regression, the optimal standard for the sample size is a minimum of five observations, but 10 to 15 are ideally needed for each independent variable (Hair, Anderson, Tatham, & Black, 1995). In this survey, there were 24 independent variables and therefore, 240 to 360 respondents would be acceptable for this research.
To ensure that subgroups in the population would be adequately represented in the sample, quota sampling was used. Quota sampling has the effect of reducing sampling error for a given sample size (Gall, Gall, & Borg, 2003). After using quota sampling in the first stage to figure out the numbers of male and female students in different departments, second-stage quota sampling was used to choose class levels for stratified respondents. In this study, two-stage quota sampling were as follows.

1. In the first stage, with an expected sample of 360 students from 4,559 students in the Far East College, this study used quota sampling to make the proportion of the number of students from each department in the sample to be the same as their proportion in the total number of students at Far East College. To make the frequency distribution of gender attribute to be the same as in the Far East College, this sample, according to gender, generated 191 male students and 169 female students, who were randomly distributed in each department.

2. In the second stage of quota sampling, the class levels were chosen by drawing. The students in the chosen class level were invited to participate in this study survey.

Procedures: Ethical Considerations and Data Collection Methods

1. A two-part survey was utilized as the data collection instruments. The first part contained three items inquiring about participants’ gender, age, and length of online shopping experience; the second part consisted of 26 items to inquire about participants’ beliefs in Web site attributes, e-shopping attitudes, and e-shopping intentions. The instrument
developers permitted the researcher to use their instruments for the data collection (Appendix G).

2. Because all subjects were Taiwanese, the questionnaire, with an official endorsement, was translated from English to Chinese by using the reverse-translation technique to ensure the accuracy of translation (see Appendix D). A professional linguist who is fluent in both English and Chinese translated the questionnaires to confirm that the content retained the same meaning as the original questionnaires.

3. Lynn University IRB approved the research, the data collection process was conducted (see Appendix E).

4. The study survey was conducted on the premises of the Far East College. The researcher obtained permission from Far East College to send the questionnaires to students in the school (Appendix H).

5. Based on a plan of hypothetical sample of subjects, the researcher chose the survey time and contacted the instructors of those classes from which the researcher planned to collect data. Student subjects were asked to reply to the self-administered questions in the questionnaire during 15 minutes during the interval between classes. The potential participants were provided a brief explanation of the purpose of the survey, the desired numbers of participants, the eligibility criteria, anonymity and voluntary participation. The Informed Consent for participants and the questionnaires were provided to the students who were willing to participate in this survey (see Appendix B).
6. While the participants were completing the questionnaires, the researcher left the classroom, but stayed in close proximity to answer any questions. No instructor was in the classrooms during the data collection process. Student respondents were asked to drop the returned questionnaires into a box with a slot at the entrance of the classroom.

7. All completed questionnaires were opened, scanned, and assigned an identification number. There were no identifiers. Subsequently, the response data were coded to enter into statistical software programs. The data were kept and protected with an encoding password in a computer. The hard-copy data were kept in a locked depository vault, where they will remain for five years, and then be destroyed.

8. The data collection process was conducted within ten days in the Far East College, located in Tainan county, Taiwan. Upon completion of data collection, the Lynn University IRB Report of Termination of Project was submitted.

**Instrumentation**

Table 3 lists all of the construct definitions of the instruments, items, and sources. This research adapted the measures utilized to operationalize the constructs which were included in the model from relevant previous studies. Some of the items of previous research were adapted to fit the purpose of this study.

Content validity is intended to evaluate whether the items measure what the experts claim that they measure (Reich, 2002). For this study, the experts included the committee members and two other academicians from the fields of e-commerce, Internet
technology, and marketing. They were asked to check for triviality, clarity, and consistency for the questionnaire. In addition, the validity analysis for this questionnaire was to judge whether a scale logically and accurately reflected the constructs of interest. After being reviewed by the committee members and two other academicians, the necessary modifications were made.

**Part 1: Socio-Demographic profile**

Part 1 encompassed a Socio-Demographic Profile of the respondents. Three items were contained in this part to inquire about participants’ gender, age, and length of online shopping experience. Gender was categorized as “Male” and “Female”. Age contained five response categories, which were “18-19”, “20-29”, “30-39”, 40-49”, and “above 49”. Length of online shopping experience had five categories: less than 0.5 year, 0.5-1 year, 1-2 years, 3-5 years, and more than 5 years. The socio-demographic characteristics data were gathered for the purpose of post hoc analysis, and for examining the relationship between socio-demographic characteristics and e-shopping intention.

**Part 2: Belief in Web Site Attribute Dimensions, E-Shopping Attitude, and E-Shopping Intention**

The second part of the survey contained 26 items inquiring about participants’ beliefs in Web site attributes, e-shopping attitudes, and e-shopping intentions. The instruments were developed by modifying the instrument used in previous studies conducted by some instrument developers. Permissions from the instrument developers were acquired (see Appendix F). Belief in Web site attributes consisted of belief in four dimensions of Web site attributes: Web site content, trustworthiness, interactivity, and marketing mix. Hence, six important constructs (belief in Web site content, belief in
trustworthiness, belief in interactivity, belief in marketing mix, e-shopping attitude, e-shopping intention) were measured on a five-point semantic differential scale with two anchors of "strongly disagree" and "strongly agree".

**Belief in Web Site Content**

Eight items of the Web site content scale were developed by modifying the instrument used in previous studies conducted by Cai and Jun (2003). Based on review of literature and results of personal interviews with consumers who shopped online, Cai and Jun (2003) developed an instrument to evaluate online consumers' perceptions of Web site quality. Content validity analysis was conducted to evaluate measurement scales of the questionnaire in a pretest. A factor analysis upheld the validity of the discriminant and convergent validity. Four extracted factors were Web site design/content, trustworthiness, prompt/reliable service, and communication. The scale measuring Web site design/content, one of four derived factors, demonstrated internal consistency based on the Cronbach's alpha coefficient of 0.82. This study adopted their scale items for evaluating Web site content variables with minor revisions to test respondents' beliefs in Web site content. In this study's instrument, the items of Web site content were concerned with organization and structure of online catalogs, aesthetic features and design, Web site speed, perceived playfulness, and site accessibility.

**Belief in Trustworthiness**

The trustworthiness items were developed by modifying the instrument used in a previous study conducted by Cai and Jun (2003). As mentioned above, Cai and Jun (2003) developed an instrument to evaluate online consumers' perceptions of Web site quality. After conducting factor analysis, nineteen items were extracted and labeled as
four derived factors: trustworthiness, communication, Web site design/content, and prompt/reliable service. The Cronbach’s alpha coefficient for the four extracted factors were 0.87, 0.78, 0.82, and 0.89, respectively. This study adopted their scale items for the trustworthiness variable with minor revisions to test respondents’ beliefs in trustworthiness. In this study, items of trustworthiness were associated with transaction security, privacy confidentiality, and online firm’s reputation.

**Belief in Interactivity**

The interactivity items were developed by modifying the instrument in the study conducted by Jang and Burns (2004). Jang and Burns (2004) conducted a study in the United States to examine the effect of components of apparel Web sites. Three Web site components were proposed to measure online apparel retailer’s perception of factors influencing e-business between online retailers and online consumers: merchandise, promotion, and customer service. However, the authors indicated that these three components were related to only functional qualities, rather than psychological attributes. Merchandise components included product price and availability, search function, product description, product presentation, the product offering, and product size. Promotion components were service promotion, advertising promotion, and product promotion. Customer service components were ordering processing, delivery and returns, and Web service. All three constructs achieved an acceptable level of reliability. The outcome of factor analysis showed all items loaded on proposed constructs. This study adopted their items of customer service scale for interactivity variables with minor revisions to test respondents’ beliefs in interactivity.
Belief in Marketing Mix

The marketing mix items were developed by modifying the instrument used in the study conducted by Jang and Burns (2004). This study adopted their scale items for merchandise and promotion variables with minor revisions to test respondents' beliefs in marketing mix. In this study, marketing mix was evaluated in terms of product information, availability of price information, and availability of promotion.

E-Shopping Attitude

The e-shopping attitude items were developed by modifying the instrument used in the previous study conducted by Jayawardhena (2004). Jayawardhena (2004) investigated the roles of personal values in consumer e-shopping intention. An online instrument was developed in two stages. First, a focus group was administered to help the process of instrument development; after designing the questionnaire, it was pre-tested on a convenience sample of 30 undergraduates. The measure contained three parts: value, e-shopping attitude, and e-shopping intention. Structural equation modeling was used to test the paths of variables. Standardized factor loadings showed validity was upheld. Respective Cronbach alpha coefficients were above .71. This study adopted Jayawardhena's (2004) scale items for the e-shopping attitude variable with minor revisions to test respondents' e-shopping attitudes. In this study, e-shopping attitude was measured by the consumer's beliefs as to whether or not e-shopping is good and beneficial.

E-Shopping Intention

The e-shopping intention items were developed by modifying the instrument used in the previous study conducted by Jayawardhena (2004). This study adopted
Jayawardhana’s (2004) scale items for e-shopping intention variable with minor revisions to test respondents’ e-shopping intention. In the study, revisiting the Web site and repatronizing the Web site were used to examine consumer e-shopping intention.
<table>
<thead>
<tr>
<th>Construct and operational definition</th>
<th>Item</th>
<th>Source</th>
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<tbody>
<tr>
<td><strong>Web site content</strong></td>
<td></td>
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<tr>
<td>Organization and structure of online catalogs</td>
<td>1. The organization of this Web site (e.g., site map, explanation of button, and directory) was easy to follow.</td>
<td>Cai and Jun (2003)</td>
</tr>
<tr>
<td>Aesthetic feature</td>
<td>2. This Web site design (e.g., site layout, colors, style, or atmosphere) was attractive.</td>
<td>Cai and Jun (2003)</td>
</tr>
<tr>
<td>Design</td>
<td>3. The contents (e.g., indicator of path or destination nodes) in this Web site were concise.</td>
<td>Cai and Jun (2003)</td>
</tr>
<tr>
<td></td>
<td>4. All of the terms and conditions (e.g., payment, warranty, and return policies) on this Web site were easy to understand.</td>
<td>Cai and Jun (2003)</td>
</tr>
<tr>
<td></td>
<td>5. This Web site offered multiple ordering options through the phone and Web or via email.</td>
<td>Cai and Jun (2003)</td>
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<tr>
<td>Web site speed</td>
<td>6. The speed of this Web site was adequate for me.</td>
<td>Cai and Jun (2003)</td>
</tr>
<tr>
<td>Perceived playfulness</td>
<td>7. When interacting with this Web site, the time seemed to go by quickly.</td>
<td>Cai and Jun (2003)</td>
</tr>
<tr>
<td>Site accessibility</td>
<td>8. The advertising of this Web site linked to other Web sites.</td>
<td>Cai and Jun (2003)</td>
</tr>
<tr>
<td><strong>Trustworthiness</strong></td>
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<tr>
<td>Transaction security</td>
<td>9. Payment transaction information in this Web site was securely processed.</td>
<td>Cai and Jun (2003)</td>
</tr>
<tr>
<td>Privacy confidentiality</td>
<td>10. Personal information provided to this Web site was kept confidential.</td>
<td>Cai and Jun (2003)</td>
</tr>
<tr>
<td>Online firm’s reputation and image</td>
<td>11. The length of time the online retailer has been in the online business was shown on this Web site.</td>
<td>Cai and Jun (2003)</td>
</tr>
<tr>
<td>Construct and operational definition</td>
<td>Item</td>
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<tr>
<td><strong>Interactivity</strong></td>
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<tr>
<td>Media offering to interact with other online Web users</td>
<td>12. I could get to the bulletin boards, chat rooms or shopping help on this Web site for more information.</td>
<td>Jang and Burns (2004)</td>
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<td></td>
<td>14. The billing process was accurately handled.</td>
<td>Jang and Burns (2004)</td>
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<td></td>
<td>15. The quality of the book I received was exactly as I had expected.</td>
<td>Jang and Burns (2004)</td>
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<td></td>
<td>16. If I wanted to, I could have easily contacted a customer service representative over the telephone.</td>
<td>Jang and Burns (2004)</td>
</tr>
<tr>
<td>Communication with vendors</td>
<td></td>
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<td></td>
<td>18. Offline help desk information was shown on this Web site.</td>
<td>Jang and Burns (2004)</td>
</tr>
<tr>
<td><strong>Marketing mix</strong></td>
<td></td>
<td></td>
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<tr>
<td>Product information</td>
<td>19. The book presentation of this Web site was appealing (e.g., showing the cover, enlarging the image, or showing pages inside the book).</td>
<td>Jang and Burns (2004)</td>
</tr>
<tr>
<td></td>
<td>20. Book descriptions (e.g., number of pages, information about the author, publication date, publisher, table of contents, readers’ reviews, and summary, etc.) were provided by this Web site.</td>
<td>Jang and Burns (2004)</td>
</tr>
<tr>
<td>Availability of price information</td>
<td>21. Book price information (e.g., category by price range, free shipping promotion, or price comparison between new and used books) was provided by this Web site.</td>
<td>Jang and Burns (2004)</td>
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</tbody>
</table>
Construct and Item Source

<table>
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<tr>
<th>Construct and operational definition</th>
<th>Item</th>
<th>Source</th>
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<tbody>
<tr>
<td><strong>E-Shopping attitude</strong></td>
<td></td>
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<tr>
<td>A consumer’s global belief in e-shopping as a good idea</td>
<td>23. Purchasing books on this Web site was a good decision.</td>
<td>Jayawardhena (2004)</td>
</tr>
<tr>
<td>A consumer’s global belief in e-shopping as a beneficial thing</td>
<td>24. Purchasing books on this Web site was beneficial to me (e.g., convenience, hassle-free, and ease of access to information, etc.).</td>
<td>Jayawardhena (2004)</td>
</tr>
<tr>
<td><strong>E-Shopping Intention</strong></td>
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<tr>
<td>Revisiting the Web site</td>
<td>25. I would visit this Web site again for shopping within the next two months.</td>
<td>Jayawardhena (2004)</td>
</tr>
<tr>
<td>Repatronizing the Web site</td>
<td>26. I would buy books again from this Web site within the next two months.</td>
<td>Jayawardhena (2004)</td>
</tr>
</tbody>
</table>

**Method of Data Analysis**

The data that were received from the selected sample were processed on SPSS software to conduct reliability analysis, factor analysis, t-test analysis, standard analysis of variance (ANOVA), descriptive analysis, simple regression, hierarchical regression and multiple-regression.

Cronbach’s alpha analysis was employed to test the average correlations of items in a specific scale to measure internal consistency. The method selected to test scale reliability was Cronbach’s alpha coefficient analysis. Cronbach’s alpha is one of the most common indicators of the extent to which the items in a factor are measuring the same phenomenon (Ruyter et al., 2001). It is calculated based on the average correlation of items in a specific scale (Cai & Jun, 2003). Usually, the level of acceptance for exploratory studies is a 0.7 correlation coefficient (Lee & Littrell, 2005).
Nunnally and Bernstein (1994) suggested that a 0.7 correlation coefficient achieved modest reliability. In this research, 0.7 Cronbach’s alpha coefficient was the level of acceptance for measurement of reliability.

Factor analysis was used to examine whether the variables chosen for this study loaded on their proposed construct and simultaneously to determine whether the number of variables needed to be reduced. Through factor analysis, the researcher learned whether or not the item loading was compatible with the study’s proposed model.

Descriptive statistics for items in each scale of this dissertation’s model was conducted. Means and standard deviation were demonstrated for each item for this study. Frequency for socio-demographic variables was demonstrated through descriptive analysis.

T-test analysis was employed to measure the significant differences between male and female respondents in belief in Web site attributes, e-shopping attitudes, and e-shopping intentions. ANOVA technique was not used to test the hypotheses, but to measure the significant differences for age groups and length of online shopping experience in belief in Web site attributes, e-shopping attitudes, and e-shopping intentions.

In this study, regression analysis investigated whether a positive relationship existed between two specified constructs. Also, in order to specify how much of the variance in the dependent variable was explained by the independent variable, multiple regression analysis was conducted.
Evaluation of Research Methods

1. Data being collected using a quantitative research method in this study was able to be generalized to a large population.

2. Using quota sampling in this study was time-saving and cost-efficient.

3. Quota sampling is a non-random method, which can generate sampling bias and threaten external validity.

4. Two-stage quota sampling enhanced the chances that the sample was representative of the population.

5. The instruments selected had evidence of good estimates of reliability and validity. Under the assumption that the reliability and validity of the instruments are not influenced by linguistic and cultural differences, the instruments are able to contribute to the study’s internal validity.

6. Correlational research is dedicated to deciding to what degree a relationship is achieved between two or more quantifiable variables (Hair et al., 1995), which enhanced the study’s internal validity.

7. The setting was limited to Far East College of Taiwan, which decreased the global validity of this study. Far East College might not represent an entire e-bookstore industry.

8. The analyzed results of data from the small-size sample in this study may be difficult to generalize to the target population, thus affecting external validity.

9. As the data collection process occurred during intervals between classes, situation contaminants might influence responses, thus threatening the
internal validity of the study.

10. Generalizability to the target population depended on how closely the data-producing sample represented the "quota."

11. Statistical procedures in this study were appropriate to test the hypotheses of this study, enhancing the internal validity regarding measurement of variables.

Chapter 3 presents the methodology for testing research questions. The content of this chapter is composed of research design, population and sampling plan, procedures and ethical aspects, instrumentation, methods for data analysis. Chapter 4 presents the results of socio-demographic characteristics of the data-producing sample and the findings of research question testing.
CHAPTER 4
RESULTS

This chapter presents the results of this present study. It describes the results of factor analysis and reliability analysis, socio-demographic characteristics of the sample, and analysis of the research questions. Descriptive and inferential statistics were utilized as both the tools to analyze the socio-demographic characteristics, belief in Web site attributes, e-shopping attitude, and e-shopping intention, and as the methods of answering the research questions.

Data-Producing Sample

Three hundred and sixty 29-item questionnaires were distributed to a sample of undergraduate and graduate students of Far East College in Tainan county, Taiwan. A total of 360 students participated in the survey, and a response rate of 100% was obtained. Three hundred and fifty-one questionnaires were usable for data analysis.

Factor Analysis

According to Hair et al. (1997), “factor loadings of +/- .30 meets the minimal standard for inclusion in a factor matrix, while loadings above +/- .50 are practically significant” (p. 384). The results of factor analysis (see Table 4) showed that the item loadings were compatible with the proposed model for this study. No item was eliminated, based on the results of the factor analysis.

Interestingly, Items 1-8 loaded on Factor 1, which was labeled as belief in Web site content. Among these eight items, Item 4 (Web site design) had marginal secondary loading (0.36) on Factor 2, belief in trustworthiness. This item inquired as to whether all the terms and conditions were easy to understand. For belief in interactivity
construct (Items 12 through 18), Item 13 (promptness of service) and Item 17 (communication with retailers) also had marginal secondary loadings (0.34 and 0.31) on Factor 2, belief in trustworthiness.

Table 4

*Factor Analysis for the 26 Scale Items*

<table>
<thead>
<tr>
<th>Dimensions and Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Web site content</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. organization of online catalogs</td>
<td>0.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. aesthetics</td>
<td>0.74</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. design</td>
<td>0.59</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. design</td>
<td>0.67</td>
<td>0.36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. design</td>
<td>0.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Web site speed</td>
<td>0.81</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. perceived playfulness</td>
<td>0.78</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. site accessibility</td>
<td>0.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Trustworthiness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. transaction security</td>
<td></td>
<td>0.77</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. privacy confidentiality</td>
<td></td>
<td>0.81</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. online vendor’s reputation</td>
<td></td>
<td>0.76</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interactivity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. communication with other Web users</td>
<td>0.82</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. prompt service</td>
<td></td>
<td>0.34</td>
<td>0.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. reliable service</td>
<td></td>
<td></td>
<td>0.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. reliable service</td>
<td></td>
<td></td>
<td>0.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. communication with vendors</td>
<td></td>
<td></td>
<td>0.71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. communication with vendors</td>
<td></td>
<td></td>
<td>0.31</td>
<td>0.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. availability of offline service</td>
<td></td>
<td></td>
<td></td>
<td>0.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Marketing mix</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. product information</td>
<td></td>
<td></td>
<td></td>
<td>0.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. product information</td>
<td></td>
<td></td>
<td></td>
<td>0.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. availability of price information</td>
<td></td>
<td></td>
<td></td>
<td>0.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. availability of price information</td>
<td></td>
<td></td>
<td></td>
<td>0.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E-shopping attitude</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. e-shopping as a good decision</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.62</td>
<td></td>
</tr>
<tr>
<td>24. e-shopping as a beneficial thing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.73</td>
<td></td>
</tr>
<tr>
<td><strong>E-shopping intention</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. revisiting the Web site</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.68</td>
</tr>
<tr>
<td>26. repatronizing the Web site</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.79</td>
</tr>
</tbody>
</table>
Reliability Analysis

To measure the consistency of the multiple-item scale in this study, Cronbach’s alpha was computed. The objective was to examine the reliability of the scales selected to measure the constructs of belief in Web site content, belief in trustworthiness, belief in interactivity, belief in marketing mix, e-shopping attitude, and e-shopping intention.

Table 5 shows the result of Cronbach’s alpha coefficient analysis. The alpha coefficients for belief in Web site content, belief in interactivity, e-shopping attitude and e-shopping intention were, respectively, 0.84, 0.82, 0.84, and 0.81, which demonstrated that the items for these constructs well indicated their individual internal consistency.

The respective alpha coefficients for belief in trustworthiness and belief in marketing mix were 0.71 and 0.72, which achieved an acceptable level of internal consistency.

Table 5

<table>
<thead>
<tr>
<th>Construct</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belief in Web site content</td>
<td>0.84</td>
</tr>
<tr>
<td>Belief in trustworthiness</td>
<td>0.71</td>
</tr>
<tr>
<td>Belief in interactivity</td>
<td>0.82</td>
</tr>
<tr>
<td>Belief in marketing mix</td>
<td>0.72</td>
</tr>
<tr>
<td>E-shopping attitude</td>
<td>0.84</td>
</tr>
<tr>
<td>E-shopping intention</td>
<td>0.81</td>
</tr>
</tbody>
</table>

Socio-Demographic Characteristics

Besides the variables in this study’s model, socio-demographic data were also collected for potential post hoc analysis. Socio-demographic data collection was a possible means of responding to any sampling challenge. Therefore, descriptive statistics analysis, which utilized collected demographic data, were conducted in this study. Frequency distribution (see Table 6) was performed for gender. Of the 351
respondents, the sample was predominantly male (53%), and females only accounted for 47% of the sample.

Table 6

Frequency Distribution for Gender

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>165</td>
<td>47.0</td>
<td>47.0</td>
<td>47.0</td>
</tr>
<tr>
<td>Male</td>
<td>186</td>
<td>52.0</td>
<td>53.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>351</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>System</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>351</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7 shows the age distribution among the 351 respondents: 14.0% were 18-19, 56.4% were 20-29, 18.8% were 30-39, 10.3% were 40-49, and 0.6% were above 49.

The majority of the participants, 75.2% of the sample, were 20-39 years old.

Table 7

Frequency Distribution for Age

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-19</td>
<td>49</td>
<td>14.0</td>
<td>14.0</td>
<td>14.0</td>
</tr>
<tr>
<td>20-29</td>
<td>198</td>
<td>56.4</td>
<td>56.4</td>
<td>70.4</td>
</tr>
<tr>
<td>30-39</td>
<td>66</td>
<td>18.8</td>
<td>18.8</td>
<td>89.2</td>
</tr>
<tr>
<td>40-49</td>
<td>36</td>
<td>10.3</td>
<td>10.3</td>
<td>99.4</td>
</tr>
<tr>
<td>above 49</td>
<td>2</td>
<td>0.6</td>
<td>0.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>351</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>System</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>351</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 8, 11.7% of participants had used the Internet as a purchasing channel for less than half a year, 14.0% for 0.5-1 year, 30.2% for 1-2 years, 34.5% for 3-5 years, and 9.7% for more than 5 years. Two larger groups with online shopping experiences were of 1-2 years and 3-5 years.
Table 8:

Frequency Distribution for Length of Online Shopping Experience

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>41</td>
<td>11.7</td>
<td>11.7</td>
</tr>
<tr>
<td>&lt;0.5 year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5-1 year</td>
<td>49</td>
<td>14.0</td>
<td>25.6</td>
</tr>
<tr>
<td>1-2 years</td>
<td>106</td>
<td>30.2</td>
<td>55.8</td>
</tr>
<tr>
<td>3-5 years</td>
<td>121</td>
<td>34.5</td>
<td>90.3</td>
</tr>
<tr>
<td>&gt; 5 years</td>
<td>34</td>
<td>9.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>351</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>System</td>
<td>351</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

T-test Analysis on Gender

In order to evaluate differences in the six constructs of this present study between male and female participants, a t-test analysis was conducted (see Table 9). The results of t-test analysis showed that no significant difference was found in terms of the six constructs of this present study between male and female respondents. For dimensions of belief in Web site attributes, for both males and females, belief in Web site content was the highest rated and belief in trustworthiness was the lowest rated.

Table 9

<table>
<thead>
<tr>
<th></th>
<th>Female Mean</th>
<th>Male Mean</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belief in Web site content</td>
<td>3.72</td>
<td>3.27</td>
<td>1.181</td>
<td>.800</td>
</tr>
<tr>
<td>Belief in trustworthiness</td>
<td>2.64</td>
<td>3.15</td>
<td>-1.624</td>
<td>.203</td>
</tr>
<tr>
<td>Belief in interactivity</td>
<td>3.40</td>
<td>3.17</td>
<td>1.826</td>
<td>.270</td>
</tr>
<tr>
<td>Belief in marketing mix</td>
<td>3.26</td>
<td>2.92</td>
<td>0.507</td>
<td>.402</td>
</tr>
<tr>
<td>E-shopping attitude</td>
<td>3.56</td>
<td>3.44</td>
<td>1.773</td>
<td>.061</td>
</tr>
<tr>
<td>E-shopping intention</td>
<td>3.90</td>
<td>3.30</td>
<td>1.322</td>
<td>.541</td>
</tr>
</tbody>
</table>

* Not Significant
One Way Analysis of Variance

ANOVA for Differences among Age Groups

A concise description on the significance of how age groups affected the six constructs of this present study was explored through one-way ANOVA (see Table 10). The six constructs of this study did not reach a significant difference to the five age groups, as concluded from ANOVA regarding respondents ages 18-19, 20-29, 30-39, 40-49, and above 49 years old. For belief in Web site attributes, for respondents aged 20 or over, the dimension of “Web site content” was highest rated and “trustworthiness” was lowest rated.

Table 10

ANOVA for Differences among Age Groups

<table>
<thead>
<tr>
<th>Variables</th>
<th>18-19 Mean</th>
<th>20-29 Mean</th>
<th>30-39 Mean</th>
<th>40-49 Mean</th>
<th>&gt;49 Mean</th>
<th>F</th>
<th>p</th>
<th>Post Hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTENT</td>
<td>3.00</td>
<td>2.56</td>
<td>3.35</td>
<td>3.97</td>
<td>4.01</td>
<td>0.524</td>
<td>0.72</td>
<td>Tukey HSD</td>
</tr>
<tr>
<td>TRUST</td>
<td>3.14</td>
<td>2.98</td>
<td>2.67</td>
<td>2.61</td>
<td>2.50</td>
<td>1.544</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>INTER</td>
<td>3.47</td>
<td>3.19</td>
<td>3.35</td>
<td>3.08</td>
<td>3.07</td>
<td>1.317</td>
<td>0.26</td>
<td></td>
</tr>
<tr>
<td>MARKET</td>
<td>2.90</td>
<td>3.01</td>
<td>3.27</td>
<td>3.42</td>
<td>3.03</td>
<td>0.810</td>
<td>0.52</td>
<td></td>
</tr>
<tr>
<td>ATT</td>
<td>3.78</td>
<td>3.39</td>
<td>3.34</td>
<td>3.97</td>
<td>4.00</td>
<td>0.780</td>
<td>0.54</td>
<td></td>
</tr>
<tr>
<td>INTENT</td>
<td>3.63</td>
<td>3.39</td>
<td>3.98</td>
<td>3.81</td>
<td>4.00</td>
<td>1.409</td>
<td>0.23</td>
<td></td>
</tr>
</tbody>
</table>


ANOVA for Differences for the Length of Online Shopping Experience

Table 11 shows the result of ANOVA for differences in the six constructs of this study for a five-group comparison of the history length of respondents’ online shopping experiences (less than 0.5 year, 0.5-1 year, 1-2 years, 3-5 years, and over 5 years). Except for belief in trustworthiness, the remaining five constructs (belief in Web site
content, belief in interactivity, belief in marketing mix, e-shopping attitude, and e-shopping intention) showed no significant differences as to the history length of previous online shopping experience in terms of less than 0.5 year, 0.5-1 year, 1-2 years, 3-5 years, and more than 5 years. For belief in Web site attributes, for respondents of 3-5 years and above 5 years, the dimension of “Web site content” was highest rated and “trustworthiness” was lowest rated. According to Tukey HSD method that was used to assess significant differences in pairwise, the group with less than 0.5 year and the group with more than 5 years significantly differed regarding belief in trustworthiness ($p=.013, d=.63$). Also, there was a significant difference in belief in trustworthiness for the group with less than 0.5 year and the group with 3-5 years ($p=.033, d=.51$).

Table 11

ANOVA for Differences for Length of Online Shopping Experience

<table>
<thead>
<tr>
<th>Variables</th>
<th>&lt;0.5 years Mean</th>
<th>0.5-1 years Mean</th>
<th>1-2 years Mean</th>
<th>3-5 years Mean</th>
<th>&gt;5 years Mean</th>
<th>F</th>
<th>p</th>
<th>Tukey HSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTENT</td>
<td>3.00</td>
<td>3.00</td>
<td>3.75</td>
<td>3.63</td>
<td>4.07</td>
<td>0.954</td>
<td>0.44$^\phi$</td>
<td></td>
</tr>
<tr>
<td>TRUST</td>
<td>3.20</td>
<td>2.94</td>
<td>3.18</td>
<td>2.64</td>
<td>2.59</td>
<td>1.989</td>
<td>0.04</td>
<td>$^\star$</td>
</tr>
<tr>
<td>INTER</td>
<td>3.48</td>
<td>3.60</td>
<td>2.68</td>
<td>3.58</td>
<td>3.00</td>
<td>1.250</td>
<td>0.09$^\phi$</td>
<td></td>
</tr>
<tr>
<td>MARKET</td>
<td>3.00</td>
<td>2.92</td>
<td>2.80</td>
<td>3.33</td>
<td>3.41</td>
<td>0.352</td>
<td>0.84$^\phi$</td>
<td></td>
</tr>
<tr>
<td>ATT</td>
<td>3.88</td>
<td>3.06</td>
<td>3.50</td>
<td>3.41</td>
<td>4.00</td>
<td>0.840</td>
<td>0.50$^\phi$</td>
<td></td>
</tr>
<tr>
<td>INTENT</td>
<td>3.78</td>
<td>2.98</td>
<td>3.34</td>
<td>3.88</td>
<td>4.10</td>
<td>1.544</td>
<td>0.19$^\phi$</td>
<td></td>
</tr>
</tbody>
</table>

Note: CONTENT: belief in Web site content  
TRUST: belief in trustworthiness  
INTER: belief in interactivity  
MARKET: belief in marketing mix  
ATT: e-shopping attitude  
INTENT: e-shopping intention  
$^\phi$ Not Significant  
$^\star$ Trust (group less than 0.5 year was significantly greater than group 3-5 years and the group more than 5 years)
Hypotheses Testing

Hypothesis 1 Testing: E-Shopping Attitude and E-Shopping Intention

Simple regression was run to determine significant relationships between e-shopping attitude and e-shopping intention (see Table 12). The result showed a positive relationship between e-shopping attitude and e-shopping intention. The model summary gives R square (.240) and Adjusted R square (.237). This model predicted 24% of the variance in e-shopping intention. The model of e-shopping attitude significantly predicted e-shopping intention (F=73.65, \( p=.000 \)).

Table 12

<table>
<thead>
<tr>
<th>Explanatory Variable</th>
<th>( b )</th>
<th>SE</th>
<th>( \beta )</th>
<th>( t )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-shopping attitude</td>
<td>.574</td>
<td>.055</td>
<td>.490</td>
<td>10.488</td>
<td>.000***</td>
</tr>
<tr>
<td>N= 351</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( F=73.65 )</td>
<td>( p=.000 )</td>
<td>( R^2=.240 )</td>
<td>Adjusted</td>
<td>( R^2=.237 )</td>
<td></td>
</tr>
</tbody>
</table>

Predictors: (Constant), E-Shopping Attitude
Dependent Variable: E-Shopping Intention
\( p=.05 \)  **\( p=.01 \)  ***\( p=.001 \)

Hypothesis 2 Testing: Belief in Web Site Attributes and E-Shopping Attitude

Multiple regression was conducted to determine the best combination of belief in Web site content, belief in trustworthiness, belief in interactivity, and belief in marketing mix for predicting e-shopping attitude (see Table 13). This combination of belief in four dimensions of Web site attributes significantly predicted e-shopping attitude (F=32.16, \( p=0.000 \)). Except for belief in marketing mix, the other three constructs had significant beta weights for the model. The beta weights suggested that belief in Web site content contributed most to predict e-shopping attitude, belief in trustworthiness was...
the second best predictor of e-shopping attitude, and belief in interactivity also contributed to this prediction of e-shopping intention. The coefficient of the adjusted $R^2$ square value was .26. This indicated that 26% of the variance in e-shopping attitude was explained by the model, indicating a small effect.

Table 13

<table>
<thead>
<tr>
<th>Explanatory Variable</th>
<th>$b$</th>
<th>SE</th>
<th>BETA ($\beta$)</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belief in Web site content</td>
<td>.310</td>
<td>.055</td>
<td>0.295</td>
<td>5.638</td>
<td>.000***</td>
</tr>
<tr>
<td>Belief in trustworthiness</td>
<td>.157</td>
<td>.051</td>
<td>0.161</td>
<td>3.089</td>
<td>.002**</td>
</tr>
<tr>
<td>Belief in interactivity</td>
<td>.167</td>
<td>.059</td>
<td>0.157</td>
<td>2.825</td>
<td>.005**</td>
</tr>
<tr>
<td>Belief in marketing mix</td>
<td>.084</td>
<td>.053</td>
<td>0.087</td>
<td>1.579</td>
<td>.115</td>
</tr>
</tbody>
</table>

$N=351$  
$F=32.155$  
$p=.000$  
$R^2 = .271$  
Adjusted $R^2 = .263$

Predictor: (Constant), Belief in Web site content, Belief in trustworthiness, Belief in interactivity, Belief in marketing mix  
Dependent Variable: E-shopping attitude  
$p=.05$  
**$p=.01$  
***$p=.001$

**Hypothesis 3 Testing: Belief in Web Site Attributes and E-Shopping Intention**

Multiple regression was conducted to determine the best combination of belief in Web site content, belief in trustworthiness, belief in interactivity, and belief in marketing mix for predicting e-shopping intention (see Table 14). This combination significantly predicted e-shopping intention ($F=22.23$, $p=0.000$). Except for belief in interactivity, the other three constructs had significant beta weights for the model. The beta weights suggested that belief in marketing mix contributed most to predict e-shopping attitude, belief in trustworthiness was the second best predictor of e-shopping attitude, and belief in Web site content also contributed to this prediction. The coefficient of the adjusted $R^2$
square value was .20. This indicated that only 20% of the variance in e-shopping intention was explained by the model, indicating a small effect.

Table 14

Multiple Regression of Belief in Web Site Content, Belief in Trustworthiness, Belief in Interactivity, and Belief in Marketing Mix on E-Shopping Intention

<table>
<thead>
<tr>
<th>Explanatory Variable</th>
<th>b</th>
<th>SE</th>
<th>BETA (β)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belief in Web site content</td>
<td>.149</td>
<td>.067</td>
<td>.121</td>
<td>2.205</td>
<td>.028*</td>
</tr>
<tr>
<td>Belief in trustworthiness</td>
<td>.193</td>
<td>.062</td>
<td>.168</td>
<td>3.104</td>
<td>.002**</td>
</tr>
<tr>
<td>Belief in interactivity</td>
<td>.102</td>
<td>.072</td>
<td>.081</td>
<td>1.403</td>
<td>.162</td>
</tr>
<tr>
<td>Belief in marketing mix</td>
<td>.267</td>
<td>.066</td>
<td>.234</td>
<td>4.075</td>
<td>.000***</td>
</tr>
</tbody>
</table>

N= 351

F= 22.228  p=.000  \( R^2 = .204 \)  Adjusted  \( R^2 = .195 \)

Predictor: (Constant), Belief in Web site content, Belief in trustworthiness, Belief in interactivity, Belief in marketing mix
Dependent Variable: E-shopping intention
* \( p = .05 \)  ** \( p = .01 \)  *** \( p = .001 \)

Hypothesis 4 Testing: Belief in Web Site Attributes and E-Shopping Attitude on E-Shopping Intention

Multiple regression was conducted to determine the best combination of e-shopping attitude and belief in four dimensions of Web site attributes (Web site content, trustworthiness, interactivity, and marketing mix) for predicting e-shopping intention (see Table 15). This combination of e-shopping attitude and belief in four dimensions of Web site attributes significantly predicted e-shopping intention (F=30.22, p=0.000).

Except for belief in interactivity and belief in Web site content, the other three constructs had significant beta weights for the model. The beta weights suggested that e-shopping attitude contributed most to predict e-shopping intention, belief in marketing mix was the second best predictor of e-shopping intention, and belief in trustworthiness also contributed to this prediction of e-shopping intention. The coefficient of the adjusted \( R \)
square value was .30. This indicated that 30% of the variance in e-shopping intention was explained by the model, indicating a small effect.

Table 15

<table>
<thead>
<tr>
<th>Explanatory Variable</th>
<th>b</th>
<th>SE</th>
<th>BETA</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belief in Web site content</td>
<td>.014</td>
<td>.066</td>
<td>.011</td>
<td>.209</td>
<td>.835</td>
</tr>
<tr>
<td>Belief in trustworthiness</td>
<td>.125</td>
<td>.059</td>
<td>.109</td>
<td>2.116</td>
<td>.035*</td>
</tr>
<tr>
<td>Belief in interactivity</td>
<td>.029</td>
<td>.069</td>
<td>.023</td>
<td>.423</td>
<td>.673</td>
</tr>
<tr>
<td>Belief in marketing mix</td>
<td>.230</td>
<td>.062</td>
<td>.202</td>
<td>3.741</td>
<td>.000***</td>
</tr>
<tr>
<td>E-shopping attitude</td>
<td>.435</td>
<td>.062</td>
<td>.371</td>
<td>7.049</td>
<td>.000***</td>
</tr>
</tbody>
</table>

N= 351  
F= 30.222  
p=.000  
R² = .305  
Adjusted R² = .295  

Predictor: (Constant), Belief in Web site content, Belief in trustworthiness, Belief in interactivity, Belief in marketing mix, E-shopping attitude  
Dependent Variable: E-shopping intention  
* p=.05  ** p=.01  *** p=.001

Hypothesis 5 Testing: Gender, Age, Length of Online Shopping Experience, Belief in Web Site Attribute, E-Shopping Attitude on E-Shopping Intention

Multiple regression was conducted to determine the best combination of gender, age, length of online shopping experience, belief in four dimensions of Web site attributes, and e-shopping attitude for predicting e-shopping intention (Table 16). This combination significantly predicted e-shopping intention (F=29.73, p=0.00). Except for belief in trustworthiness, belief in marketing mix and e-shopping attitude, the other six constructs did not have significant beta weights for the model. The beta weights suggested that e-shopping attitude was the best predictor e-shopping intention, and belief in marketing mix was the second best. The coefficient of the adjusted R square value
was .32. This indicated that 32% of the variance in e-shopping intention was explained by the model, indicating a modest effect.

Table 16

Multiple Regression of Gender, Age, Length of Online Shopping Experience, Belief in Web Site Content, Belief in Trustworthiness, Belief in Interactivity, Belief in Marketing Mix and E-Shopping Attitude on E-Shopping Intention

<table>
<thead>
<tr>
<th>Explanatory Variable</th>
<th>b</th>
<th>SE</th>
<th>BETA (β)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.232</td>
<td>.171</td>
<td>0.104</td>
<td>1.360</td>
<td>.175</td>
</tr>
<tr>
<td>Age</td>
<td>.143</td>
<td>.074</td>
<td>0.118</td>
<td>1.944</td>
<td>.053</td>
</tr>
<tr>
<td>Length of online shopping experience</td>
<td>.129</td>
<td>.074</td>
<td>0.133</td>
<td>1.736</td>
<td>.083</td>
</tr>
<tr>
<td>Belief in Web site content</td>
<td>-.81</td>
<td>.083</td>
<td>-0.066</td>
<td>-0.979</td>
<td>.328</td>
</tr>
<tr>
<td>Belief in trustworthiness</td>
<td>.115</td>
<td>.059</td>
<td>0.100</td>
<td>1.954</td>
<td>.052</td>
</tr>
<tr>
<td>Belief in interactivity</td>
<td>.019</td>
<td>.068</td>
<td>0.015</td>
<td>0.275</td>
<td>.784</td>
</tr>
<tr>
<td>Belief in marketing mix</td>
<td>.237</td>
<td>.061</td>
<td>0.208</td>
<td>3.856</td>
<td>.000***</td>
</tr>
<tr>
<td>E-shopping attitude</td>
<td>.043</td>
<td>.062</td>
<td>0.367</td>
<td>7.005</td>
<td>.000***</td>
</tr>
</tbody>
</table>

N= 351  
F= 29.734  p=.000  R^2 = .336  Adjusted R^2 = .320

Predictor: (Constant), Gender, Age, Length of online shopping experience, Belief in Web site content, Belief in trustworthiness, Belief in interactivity, Belief in marketing mix, E-shopping attitude
Dependent Variable: E-shopping intention
* p=.05  ** p=.01  *** p=.001

Chapter 4 presents the results of socio-demographic characteristics of the data-producing sample and the findings of research question testing. Chapter 5 includes a discussion of the findings, interpretations of the results of this study, practical implications, limitations, and recommendations for future research.
CHAPTER 5
DISCUSSION

With a rapidly changing market and a shorter product life cycle, one factor that influences electronic consumption intention is consumers’ attitude toward Web shopping (Lee & Littrell, 2005). The more favorable a consumer was to e-shopping, the more e-shopping intention toward purchase he/she had (Kim et al. 2003). Consumers’ positive e-shopping attitudes significantly increased their willingness to shop online (Shim et al., 2001; George, 2002; Lee & Littrell, 2005).

The measurement of the relationships between belief in Web site attributes and electronic consumption behavior has emerged as a significant paradigm for e-marketing practice and scholarship (Hung, 2003). Web site attributes are important contributing factors to the Web experience, influencing consumers’ attitudes and intentions to buy online merchandise or services (Constantinides, 2004). Nevertheless, despite the importance of these topics, there has been little research investigating the concepts of Web site attributes, e-shopping attitude and e-shopping intention in the context of electronic market (i.e., e-bookstore) in Taiwan.

In order to fill these gaps, this study empirically investigated the effects of belief in Web site attributes on e-shopping intention via e-shopping attitude among online shoppers in Taiwan. Utilizing the Theory of Reasoned Action model (TRA) as a theoretical framework, this study measured the effect of e-shopping attitude on e-shopping intention. The result showed that e-shopping attitude significantly and positively influenced e-shopping intention. This study also measured the effects of belief in four dimensions of Web site attributes (Web site content, trustworthiness,
interactivity, and marketing mix) on e-shopping attitude. The result indicated that belief in Web site content, belief in trustworthiness, and belief in interactivity influenced Web site attitude. Also, when all of the four dimensions of Web site attribute were used to predict e-shopping intention, only belief in trustworthiness showed no influence on e-shopping intention. In addition, interestingly, e-shopping attitude, belief in marketing mix, and belief in trustworthiness were main predictors of e-shopping intention when the combination of e-shopping attitude and belief in the four dimensions of Web site attributes were used. Furthermore, when socio-demographic characteristics (gender, age, and length of online shopping experience) join with belief in four dimensions of Web site attributes and e-shopping attitude to predict e-shopping intention, only belief in marketing mix and e-shopping attitude showed significant relationships with e-shopping intention. The influence of e-shopping attitude on e-shopping intention was stronger than that of belief in marketing mix was.

Interpretations

Factor Analysis

The item variables selected for this present study loaded on their proposal constructs; no item was eliminated. Generally, in factor analysis, all factors presented loadings above 0.50, representing practical significance. Interestingly, Item 4 (an element of belief in Web site content), which inquired about the credibility of the terms and conditions on the Web site, had marginal secondary loading on construct of belief in trustworthiness. It was possible that respondents perceived that clear policies about refunds or product returns positively influenced their trust in online retailers.
Another finding was that prompt service (Item 13) and communication with retailers (Item 17) of the construct of belief in interactivity also had marginal secondary loadings on the construct of belief in trustworthiness. This was consistent with Constantinides (2004), who argued that allowing easy access of online customers to components of uncertainty-reducing elements such as FAQ or prompt services may have a positive effect on online retailers' credibility.

**Reliability Analysis**

The coefficient alpha coefficients for all constructs, except for belief in trustworthiness at 0.71 and belief in marketing mix at 0.72, were fair, falling between 0.81 and 0.84. The lower loading for belief in trustworthiness might have resulted from the psychological complexity of the scale. Relative to the item scales of other constructs, the item scales appeared more affectively- or emotively-based. Moreover, the lower coefficient for belief in marketing mix may be attributed to the fact that sample subjects were asked to consider a diverse group of questions (i.e., the functions of the product presentation, product detail structure, free shipping promotion, price comparison, and incentive programs).

**Socio-Demographic Characteristics**

In this survey, the majority of the respondents were male. This supported the result of a 2005 survey by the Department of Commerce in Taiwan (Electronic Commerce Times, 2005). In addition, demographic data showed that the majority of the participants in this study were 20-39 years of age. The result of the survey was consistent with the report of the 2005 Department of Commerce report that students aged 20-39 accounted for 71% of all Taiwanese students who had made online purchases.
(Eastern Online, 2005). Also, in 2005, 69.8% of Taiwanese online shoppers were between 20 and 39 years old, while few were older than 40 (E-News, 2005). These percentages are close to the figure of 75.2% which was found in this study. Furthermore, 29.8% of Taiwanese online shoppers had 3-5-year online shopping experience (Yamcom, 2006). This percentage is also not far from the figure of 34.5% which was found in this study. The sample of this study was shown to be qualified representative of Taiwanese online shoppers who had purchased books from e-bookstores.

Interestingly, of belief of Web site attributes, “belief in trustworthiness” was lowest rated by both male and female respondents, by respondents over 20 years old, and by the respondents with over 5 years’ online shopping experience. Respondent with less with 0.5 years of online shopping experience had significant differences with respondent with 3-5 years and with more than 5 years of online shopping experience as to belief in trustworthiness. It can be inferred that consumers with longer periods of shopping experiences are more sensitive about and more concerned of transaction security, privacy confidentiality or e-retailers’ reputations while they purchase products online. This finding was supported by Cai & June (2004), who found that online consumers with longer shopping experience of showed lower level of evaluations on trustworthiness attributes of Web sites, compared to other groups with less lengths of using the Internet as a channel to buy products. However, Blake et al.(2005) found that long and short online shopping experience groups did not differ noticeably with regard to preference for Web site features, which did not totally support the finding of this study.
Hypothesis 1: E-Shopping Attitude and E-Shopping Intention

The study found that e-shopping attitude had a significant and positive effect on e-shopping intention. This result was consistent with previous e-marketing research, and with the findings of several researchers in Taiwan and in other countries (e.g., Chen, 2003; Chen, 2004; Lee & Littrell, 2005). It is easy to understand that when retailers provide a good Web environment to increase consumers’ positive e-shopping attitudes, consumers’ willingness to shop online should increase. This study further reinforced the concept that consumer e-shopping attitude is correlated with e-shopping intention.

Hypothesis 2: Belief in Web Site Attributes and E-Shopping Attitude

Multiple regression analyses were conducted to answer this question. The results showed that expect for belief in marketing mix, individual Web site attribute belief significantly predicted e-shopping attitude.

The finding indicated that the greater the belief in Web site content, the more favorable the e-shopping attitude. The findings of this study confirm the importance of Web site content in developing consumers’ positive e-shopping attitudes, as suggested by Wu (2000). In a lab survey, Wu (2000) found that three important antecedents of the attitudes toward book shopping were Web system function, Web interface, and Web content. In fact, consumers are likely to be irritated when online transactions are lengthy and cumbersome processes (Constantinides, 2004); therefore, Web site content should pay more attention to the structure of the Web, aesthetics, Web design, site accessibility, playfulness, and Web site speed.

The result of this study showed that a greater belief in trustworthiness could increase favorable attitudes to e-shopping. This finding confirmed the proposition of
Ruyter et al. (2001) that a retailer’s reputation and perceived risk of trust in a Web site were important in generating positive online shopping attitudes. As a matter of fact, trustworthiness has long been an important Web site attribute (e.g., Watson & Goodhue, 2002; Wu, 2002; Constantinides, 2004). Trustworthiness is frequently associated with other Web site attributes and with consumer e-shopping attitude (Ruyter et al., 2001). Trustworthiness that is associated with the safety of private consumer information and transaction security is a significant determinant of Web site attributes and an important factor in e-shopping behavior (Yang et al., 2003).

This study found that belief in interactivity was positively and significantly correlated with e-shopping attitude. The finding was supported by Coyle and Thorson (2001). According to Coyle and Thorson (2001), most online companies attempted to use the components of interactivity and vividness to improve consumers’ online shopping attitudes. Interactivity elements result in a positive customer experience and e-shopping attitude because they decrease the uncertainty of online transactions (Zeithaml et al., 2002). When there are problems with purchases, Web consumers expect a quick response to e-mail inquires and complaints, efficient reverse logistics, or offline or online helpdesks (Madu & Madu, 2002). For this reason, interactivity is an important component of a successful Web site and in consumers’ positive online shopping attitudes ( Constantinides, 2004).

**Hypothesis 3: Belief in Web Site Attributes and E-Shopping Intention**

Multiple regression was conducted to determine the best combination of belief in Web site content, belief in trustworthiness, belief in interactivity, and belief in marketing mix for predicting e-shopping intention. It was found that all constructs except for
belief in interactivity positively influenced e-shopping intention. Belief in marketing mix contributed most to predict e-shopping intention, belief in trustworthiness was the second, and belief in Web site content also contributed.

In the model of this study, consumers developed a positive e-shopping intention to the extent that they perceived a Web site to provide information about merchandise and promotion attractions, but their cognition or affect seemed unrelated to their perceptions' interactivity. This study showed that belief in interactivity appeared to be insignificant predictors of e-shopping intention. This may attribute to dense distribution of retailers within neighborhoods and the convenience of transportation in Taiwan; Taiwanese consumers may not be interested in interactivity, and prefer to buy products in shops with face-to-face contact. That may be one of the reasons why participants in this survey did not perceive interactivity as a predictor of e-shopping intention.

Surprisingly, belief in marketing mix was the second most important predictor of consumers' intentions toward online shopping. In fact, for marketing mix attributes, online consumers appeared to focus on information about merchandise. Previous research indicated that e-shopping consumers searched for information about price, promotion, and products rather than sensory attributes (Jang & Burns, 2004; Degeratu et al., 2000). This may be explained by the nature of electronic shopping, in which consumers are not able to touch a product. In this manner, consumers tend to depend on information provided by Web pages. This study therefore concludes that belief in marketing mix was the important predictor of e-shopping intention and was consistent with the findings of previous studies (e.g., Jang & Burns, 2004; Ward & Lee, 2000; Lynch & Ariely, 2000). In this study, consumers tended to search for a wide variety of
information about products, price, and promotion. This was also consistent with consumers’ reactions while shopping in physical retail stores.

In this study, belief in trustworthiness was an important predictor of e-shopping intention. This finding was consistent with that of Cai and June (2003), who suggested that in determining the trustworthiness of e-retailers, consumers are likely to evaluate privacy and security policies, in addition to e-retailers’ reputations. In fact, trustworthiness has emerged as an important factor in consumers’ decisions in home-based shopping (Kao, 2004). In the context of online shopping, consumers are likely to provide their credit card numbers and private information. As a result, before making a purchase, consumers are more careful and tend to scrutinize e-retailers’ credibility.

**Hypothesis 4: Belief in Web Site Attributes and E-Shopping Attitude on E-Shopping Intention**

This study used a multiple regression analysis to evaluate the best overall fit of belief in Web site content, belief in trustworthiness, belief in interactivity, and belief in marketing mix, and e-shopping attitude on e-shopping intention. This analysis resulted in a finding that three independent constructs (e-shopping attitude, belief in trustworthiness, and belief in marketing mix) were predictors of e-shopping intention. E-shopping attitude appeared to be the dominant predictor of e-shopping intention, and belief in marketing mix was the second predictor of e-shopping intention. Belief in trustworthiness played the third important predictor of e-shopping intention, but the effect was slightly weak. However, Web site content did not influence e-shopping intention. This may be a function of the state of Taiwan’s Web sites. In earlier period, Taiwanese
online consumers complained about poorly organized Web site content (Chen, 2003). As a result, e-retailers have improved their sites. If so, e-shopping consumers may be less concerned about these attributes while they make purchase online. This finding was not consistent with Cheong and Park (2005) who found the components of interactivity such as the clarity of ordering conditions and understandable terms of delivery could compensate for the deficiency of the customer’s physical contact and decrease consumer e-shopping uncertainties, and in turn increase willingness to make a purchase online.

**Hypothesis 5 Testing: Gender, Age, Length of Online Shopping Experience, Belief in Web Site Attribute, E-Shopping Attitude on E-Shopping Intention**

Multiple regression was conducted to determine the best combination of gender, age, length of online shopping experience, belief in four dimensions of Web site attributes, and e-shopping attitude for predicting e-shopping intention. Only belief in marketing mix and e-shopping attitude positively influenced e-shopping intention. E-shopping attitude contributed most to predict e-shopping intention, and belief in marketing mix was the second best predictor. This again reflected the importance of e-shopping attitude and belief in marketing mix in predicting e-shopping intention. The finding confirms the importance of marketing mix in developing consumers’ positive e-shopping intention, as suggested by Jang and Burns (2004).

Jang and Burns (2005) stated that information regarding price, promotion and product quality had an important role in consumers’ e-shopping intention. In 2001, the *McKinsey Quarterly* reported that 68% of online customers in North America were found to compare prices aggressively (as cited in Agarwal et al., 2001). Also, Wu (2000) suggested that marketing promotions were relevant to consumers’ intention toward online
consumption. Furthermore, product features, size, presentation, description, availability, and offerings usually influence consumers’ experience with and intention toward shopping on a Web site (Jang & Burns, 2004).

According to the finding, length of online shopping experience did not necessarily predict e-shopping intention. This finding was not supported by Vijayasarathy and Jones (2000), who found that shopping experience and consumer risk influenced online purchase intention. Also, this finding was not consistent with Liebermann and Stashevsky (2002), who indicated that one potential source influencing consumer decisions and attitudes was their individual demographic traits. However, this finding that socio-demographic characteristics did not have an influential effect on e-shopping intention was consistent with Sathye (1999), who found that demographic effects on purchase intention in the internet were weak.

**Conclusion**

This study investigated whether e-shopping intention could be explained by e-shopping attitude and belief in Web site attributes. The value of this study is the empirical validation of the relationship between belief in Web site attributes and e-shopping intention. Also, this study found that belief in all of the four dimensions of Web site attributes significantly influenced e-shopping attitude. The study verified the effect of belief in Web site attributes on e-shopping attitude, testing the TRA model that an individual’s belief toward the object’s attributes is one component of his/her attitude. Applying the TRA model to online shopping context, this study found that: (1) e-shopping attitude was a predictor of e-shopping intention and had a positive and significant effect on e-shopping intention; (2) belief in Web site content, belief in
trustworthiness, and belief in interactivity were antecedents of e-shopping attitude, but belief in marketing mix did not influence e-shopping attitude; (3) belief in marketing mix played an important role in e-shopping intention.

**Practical Implications**

1. Based on the findings of this study, belief in marketing mix and belief in trustworthiness appeared to be important predictors of e-shopping intention. This indicates that one way to increase consumers’ intention toward e-shopping is by offering satisfactory information about merchandise and by building customer trust in the Web sites. Therefore, it is necessary to emphasize marketing mix and trustworthiness as the important dimensions of Web site attributes.

2. Regarding belief in marketing mix attributes and its positive relationship to consumer e-shopping intention, online retailers should pay attention to providing useful information about merchandise, prices, and promotional activities on their Web sites. Such information will persuade consumers to purchase products that they have never physically touched or seen. In fact, e-shoppers’ price sensitivity can be mitigated by providing a complete product description (Shankar et al., 1999). E-retailers should be encouraged to provide more product information (e.g., functions, material, and detail structure) to increase consumers’ willingness to purchase. In this study, online consumers were shown to be likely to expect more information related to price and promotion before making their purchase decisions. Online retailers should use consumer profiles and sales tracks...
to provide consumers a variety of information about merchandise. Furthermore, the product presentation, product descriptions, price information of products, and promotional program may result in customers’ attitudes that e-shopping is beneficial for them (Jang & Burns, 2004).

3. In this study, belief in trustworthiness was found to be an important and positive predictor of e-shopping intention and to be positively correlated with e-shopping attitude. Personal information is a critical asset for e-retailers. Nevertheless, privacy confidentiality has been a crucial concern among Taiwanese online consumers. They fear that their personal information may be revealed on the Internet. For this reason, retailers should emphasize transaction security and privacy confidentiality, and build excellent reputations for their firms. To earn consumers’ trust, e-retailers should provide consumers a guarantee that their personal information will not be revealed or misused; they should also disclose their privacy polices. The company’s guarantee can be presented on the bottom of its Web pages. Moreover, e-retailers should adopt advanced security technologies and enforce strict security policies. Furthermore, in order to convince Web visitors of online transaction security, guarantees of security such as independent report verification can be presented on their security mechanisms.

4. In this study model, although belief in Web site content and belief in interactivity were found to be insignificant in predicting e-shopping intention, they were found to be antecedents of e-shopping attitude and
were positively correlated with e-shopping intention. Web site content attribute is a crucial means to offer ease of use and usefulness to consumers who are considering online transactions (Constantinides, 2004). Online retailers should check whether the structures of Web site catalogs are logical and easy to follow, whether the Web site is attractive, and whether the transactional features (e.g., terms of payment, warranty, and return policies) are understandable. Also, fast Web site speed, perceived playfulness, and site accessibility, all of which are crucial elements of Web site content, need attention to draw customers to e-shopping. Web site developers should consider the following characteristics of Web sites to develop strategies that will generate more Web purchases. According to World Journal (2005), the 100 best Webs rated by Yahoo navigators had fast download speed, few pictures, few multimedia offerings, no frames, highly contrast color of words printed against a white background, use of blue-color link to provide access to other web sites, and no picture background.

5. Interactivity is a feature that e-shopping consumers can obtain from e-bookstores, just as they can receive service from a clerk in a bricks and mortar bookstore. In different shopping contexts, consumers and retailers communicate in different ways. In the physical store, consumers interact with sales associates face-to-face. Online consumers obtain services via choice helpers, machine interactivity (e.g., customer support) or personal interactivity (e.g., call center) that are provided by e-retailers. Interactivity
strategies should show empathy for consumers. The texts should emphasize visitors’ welfare, visitors’ expectations, and visitors’ values. Web site designers and retailers should keep in mind that short response time, friendly design interface, system steadability, accuracy of information, time efficiency, and information about offline service, are conducive to a more positive shopping attitude, and subsequently more online sales.

6. In this study, e-shopping attitude played a mediating role in the relationship between belief in Web site attributes and e-shopping intention, and was important in determining consumer e-shopping intention. Examining the attributes of the Web sites has already been seen as a powerful medium for marketing communication, the findings of this study indicated how people develop their positive e-shopping attitudes. Therefore, it is evident that the importance of the mediator (e-shopping attitude) deserves sustained investigations in online shopping studies. In order to enhance consumers’ e-shopping attitudes and in turn attract their e-shopping intentions, retailers must avoid delivering stress to consumers, e.g., the hassle of returning products, inconvenience in filling orders, inconsistencies in the product items, difficulty in accessing the Web sites, and long delays in delivery. The delivery methods also determine consumer e-shopping attitudes (Wu, 2003). Online vendors should provide a wide selection of delivery methods to consumers, e.g., mailing to home, taking at store, or sending to home by company’s staffs. Also, according to Wu (2003), effectiveness
and modern features which retailers provide to them are important tools for strengthening consumers’ positive e-shopping attitudes.

**Limitations**

1. University students should know enough about the Internet and online shopping to reply to questions about their belief in Web site attributes, e-shopping attitudes, and e-shopping intentions. Students are generally representative of the population as a whole. Nevertheless, generalization of the findings of this research to all Taiwanese e-bookstore consumers as a whole should be done with caution.

2. The factor loading of this study was compatible with the proposed model, but there was somewhat inadequate convergent validity. According to Bagozzi and Yi (1988), 0.7 of factor loading coefficient indicates acceptable item convergence on intended constructs. In this study, not all coefficients of the factor loading met the recommended level of 0.7.

3. Since this study only investigated consumption behavior in e-bookstores, its limited generalizability to other online marketplaces should be explained.

4. Because the sample was selected in Taiwan, generalizing the analytical results of this study to other countries is difficult.

5. E-shopping intention might only serve as an indicator of actual consumption behavior.

**Recommendations for Future Research**

1. A confirmatory factor analysis is suggested to clarify the factor structure of Web site attributes.
2. It is necessary for future research to use more diversified random samples to verify the findings of this present study.

3. Future research can use a structural equation modeling technique to measure the causal relationships among belief in Web site attributes, e-shopping attitude and e-shopping intention.

4. A larger cross section of e-shopping consumers with heterogeneous characteristics should verify the finding of this present study. This would result in a more realistic picture of online shopping and support the external validity.

5. Future researchers need to measure factors in predicting consumers’ e-shopping intentions in the context of cultural and cross-national differences.

6. Future research can explore the issues that were addressed in this research in the context of business to business e-commerce.

7. This study did not consider subjective norms which were suggested by the TRA model as an antecedent of individual intention toward objects. Future research should include subjective norms to investigate consumer e-shopping intentions.

8. In this study, belief in trustworthiness was an important predictor of e-shopping intention. This study measured trustworthiness by examining transaction security, privacy confidentiality, and retailer’s reputation. It is suggested that belief in transaction security can be distinguished from
privacy confidentiality, something to be measured in future research, given the current media emphasis on computer and network security.

9. Prior empirical studies agreed that e-shopping consumers were most concerned about security, trust, and privacy. However, this study found that this concern was overshadowed by concerns of marketing mix. Therefore, in order to track changes in consumer perceptions about the Web sites and online shopping, it will be crucial for additional studies to be conducted regularly over some time. As a result, both retailers and researchers can remain informed about what the most salient and timely issues are.

10. To investigate the relationships between belief of Web site attributes and e-shopping intention, future studies should employ a variety research methodologies such as longitudinal studies. A longitudinal study can monitor perceived performance of Web site attributes and the evolution of consumer e-shopping attitudes and e-shopping intentions.

11. Future research should measure actual e-shopping behavior instead of simply e-shopping intention, or measure both e-shopping intention and actual e-shopping behavior. Based on prior studies, the relationship between e-shopping behavior and e-shopping intention has been demonstrated to be strong. Nevertheless, future research may clarify the length of the time lag between formation of e-shopping intention and e-shopping purchase.
12. The instrument of this study used to measure Web site attributes was modified from existing instruments. More elaborate measures can be developed by future researchers to generate richer coverage of Web site attributes.

13. Future research can replicate this study to investigate consumers’ e-shopping intentions in different cultural contexts for comparative purposes. The possible meaning or the relative importance of Web site attributes on e-shopping attitude and e-shopping intention may differ from culture to culture.

14. It will be interesting to explore how consumers’ e-shopping intentions are associated with Web site attributes for different product categories. Consumers’ e-shopping beliefs in Web site attributes are context-based, and accordingly their specific effects on their e-shopping intentions may be based on specific services and products. Future research should apply this study framework to the effects of Web site attributes on purchase intention in other types of e-stores.
REFERENCES


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BIOGRAPHY


APPENDIXES
Appendix A

Authorization for Informed Consent
DIRECTIONS FOR THE PARTICIPANT:

You are being asked to participate in my research study. Please read this carefully. This form provides you with information about the study. The Principal Investigator (Mei-Li Chou) will answer all of your questions. Ask questions about anything you don’t understand before deciding whether or not to participate. You are free to ask questions at any time before, during, or after your participation in this study. Your participation is entirely voluntary and you can refuse to participate without penalty or loss of benefits to which you are otherwise entitled.

PURPOSE OF THIS RESEARCH STUDY: This study aims at investigating consumers’ belief in Web site attributes, e-shopping attitudes and e-shopping intention based on their experience buying books online. There will be approximately 360 number of people participating in this study. Participants represent that they are at least 18 years of age, and that they do not have medical problems or language or educational barriers that precludes understanding of explanations contained in this authorization for voluntary consent. Therefore, the data about the subjects in the sample of this study must meet all of these criteria: (1) the subject must be an adult (older than 18) who lives in Taiwan; (2) the subject must have had the experience of buying a book online; (3) and, the subject must be an incumbent student at Far East College of Taiwan.

PROCEDURES: This is a non-experimental study. You will only need to complete a questionnaire. The survey will be distributed by the investigator in your classroom after regular classes are dismissed. The investigator will leave the classroom when you reply to the questionnaires. However, the investigator will stay in close proximity to answer arising questions. When finished, please drop the survey inside the box placed by the exit door. If you have any questions, please feel free to contact the researcher who will be in close proximity outside the classroom. It will take 10-15 minutes for you to complete this survey. By filling out and submitting the questionnaire you are given your voluntary consent to participate in this study.
POSSIBLE RISKS OR DISCOMFORT: This study involves minimal risk. You may find that some of the questions are sensitive in nature. In addition, participation in this study requires a minimal amount of your time and effort.

POSSIBLE BENEFITS: There may be no direct benefit to you in participating in this research. But knowledge may be gained which may help e-retailers to form their e-commerce strategies which may deliver the values to consumers like you in the future.

FINANCIAL CONSIDERATIONS: There is no financial compensation for your participation in this research. There are no costs to you as a result of your participation in this study.

ANONYMITY: The participation in this survey is anonymous. The survey does not ask you to fill out any identifying information, such as names, national ID number, or student ID. You will not be identified and data will be reported as “group” responses. Participation in this survey is voluntary and return of the completed question will constitute your informed consent to participate. After distributing the surveys, the investigator will leave the room and upon completion the participant will drop the questionnaire in a box placed in the classroom.

RIGHT TO WITHDRAW: You are free to choose whether or not to participate in this study. There will be no penalty or loss of benefits to which you are otherwise entitled if you choose not to participate.

CONTACTS FOR QUESTIONS/ACCESS TO CONSENT FORM: Any further questions you have about this study or your participation in it, either now or any time in the future, will be answered by Mei-Li Chou who may be reached at [redacted] and Dr. Jeanette Francis, faculty advisor, who may be reached at [redacted]. For any questions regarding your rights as a research subject, you may call Dr. Farideh Farazmand, Chair of the Lynn University Institutional Review Board for the Protection of Human Subjects, at [redacted]. If any problems arise as a result of your participation in this study, please call the Principal Investigator (Mei-Li Chou) and the faculty advisor (Dr. Jeanette Francis) immediately. A copy of this consent form will be given to you.

INVESTIGATOR’S AFFIDAVIT: I have carefully explained to the subject the nature of the above project. The person participating has represented to me that he/she is at least 18 years of age, and that he/she does not have a medical problem or language or educational barrier that precludes his/her understanding of my explanation. I hereby certify that to the best of my knowledge the person who is signing this consent form understands clearly the nature, demands, benefits, and risks involved in his/her participation and his/her signature is legally valid.

Signature of Investigator

Date of IRB Approval: 01/13/2006 7:7.

Institutional Review Board for the Protection of Human Subjects
Lynn University
3601 N. Military Trail Boca Raton, Florida 33431
Appendix B

Authorization for Informed Consent

(Chinese Version)
Lynn University

本文件只適用於提供自願參與的同意書

研究計畫名稱:
研究計畫 IRB 號碼: 2006-001 Lynn University 3601 N. Military Trail, Boca Raton, Florida, FL 33431

本人 周美利 是美國 Lynn University 博士班學生. 目前正在研究全球性之領導統御之議題，
我的主修是企業與組織管理，此一學術研究是我教育學習的一個重要階段，真誠的邀請您
參與這份研究計畫。

參與者須知:
您被邀請參與这份研究計畫，以下內容將提供您關於這份研究的相關資料，請仔細閱讀。
主要研究員周美利將回答您所有問題，若有任何疑問，請務必在決定參與前提出。您可以
在參與此學術研究之前後或進行當中自由發問。您的參與是完全自願性的，您可以拒絕參
與而不用擔心任何權益上的損失或懲罰。

研究目的: 這份研究是有關於台灣地區消費者對網絡購物意見之探討，受訪者必須沒有藥品麻煩，語言或教育的障礙去瞭解自願授權書內的說明。

預估將有三百六十名消費者參與此次研究，此次研究對象為臺灣地區遠東技術學院的學
生及研究生。受訪者必須為自願並且年滿十八歲以上之人員，而且有在網路書店買書的
經驗。

程序: 這份問卷將分為兩部分，第一部份是填寫有關您的一些基本資料，第二部份您將
回答一份有二十五個問題的問卷關於您的網站特色看法，網絡購物態度，以及網路購物意
願。整個問卷大概需要十到十五分鐘即可完成。如果需要的話，研究員可以協助您完成本
問卷調查。這份問卷將採匿名方式進行，您的身分將無法辨認。

可能性之風險或不適感: 此研究參與極微小之風險，但您可能會覺得有些問題比較敏感。
此外，參與此份問卷調查將佔用您少量的時間和心力。

可能性之利益: 參與此次研究，您將無法直接受益，但研究結果所獲得的知識將幫助網路
商及網路設計者規劃更好的服務，讓消費者能間接受益。

財務考量: 參與此次研究您將不會獲得金錢上的報酬，但也不會造成您任何損

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匿名性: 本问卷採匿名方式進行，您的身分無法辨認，所有資料將被整理。這份問卷將不會收集任何足以辨認身份之個人資料（例如：姓名、身分證字號等等）。參加本份研究所產生之資料將不對外公開。問卷的填寫及回收將無法單獨識別參與者。問卷內容之資料將供未來研究使用，您的個人隱私於所有發表刊物上將受到同等的保護。

撤銷之權利: 您可以自由選擇是否參與此學術研究，若您選擇不參與，將不會導致任何懲罰或權利的損失。

相關問題的聯絡人: 任何進一步與此學術研究相關的問題，將由主要研究員周美利（聯絡電話：）或此研究之指導教授 Dr. Francis (聯絡電話：) 回答。任何關於此研究之受訪者權益問題，您亦可連絡 Lynn University IRB 主席 Dr. Freedman (聯絡電話：)。若您因參與此研究而導致任何困擾，請立即通知主要研究員周美利以及研究指導教授 Dr. Francis。此外，您將收到此一同意書之副本。

研究員聲明: 我已經仔細向受訪者說明此次的研究計畫，我也確認過受訪者的年紀年滿十八歲，並且沒有任何身體上的問題與語言或教育的障礙，來影響受訪者理解我的說明。我藉此保證在我們的協議之下，參與者已清楚瞭解此一研究計畫以及所有參與過程所牽涉之利益及風險。

研究員的簽名

IRB 批准日期: 01/13/2006

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Appendix C

Survey Instrument
Survey Questionnaire

PART I.
Please tell us about yourself.
1. Circle your gender: Male     Female

2. Circle the age group to which you belong.
   18-19     20-29     30-39     40-49     Over 49

3. How long have you been using the Internet to purchase products?
   Less than 0.5 year     0.5-1 years     2-3 years     3-5 years
   More than 5 years

PART II.
Based on your most recent e-bookstore shopping experience, please circle your level of agreement for each item, using a scale of 1=strongly disagree to 5= strongly agree

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Strongly Agree</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>The organization of this Web site (e.g., site map, explanation of button, and directory) was easy to follow</td>
<td></td>
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<tr>
<td>2</td>
<td>This Web site design (e.g., site layout, colors, style, or atmosphere) was attractive.</td>
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<tr>
<td>3</td>
<td>The contents (e.g., indicator of path or destination nodes) in this Web site were concise.</td>
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<tr>
<td>4</td>
<td>All of the terms and conditions (e.g., payment, warranty, and return policies) on this Web site were easy to understand.</td>
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</tr>
<tr>
<td>5</td>
<td>This Web site offered multiple ordering options through the phone or via email.</td>
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<tr>
<td>6</td>
<td>The speed of this Web site was adequate for me.</td>
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<tr>
<td>7</td>
<td>When interacting with this Web site, the time seemed to go by quickly.</td>
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<tr>
<td>8</td>
<td>The advertising of this Web site linked to other Web sites.</td>
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<tr>
<td>9</td>
<td>Payment transaction information in this Web site was securely processed.</td>
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</tr>
<tr>
<td>10</td>
<td>Personal information provided to this Web site was kept confidential.</td>
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<tr>
<td>11</td>
<td>The length of time the online retailer has been in the online business was shown on this Web site.</td>
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</tr>
<tr>
<td>12</td>
<td>I could get to the bulletin boards, chat rooms or shopping help on this Web site for more information.</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
13. This Web site responded to my inquiry promptly.

14. The billing process was accurately handled.

15. The quality of the book I received was exactly as I had expected.

16. If I wanted to, I could have easily contacted a customer service representative over the telephone.

17. The “Frequently Asked Questions” page of this Web site addressed most of my online shopping questions.

18. Offline help desk information was shown on this Web site.

19. The book presentation of this Web site was appealing (e.g., showing the cover, enlarging the image, or showing pages inside the book).

20. Book descriptions (e.g., number of pages, information about the author, publication date, publisher, table of contents, readers’ reviews, and summary, etc.) were provided by this Web site.

21. Book price information (e.g., category by price range, free shipping promotion, or price comparison between new and used books) was provided by this Web site.

22. Sales promotion or incentive programs were usually offered by this Web site.

23. Purchasing books on this Web site was a good decision.

24. Purchasing books on this Web site was beneficial to me (e.g., convenience, hassle-free, and ease of access to information, etc.).

25. I would visit this Web site again for shopping within the next two months.

26. I would buy books again from this Web site within the next two months.

Appendix D

Survey Instrument

(Chinese Version)
您好：

這份問卷目的在探討您對網站特色看法、網站購物態度與網站購物意願。

第一部分

請挑選最能描述您個人資料特質的項目，且在□內打勾。

性別：□ 男 □ 女

年齡：□ 18~19 歲 □ 20~29 歲 □ 30~39 歲 □ 40~49 歲 □ 49 歲以上

你上網購物歷史：□ 0.5 年以下 □ 0.5~1 年 □ 1~3 年 □ 3~5 年 □ 5 年以上
第二部分

請根據你最後一次上網買書的網站，回答下列問題，請在適當的□內打勾

<table>
<thead>
<tr>
<th></th>
<th>完全不同意</th>
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<th></th>
<th></th>
<th>完全同意</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1.這個網站的結構(例如:網站地圖，按鈕解釋，以及目錄)很容易理解和使用。</td>
<td>♡</td>
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</tr>
<tr>
<td>2.這個網站的設計(例如:網站陳列，色彩，風格以及氣氛)是吸引人的。</td>
<td>♡</td>
<td></td>
<td>♡</td>
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<td>♡</td>
</tr>
<tr>
<td>3.這個網站的內容(例如:路徑指示或目標連結)是精確的。</td>
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<td>♡</td>
</tr>
<tr>
<td>4.這個網站的條款(例如:付款，保障，以及退換條款)容易被理解。</td>
<td>♡</td>
<td></td>
<td>♡</td>
<td></td>
<td>♡</td>
</tr>
<tr>
<td>5.這個網站提供多種定貨方式，例如:用電話或用電子郵件。</td>
<td>♡</td>
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<td>♡</td>
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<td>♡</td>
</tr>
<tr>
<td>6.這個網站運作的速度對我而言是足夠的。</td>
<td>♡</td>
<td></td>
<td>♡</td>
<td></td>
<td>♡</td>
</tr>
<tr>
<td>7.當我使用此網站，我感覺時間過得很快。</td>
<td>♡</td>
<td></td>
<td>♡</td>
<td></td>
<td>♡</td>
</tr>
<tr>
<td>8.這個網站的廣告連結其他網站。</td>
<td>♡</td>
<td></td>
<td>♡</td>
<td></td>
<td>♡</td>
</tr>
<tr>
<td>9.這個網站的付款轉帳是安全地被執行。</td>
<td>♡</td>
<td></td>
<td>♡</td>
<td></td>
<td>♡</td>
</tr>
<tr>
<td>10.這個網站機密地保留私人資料。</td>
<td>♡</td>
<td></td>
<td>♡</td>
<td></td>
<td>♡</td>
</tr>
<tr>
<td>11.這個網站的經營者在網站生意的時間歷史有展現在這個網站上。</td>
<td>♡</td>
<td></td>
<td>♡</td>
<td></td>
<td>♡</td>
</tr>
<tr>
<td>12.我從這個網站的公告欄，聊天室或購物協助處得到多一點資訊。</td>
<td>♡</td>
<td></td>
<td>♡</td>
<td></td>
<td>♡</td>
</tr>
<tr>
<td>13.這個網站會快速地回答我的問題。</td>
<td>♡</td>
<td></td>
<td>♡</td>
<td></td>
<td>♡</td>
</tr>
<tr>
<td>14.這個網站的帳單處理過程有精確地執行。</td>
<td>♡</td>
<td></td>
<td>♡</td>
<td></td>
<td>♡</td>
</tr>
<tr>
<td>15.我收到的書本的數量確實跟期待的是一樣的。</td>
<td>♡</td>
<td></td>
<td>♡</td>
<td></td>
<td>♡</td>
</tr>
<tr>
<td>16.我能夠方便地用電話連絡到這個網站的客戶服務代表。</td>
<td>♡</td>
<td></td>
<td>♡</td>
<td></td>
<td>♡</td>
</tr>
<tr>
<td>17.這個網站的“常被詢問的問題”網頁中有提到了大部份我想問的問題。</td>
<td>♡</td>
<td></td>
<td>♡</td>
<td></td>
<td>♡</td>
</tr>
<tr>
<td>18.這個網站有顯現網外的協助資訊。</td>
<td>♡</td>
<td></td>
<td>♡</td>
<td></td>
<td>♡</td>
</tr>
<tr>
<td>序号</td>
<td>陈述内容</td>
<td>完全不同意</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>19</td>
<td>這個網站的書本呈現（例如:封面顯示, 影像放大)是動人的。</td>
<td>□</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>這個網站提供書本描述，例如:頁數，作者資料，出版日期，出版商，讀者回顧以及書本大綱。</td>
<td>□</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>這個網站提供書籍價格資訊，例如:依價格分類，免費郵寄，新舊書價格比較。</td>
<td>□</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>這個網站通常有提供拍賣促銷或獎勵活動。</td>
<td>□</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>在這個網站購買書本是個好決定。</td>
<td>□</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>在這個網站購買書本是對我有益處，例如:方便，容易獲得資訊。</td>
<td>□</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>以後兩個月內，我會再去這個網站逛逛。</td>
<td>□</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>以後兩個月內，我會再去這個網站買書。</td>
<td>□</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appendix E

IRB Approval
Principal Investigator: Mei-Li Chou
Project Title: Consumer Belief in Web Site Attributes and their E-Shopping Intention to Return.

IRB Project Number: 2006-001
APPLICATION AND PROTOCOL FOR REVIEW OF RESEARCH INVOLVING HUMAN SUBJECTS OF A NEW PROJECT: Request for Exempt Status _ Expedited Review _
Convened Full-Board X

IRB ACTION by the CONVENCED FULL BOARD
Date of IRB Review of application and Research Protocol 01/13/06
IRB ACTION: Approved X  Approved w/provision(s) _ Not Approved_ Other_

COMMENTS
Consent Required: No _ Yes X  Not Applicable_ Written X  Signed _
Consent forms must bear the research protocol expiration date of 01/13/07

Application to Continue/Renew including an update consent, is due:
(1) For a Convened Full-Board Review, two month prior to the due date for renewal _X
(2) For an Expedited IRB Review, one month prior to the due date for renewal _
(3) For review of research with exempt status, one month prior to the due date for renewal _

Name of IRB Chair (Print) Farideh Farazmnd
Signature of IRB Chair _ Date: 01/13/06
Cc: Dr. Francis

Institutional Review Board for the Protection of Human Subjects
Lynn University
3601 N. Military Trail Boca Raton, Florida 33431

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Appendix F

Permission Letter from the Instrument Developers
From: Minjoon Jun
Sent: Fri 10/21/2005 5:57 PM
To: Mei-Li Chou
Cc:
Subject: Re: the permission to use your scale items

Dear Mei-Li Chou,

Please feel free to adapt scale items from the article for your dissertation.

Best regards,
Minjoon

----- Original Message ----- 
From: "Mei-Li Chou"
To:
Sent: Friday, October 21, 2005 03:13 PM
Subject: the permission of using your scale items

Dr. Jun and Dr. Cai,

I am a doctoral student at Lynn University doing my dissertation related to Web site attributes. Your article "Internet users perceptions of online service quality: A comparison of online buyers and information searchers" (2003) has been very helpful to me. At this point I am thinking of using some of your scale items from that article. May I get your permission to use them in my dissertation? If I do, what form of permission request should I submit to you, formal letter or e-mail? I am eager to acquiring your responses or suggestions. Thank you very much!

Best Regards,
Mei-Li Chou
Lynn University doctoral candidate
From: Burns, Leslie
Sent: Mon 10/17/2005 5:50 PM
To: Mei-Li Chou
Cc:
Subject: Re: Requesting permission to use your scale items

Dear Mei-Li,

I am so pleased that you have found the article helpful. You have my permission to use scale items from the article in your own research. However, I would ask that you cite our research as the source of these scale items and acknowledge our work in your reference list for your dissertation as well as in any subsequent articles from your research.

Leslie Burns

Leslie Davis Burns, Ph.D.
Professor and Chair
Design and Human Environment
224 Milam Hall
Oregon State University
Corvallis, OR 97331
Ph: 541-737-2021

----- Original Message ----- 
From: "Mei-Li Chou"
To: 
Sent: Sunday, October 16, 2005 9:28 PM
Subject: Requesting permission to use your scale items

Dr. Burns and Dr. Jang,

I am a doctoral student at Lynn University doing my dissertation related to Web site attributes. Your article “Components of apparel retailing Web sites” (2004) has been very helpful to me. At this point I am thinking of using some of your scale items from that article to measure online quality. May I get your permission to use them in my dissertation? If I do, what form of permission request should I submit to you, formal letter or e-mail? I am eager to acquiring your responses or suggestions. Thank you very much!

Best Regards,
Mei-Li Chou
Lynn University doctoral candidate
Dear Mei-Li Chou,

You have my permission to use the scale items provided an acknowledgement/reference is made as to the source.

Thanks

Chanaka

----- Original Message ----- 
From: "Mei-Li Chou" <[email protected]>
To: [email protected]
Sent: Friday, October 21, 2005 4:13 AM
Subject: about the permission of using your scale items

Dear Dr. Jayawardhena,

I am a doctoral student at Lynn University doing my dissertation related to online shopping. Your article “Personal values’ influence on e-shopping attitude and behaviour” (2004) has been very helpful to me. At this point I am thinking of using some of your scale items from that article to measure consumer behavior. May I get your permission to use them in my dissertation? If I do, what form of permission request should I submit to you, formal letter or e-mail? I am eager to acquiring your responses or suggestions. Thank you very much!

Best Regards,
Mei-Li Chou
Lynn University doctoral candidate
Appendix G

Permission Letter from Far East College
Mei-Li Chou,

We permit you to distribute the questionnaires to conduct your survey in Far East College.

Chih Hua Liu

Human Affair Director
Far East College, Tainan, Taiwan
No. 49 Chung Hua Rd, His-Shih, Tainan Country 744
Taiwan, R.O.C
Tel:  
www.fec.edu.tw

----- Original Message ----- 
From: “Mei-Li Chou”
Sent: Monday, November 07, 2005 9:56 AM
Subject: asking for permission to conduct a survey on a sample of students at your school

Director Liou,

I taught at your school, and at present I am a Ph.D candidate of the Business Department of Lynn University in the USA. The purpose of my research is measuring factors in predicting consumer e-shopping intention in Taiwan. I am eager to obtain your permission to conduct my survey with questionnaires on the sample of undergraduate and graduate students who are incumbent students in your school. Thank you very much!

Best Regards,
Mei-Li Chou
Ph.D Candidate, Lynn University