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ABSTRACT

Effect of E-service Quality on Customer Online Repurchase Intentions

In the early years of online retailing, having an online presence and low prices were believed to be key drivers of success. More recently, electronic service quality has become essential as an online marketing strategy. Online stores provide higher service quality to create online customer loyalty, improve customer satisfaction, and keep a lasting competitive advantage.

According to the literature review, service quality is an important instrument of developing a competitive advantage in e-business. It is one of the most critical factors for maintaining long-term relationships with customers, building customer loyalty, and encouraging repeat purchases (Li & Suomi, 2007). Therefore, service quality has become a significant factor in determining the success or failure of an online business by influencing online customer shopping experiences and has a greatly effects both online customer satisfaction and customer loyalty. However, most past studies focused on the relationship between e-service quality, e-satisfaction and online purchase intentions. No empirical studies have explored the relationship between e-service quality and online repurchase intentions. In other words, this research investigated the potential for future online purchases by the customers significantly contributing to the research knowledge base.

The purpose of this study was to explore and analyze the effect of e-service quality on customer intention to repurchase online. The study employed the e-commerce customer satisfaction index (ECCSI) model and the NetQual model to examine potential relationships and effects of several variables on online repurchase behavior. A quantitative, non-experimental, explanatory, and correlational research design was used to answer four research questions and test nine hypotheses. The sample consists of daytime undergraduate students at a university in Taiwan. The data was analyzed using statistical software to conduct descriptive analysis, reliability analysis, factor analysis, simple regression, and multiple regression.

In this study, the finding indicated that two variables (information and ease-of-use) of e-service quality dimension had positively influenced online repurchase intentions. Meanwhile, E-service quality also had a positively significant effect on customer satisfaction and loyalty. Online customer satisfaction and loyalty had a positively significant effect on online repurchase intentions. Finally, the results indicated that a greater e-service quality will increase online customer satisfaction, build customer loyalty, and encourage online repurchase intentions. Thus, the online retailer should be build long-term relationship with their customers through e- service quality to improve customer satisfaction and loyalty and enhance customer repurchase intentions. Lastly, the limitations and recommendation for future research are included.

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CHAPTER I

INTRODUCTION

Introduction and Background to the problem

As online business has become the newest marketing channel, e-commerce is growing fast, and online retailing companies are in a race to attract and retain customers in this highly competitive electronic market (Li & Suomi, 2007). Hence, the issue of retaining customers has become a challenge for online retailers. Today, both worldwide online retail sales and Internet users continue to increase steadily. Forrester Forecast (2011) points out that U.S. online retail sales are estimated to grow from \$155 billion in 2009 to \$250 billion in 2014. Consequently, the compound annual growth rate will increase at a 10 percent rate through 2014. In Western Europe, online retail sales are estimated to grow from \$93 billion in 2009 to \$156 billion in 2014. Additionally, the growth rate of online retail sales will increase at a rate of 11 percent (Forrester Forecast, 2011). Furthermore, a similar situation is occurring in Asia; in Taiwan, for example, the Report of Market Intelligence & Consulting Institute (MIC, 2010) indicates that the e-commerce market will generate total sales of NT\$358.3 billion (57.3 percent for Business to Consumer and 42.7 percent for Consumer to Consumer) in 2010. Therefore, the growth rate is 21.5 percent as compared to the 2009 rate (Retail in Asia, 2011).

Similarly, the growth rate of worldwide Internet users has increased. According

to InternetWorldStats.com, the worldwide number of Internet users surpassed 2,095,006,005 in 2011 (Miniwatts Marketing Group, 2011). Compared to the year 2000 Internet usage statistics, the growth rate of Internet users significantly was increased by 480.4 percent. Consequently, with the steady growth of online retail sales and online users, most traditional retailers recognize that the Internet has become an efficient and powerful marketing channel that must be taken into consideration. If online stores want to continue to make profits by retaining existing online customers and attracting new ones, it is essential to comprehend what motivates customer satisfaction and customer preference.

The e-commerce research results indicate that service quality influences customer satisfaction and influences customer purchase behaviors (Griffith & Krampf, 1998; Liu & Arnrtt, 2000; Zeithaml, Parasuraman, & Malhotra, 2000; Li & Suomi, 2007). The cited research indicated that “e-service plays a critical role in e-marketing, which wins customers for enterprises through the Internet.” (p.331). The researchers noted that “companies providing e-services to customers aim at delivering high value to consumers building customer loyalty, encouraging repeat purchases, and maintaining long-term relationships with customers.” (p.331). Hence, researchers recommended that companies increase their competitive capabilities by offering high quality e-service to customers (Oliveria, Roth, & Gilland, 2002; Li & Suomi, 2007). Hess, Ganesan, and

Klein (2003) indicated that customer satisfaction with service recovery response is significant and positively related to customer repurchase intentions. Moreover, the marketing literature confirms that customer satisfaction is one of the primary factors of customer repurchase intentions as verified in different kinds of industrial and social contexts (Oliver, 1980; Churchill & Suprenant, 1982; Bearden & Teel, 1983; Oliver & DeSarbo, 1988; Rust & Zahorik, 1993; Rust, Zahorik, & Keiningham, 1995; Hallowell, 1996; Jones & Suh, 2000). In a study by Khalifa and Liu (2007) it is reported that once an online customer is satisfied with an Internet store, the repurchase intentions of customers will increase. Customer loyalty was found to be one of the critical indicators for repurchase intentions (Lam, Shankar, Erramilli, & Murthy, 2004).

Past research studies confirmed that e-service quality, online customer satisfaction, and online customer loyalty strongly affect online customer purchase behavior. However, few research investigations determined the relationship among e-service quality, e-satisfaction, e-loyalty, and online repurchase intentions.

In fact, retaining customer is an important marketing strategy for an online business. According to Gupta and Kim (2007), retaining repeat customers are five times more profitable than attaining new customers. Their findings indicated that "Internet vendors have to retain customers to reap the benefits of repeat sales, but interestingly, more than 50 percent of repeat customers seldom complete a third purchase" (p.127).

However, there is evidence showing that fewer than 5 percent of online customers actually make a purchase during a single visit to a site and only a very small number of online users (about 1 percent) return to make additional purchases (<http://www.doubleclick.com>). Reichheld and Schdfter (2000) also pointed out that more than 50 percent of repeat customers seldom complete a third purchase at online retailing stores. Furthermore, research presented by the E-TAILING Group found that only 3 percent of online customers who visited an Internet store, completed a purchase. An excess of 47 percent of online customer withdrew their order before actually checking out to complete an order and make payment (E-Tailing, 2004). Therefore, for the online marketing industry, strategic planning strategies for retaining customers have become a major challenge (Aveiro, 2007).

In previous studies, between 1999 and 2010, most research focused on the relationship between e-service quality and online purchase intentions or the relationship between e-satisfaction and online purchase intentions. There are no empirical studies that explored the integrated model investigating the relationship between e-service quality and online repurchase intentions. Therefore, the purpose of this quantitative study was to explore and analyze the effect of e-service quality with mediating variables of e-satisfaction and e-loyalty on online customer repurchase intentions and to identify areas of future scholarly inquiry.

This study employed the NETQUAL model and the E-commerce customer satisfaction index (ECCSI) model to examine potential relationships among electronic service quality, online customer satisfaction, online customer loyalty, online customer repurchase intentions and the relationship among the variables. The researcher developed four research questions and nine hypotheses to examine the relationship between e-service quality, e-satisfaction, e-loyalty and consumer online repurchase behavior. A quantitative, non-experimental, explanatory, and correlational research design was selected to test hypotheses and answer research questions. The critical factors included: e-service quality, e-satisfaction, e-loyalty, and online repurchase intentions. E-service quality was measured by the NetQual scale using five dimensions: Information, Ease-of-use, Site design, Reliability, and Security/Privacy. E-satisfaction was measured by an e-satisfaction scale using the six items. E-loyalty was measured by an e-loyalty intentions scale using seven items. Online repurchase intentions was measured by a repurchase intentions scale using four items. The survey used systematic and proportional sampling, a self-report questionnaire, and anonymity to collect data. The sample included daytime undergraduate students who attended the Fortune Institute of Technology. The data analysis used statistics to conduct descriptive analysis, reliability analysis, factor analysis, simple regression, and multiple regression. Means and standard deviation were demonstrated for each item. Frequency for

socio-demographic variables was demonstrated through descriptive analysis. Factor analysis was used to examine whether the variables chosen for this study and loaded on the proposed construct and simultaneously to determine whether the number of variables needed to be reduced. Cronbach's alpha analysis was employed to measure internal consistency of each scale. Simple regression analysis and multiple regression analysis were used to test hypothesis one through hypothesis nine. The research investigated whether a positive relationship existed between independent variables and dependent variables with the standard level of statistical significance of the regression model set at $p \leq .05$.

Purpose of the Study

In the context of the electronic market, most past studies focused on the relationship between e-satisfaction and online purchase intentions. No empirical studies explored the relationship between e-service quality and online repurchase intentions.

The purpose of this study was to examine the relationship between e-service quality and online customer repurchase intentions with mediating variables e-satisfaction and e-loyalty in the context of online retailing, and to identify areas of future scholarly inquiry. More specifically, this investigation :

1. Explored the potential effects of e-service quality on online customer repurchase intentions.

2. Explored the potential effects of e-service quality on online customer satisfaction.
3. Explored the potential effects of e-service quality on online customer loyalty.
4. Explored the potential effects of online customer satisfaction on online customer repurchase intentions.
5. Explored the potential effects of online customer loyalty on online customer repurchase intentions.

Definitions of Terms

Electronic service quality

Theoretical definition: Zeithaml, Parasuraman, and Malhotra (2000) define electronic service quality as a multiple function of a Web site that facilitates efficient and effective shopping, purchasing, and delivery. Furthermore, several scholars state that electronic service quality has significant characteristics involving: (1) technical quality, (2) functional quality, (3) service delivery, (4) service environment, (5) reliability, and (6) responsiveness (Gronroos, 1990; Brady & Cronin, 2001).

Operational definition: In this study, e-service quality was measured by NetQual scale, developed by Bressolles (2006). NetQual scale was developed to assess the functional characteristics of both the site and transaction provides five dimensions: (1) quality and quantity of information available; (2) ease of site use; (3) design or aesthetic

aspect of the site; (4) reliability or respect for commitment; (5) security/ confidentiality of personal and financial data.

Online customer satisfaction

Theoretical definition: In the context of electronic ecommerce, e-satisfaction is defined as “the contentment of the customer with respect to his or her prior purchasing experience” (Anderson & Srinivasan, 2003, p.125).

Operational definition: In this study, online customer satisfaction was measured by the satisfaction scale, developed by Anderson and Srinivasan (2003). This scale was developed to assess contentment of customers’ prior purchasing experience with online retailers.

Online customer loyalty

Theoretical definition: In the context of online business, Cyr, Bonanni, and Ilserver (2005) define e-loyalty as intention to revisit a website, or to purchase from it in the future. Anderson and Srinivasan (2003) define online customer loyalty as the customer’s favorable attitude toward an electronic business resulting in repeat buying behavior.

Operational definition: In this study, online customer loyalty was measured by e-loyalty scale (Anderson & Srinivasan, 2003). The e-loyalty scale was developed to assess online customers’ favorable attitude toward an electronic business in repeat buying

behavior.

Repurchase Intention

Theoretical definition: In the context of online retailing, repurchase intentions had been described as the re-usage of the online channel to buy from a particular retailer (Khalifa & Liu, 2007).

Operational definition: In this study, online repurchase intentions was measured by repurchase intention scale (Holloway, Wang, & Parish, 2005). This scale was developed to predict the strength of online customer repurchase through assessing cumulative online purchasing experience.

Justification of the Study

This study was researchable because the theoretical framework, research questions, hypotheses, and all variables were empirically analyzed to test the research hypotheses and answer research questions.

This study was feasible because the time and costs were manageable, the survey subjects were available, and this research was implemented within a reasonable time.

Delimitations and Scope

The delimitations of the study included:

1. Participants were limited to undergraduate full-time students who are studying at the daytime Fortune Institute of Technology in Kaohsiung, Taiwan.

2. The survey participants were able to listen, speak, read, and write traditional Chinese.
3. The survey participants were eighteen years old and older.
4. The survey participants must have experienced prior online shopping.

Organization of the Study

Chapter I provides an introduction to the study about e-service quality, online customer satisfaction, online customer loyalty, and online customer repurchase intentions. This chapter described the purpose, and background of this study. In addition, Chapter I also identifies theoretical and operational definitions, justifiability, and delimitations of the study.

Chapter II presents a review of the relevant research literature related to e-service quality, online satisfaction, online customer loyalty, and online customer repurchase intentions. This chapter provides significant examination of the theoretical and empirical literature building the rationale for this research. The theoretical framework, research hypothesis, and research questions are presented.

Chapter III describes the research methodology. This chapter includes the research design, the participants/subjects, sampling plan, and setting, participant eligibility and exclusion criteria, survey instruments, ethical considerations, data collection methods, and data coding. The data analysis and evaluation of research

methods (internal validity and external validity) are presented.

Chapter IV presents the results of the socio-demographic characteristics, data-producing sample, findings of research question and hypotheses testing. Chapter V provides interpretations of the statistical analysis, discussion of the findings, implications for theory, and limitations. The recommendations for the future research are included.

CHAPTER II

LITERATURE REVIEW, RESEARCH QUESTIONS, HYPOTHESES, AND HYPOTHESIZED MODEL

Literature Review

E-service Quality

Conceptualization of Service Quality. Service quality is a critical factor for companies to achieve a differential advantage over their competitors. However, there are many scholars who have defined service quality in different ways because the distinctive attributes of services make the study and definition of service quality difficult (Grönroos, 1982). Lehtinen and Lehtinen (1982) argued that service quality has three dimensions: physical quality, interactive quality, and corporate quality. Physical quality refers to the tangible aspects of a service. Interactive quality refers to the interaction between a customer and service provider. Corporate quality is concerned with the image attributed to a service provider by its current and potential customers. Grönroos (1990) proposed that the dimensions of service quality include technical quality (or output quality), and functional quality (or process quality). Technical quality refers to what the consumer receives. Functional quality is concerned with how the consumer receives the service. Furthermore, Brady and Cronin (2001) concluded that service quality has three characteristics: (1) an organization's technical and functional quality; (2)

the service delivery, service product, and service environment; and (3) the reliability, and responsiveness.

Electronic service. A review of the relevant literature reveals that there are various approaches to conceptualizing e-service. Zeithaml, Parasuraman, and Malhotra (2000) pointed out that e-service is web services that are delivered to consumers through the Internet. According to Li and Suomi (2007), e-service is more than order fulfillment, responsiveness to inquiries, email, and status requests. E-service provides customers with a different experience due to the interactive flow of information. Overall, e-service can be defined as an interactive, content-centered, and Internet-based customer service that is driven by the customers and integrated with the support of technologies and systems offered by service providers who aim at strengthening the customer-provider relationship (Ruyter, Wetzel, & Kleijnen, 2001).

Electronic service quality. Service quality has been shown to promote customer satisfaction and loyalty in marketing (Collier & Bienstock, 2006). In recent years, interest in service quality has shifted to reflect current developments in e-commerce that emphasize e-service quality. Electronic service quality can be described as overall customer evaluations and judgments regarding the excellence and the quality of e-service delivery in the virtual marketplace (Santos, 2003).

Theoretical: E-service Quality. In the context of online retailing, the

theoretical literature of electronic service quality has various theories, but similar definitions. Zeithaml, Parasuraman, and Malhotra (2000) defined electronic service quality as a multiple function of a Web site that facilitates efficient and effective shopping, purchasing, and delivery. Early researchers had a similar perspective. Lehtinen and Lehtinen (1982) stated that service quality is related to physical quality and interactive quality. Several other scholars stated that electronic service quality has significant characteristics involving: (1) technical quality, (2) functional quality, (3) service delivery, (4) service environment, (5) reliability, and (6) responsiveness (Gronroos, 1990; Brady & Cronin, 2001). In recent years, online security and Web site design became the newly critical issues in the dimensions of e-service quality (Kim, 2003; Wolfenbarger & Gilly, 2003; Parasuraman, Zeithaml, & Malhotra, 2005). Ruyter, Wetzel, and Kleijnen (2001) integrated the conceptual dimensions of electronic service quality and pointed out that service quality of online stores can be defined as an interactive, content-centered, and Internet-based customer service that is driven by the customers and integrated with the support of technologies and systems offered by service providers who aim at strengthening the customer-provider relationship.

Empirical: E-service Quality. Bressolles and Nantel (2008) conducted a quantitative empirical study to determine electronic service quality in electronic retail commerce. In their review of pertinent literature, the authors found that previously

researchers believed that service quality plays as vital a role in a commercial web site, as in a brick-and-mortar store. However, Internet sales have particular characteristics that differentiate them from traditional sales. Parasuraman and Grewal (2000) posited that online and offline environments are sufficiently different to justify the development of scales specifically dedicated to the measurement of electronic service quality. Thus, this study tested four of the main academically developed electronic service quality scales to determine which of them best reflects electronic service quality perceptions: Sitequal (Yoo & Donthu, 2001), Webqual 4 (Barnes & Vidgen, 2003), EtailQ (Wolfenbarger & Gilly, 2003), and NetQual (Bressolles, 2006).

Bressolles and Nantel (2008) intended to determine the most relevant scale in terms of electronic service quality. They investigated the impact of task nature and success or failure to complete a specific task by an evaluation of electronic service quality. The evaluation of electronic service quality focused on two categories: (1) behavioral measures, and (2) attitudinal measures. A series of studies was conducted in concert with six Canadian e-commerce sites. The sampling involved over 700 consumers and was collected between the months of July 2004 and May 2005. Data were collected in four of the following distinct steps: (1) warm-up task, (2) experimental task, (3) the questionnaire, and (4) the interview.

The findings revealed that NetQual was superior to the other three scales

(Sitequal, EtailQ, and Webqual) in measuring perceptions of electronic service quality. That is, the NetQual scale best fits the data and exhibits the strongest explanatory power. It has an apparent positive, significant impact on attitude toward site, regardless of the nature of the task performed (i.e., transactional versus informational), or task outcome (i.e., success or failure). There were limitations in the study. Follow-up research to replicated findings on various e-commercial web sites to further validate these findings would substantiate the outcomes. Additionally, the “reliability” dimension of the scale which pertains to precision, speed of delivery, and after-sale service among other elements was removed. The study needed to investigate the electronic service quality in different cultural consumption contexts.

In summary, the authors suggested that electronic service quality of an e-commerce web site can influence consumer decision-making. The NetQual scale of electronic service quality is useful for managers and decision makers, such as webmasters whose responsibility is designing and upgrading commercial web sites. The scale assists managers with evaluating and monitoring changes in perceptions of service quality of retail and service sites. Future studies should perhaps include measures of e-commerce web site efficiency such as the analysis of log files, and visit-purchase conversion rates.

Kim, Kim and Lennon (2006) conducted an empirical study to identify online

service attributes that facilitate efficient and effective shopping, purchasing, and delivery based on the modified E-S-QUAL scale. The aim of this study was to evaluate online apparel retailers' service performance and complement existing online service quality research based on consumer perceptions. The brief literature review compared the several main theoretical approaches (Webqual, E-Qual, SITEQUAL, e-SQ, and eTailQ), and provided background to the problem of online service attributes on retail web sites.

A total sample of 111 apparel retail web sites were selected using directories from ApparelResources.com, 24Hourmall.com, and Yahoo.com search engines. Instrument development and data collection procedures were clearly described. The results and findings by the authors indicated that online apparel retailers needed to provide more information for their customers. For instance, the provision of sitemaps, company contact information, FAQs, and company information, does not cost much compared to its potential benefit such as reduced perceived risk. In summary, the results found a positive relationship between online service attributes and customer satisfaction. Consequently, it was recommended that retail web sites offer online service attributes that satisfy consumer needs of adequate information when shopping online.

In terms of validity, the research clearly defined target and accessible populations; however, the final data-producing sample was self-selected thereby presenting a selection bias. One limitation of this study was that online service attributes identified

in this research were isolated from women's apparel web sites; therefore, some of these attributes could not be applicable to different product categories or gender.

Furthermore, the evaluation of online service performance was based on the presence or absence of online service attributes. While the evaluation strategy is objective, it provided an incomplete view of online service quality.

Measurement of e-service Quality. With the rapid growth of Business-to-Consumer (B2C) e-commerce, the importance of measuring and monitoring e-service quality in e-commerce has been recognized (Li & Suomi, 2007). Many different scales measuring electronic service quality have been developed, primarily based on customer perceptions, or on evaluations of sales experiences. Yoo and Donthu (2001) developed the SITEQUAL model to measure four dimensions of e-service quality: ease-of-use, aesthetic design, processing speed, and security. Barnes and Vidgen (2003) developed the WEBQUAL model to determine three dimensions (usability, information, and interaction) to measure online service quality. The E-TailQ model was developed by Wolfinbarger and Gilly (2003). This model focuses on four dimensions: website design, fulfillment/reliability, security/privacy, and customer service. Bressolles (2006) proposed the NetQUAL model to test five dimensions of electronic service quality including: information, ease-of-use, reliability/ fulfillment, site design, and security/ privacy. Furthermore, Parasuraman, Zeithaml and Malhotra (2005) developed E-S-QUAL

and E-RecS-QUAL models to measure online service quality. The E-S-QUAL, which was developed to assess service quality of online shopping, provides four dimensions: efficiency, fulfillment, system availability, and privacy. The E-RecS-QUAL, primarily based on customer perceptions and post-purchase experience of customers, includes three dimensions: responsiveness, compensation, and contact. Table 1 and 2 shows the various studies conducted in the last ten years measuring e-service quality.

Table 1

Summary of the Principal Measurement Scales for Electronic Service Quality

Author	Yoo and Donthu (2001)	Barnes and Vidgen (2003)	Wolfenbarger and Gilly (2003)
Instrument	Sitequal	Webqual(4)	eTailQ
Number of items	9	22	14
Dependent variables	<ol style="list-style-type: none"> 1. Attitude toward site 2. Site loyalty 3. Site equity 4. Purchase intention 5. Site revisit intention 6. Site quality 		<ol style="list-style-type: none"> 1. Satisfaction 2. Attitude toward site 3. Loyalty intentions 4. Global quality
Dimensions	<ol style="list-style-type: none"> 1. Ease-of-use 2. Aesthetic design 3. Processing speed 4. Security 	<ol style="list-style-type: none"> 1. Usability 2. Information 3. Interaction 	<ol style="list-style-type: none"> 1. Website design 2. Fulfillment/reliability 3. Security/Privacy 4. Customer service
Sample	94 students who visit and interact with 3 sales websites online	380 questionnaires on three online bookshop websites evaluations by students	Online survey of 1013 customer members of a panel

Note. The SITEQUAL scale is from Yoo and Donthu (2001) developed to measure online service quality. The WEBQUAL scale was developed by Barnes and Vidgen (2003), The E-TailQ scale was developed by Wolfenbarger and Gilly (2003).

Table 2

Summary of the Principal Measurement Scales for Electronic Service Quality

Author	Bressolles (2006)	Parasuraman, Zeithaml and Malhotra (2005)	Parasuraman, Zeithaml and Malhotra (2005)
Instrument	NetQual	E-S-Qual	E-RecS-Qual
Number of items	18	22	11
Dependent variables	1. Overall quality 2. Satisfaction 3. Attitude toward site	1. Perceived value 2. Loyalty intentions	1. Perceived value 2. Loyalty intentions
Dimensions	1. Information 2. Ease-of-use 3. Reliability/fulfillment 4. Site design 5. Security/privacy	1. Efficiency 2. Fulfillment 3. System availability 4. Privacy	1. Responsiveness 2. Compensation 3. Contact
Sample	855 customers of 2 commercial websites (travel and electronic goods)	Respondents who have carried out at least 3 online purchases over the previous 3 months on amazon.com (650 people) or walmart.com (253 people)	Respondents who have carried out at least 3 online purchases over the previous 3 months on amazon.com (650 people) or walmart.com (253 people)

Note. The NetQual scale was developed by Bressolles (2006), The E-S-Qual scale and E-RecS-Qual scale were developed by Parasuraman, Zeithaml and Malhotra (2005).

SITEQUAL scale. Yoo and Donthu (2001) developed the SITEQUAL scale to measure online service quality. This scale has nine items reflecting four dimensions: (1) ease-of-use and capacity to obtain information; (2) design and creativity of site with multimedia content and colors; (3) speed of the order process and reactivity to consumers' requests; and (4) security of financial and personal information.

WEBQUAL scale. Barnes and Vidgen (2003) developed the WEBQUAL scale, which is composed of three dimensions: (1) usability of the site refers to pragmatic elements such as the way the consumer perceives and interacts with the site; (2) quality of information refers to quality of content offered on the site defined as precise pertinent information that users consider well formatted; (3) quality of interaction refers to the quality of service interaction the users receive on the site.

E-TailQ scale. Wolfenbarger and Gilly (2003) developed the e-TailQ scale to measure e-service quality. This scale includes four dimensions: (1) Website design; (2) Fulfillment/reliability; (3) Security/Privacy; and (4) Customer service.

NetQual scale. Bressolles (2006) developed the NetQual scale which includes 18 items measuring five dimensions: (1) quality and quantity of information available; (2) ease of site use; (3) design or aesthetic aspect of the site; (4) reliability or respect for commitment; (5) security/confidentiality of personal and financial data.

E-S-QUAL Model. Zeithaml, Parasuraman, and Malhotra (2005) empirically tested a multiple item scale, the E-core Service Quality Scale (E-S-QUAL), for assessing service quality of online shopping providers. E-S-QUAL includes the four dimensions of efficiency, fulfillment, system availability, and privacy. Efficiency is defined as “the ease and speed of accessing and using the site” (Parasuraman et al., 2005, p.220). It refers to customers’ ease of web site access, simplicity of using the site, ease of finding

information, and fast check-out with minimal effort (Kim, Kim, & Lennon, 2006).

Furthermore, Davis (1989) believed customers will evaluate a website service quality according to its influence on how users are able to complete tasks efficiently within the web site. Fulfillment dimension is defined as “the extent to which the site’s promise about order delivery and item availability are fulfilled” (Parasuraman et al., 2005, p.220).

Wolfenbarger and Gilly (2003) discovered that fulfillment and reliability are the most important predictive factors of customer satisfaction, customer loyalty, and repurchase.

In addition, Yang and Fang (2004) pointed out that accurate order fulfillment and keeping service promises are primary service quality elements leading to customer satisfaction

and dissatisfaction. The third dimension, System availability, is defined as “the correct technical functioning of the site” (Parasuraman et al., 2005, p.220). Fram and Grady

(1995) indicated that technical software issues are problems related to purchasing on the Internet. Avoiding and eliminating broken links and links to web sites that no longer

exist or that are under construction are related to the total e-service quality (Santo, 2003).

The final dimension of the E-S-QUAL is Privacy, which is defined as “the degree to which the site is safe and protects customer information” (Parasuraman et al., 2005,

p.220). The privacy dimension has been shown to have a strong impact on intention to purchase (Loiacono, Watson, & Goodhue, 2002), satisfaction (Szymanski & Hise, 2000), and overall site quality (Yoo & Donthu, 2001). In addition, privacy and security are the

key factors in evaluating online services (Culnan, 1999). Privacy is the protection of personal information when customers' information was collected by the online shopping process. Security means that customers are safe from fraud and risks of financial damage while using credit cards (Friedman, Kahn, & Howe, 2000).

E-RecS-QUAL. Parasuraman, Zeithaml, and Malhotra (2005) developed the E-RecS-QUAL scale which measures the quality perceived by the customer in recovery situations. Recovery situations occur when a service-related problem arises and the firm in question attempts to provide a specific solution to the given problem. For example, the E-RecS-QUAL scale is proposed to be relevant when customers face “nonroutine encounters” during the online-shopping process that are related to “service recovery,” such as, product returns and dealing with problems (Parasuraman et al., 2005). The E-RecS-QUAL scale includes the following aspects: (1) Responsiveness, which refers to commercial post-sale assurance; (2) Compensation, a measure of aspects of return of goods; and (3) Contact, referring to the possibility of access to a customer service agent.

Online Customer Satisfaction

Conceptualization of Online Customer Satisfaction. For the conceptualization of customer satisfaction, Fornell (1992) and Anderson, Fornell, and Lehmann (1994) pointed out that customer satisfaction can be defined as a positive evaluation of performance based on all prior experiences with a firm. Furthermore,

Oliver (1997) considered that “satisfaction is the consumer’s fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under - or overfulfillment” (Oliver, 1997, p. 13).

Theoretical: Online Customer Satisfaction. In the theoretical literature, customer satisfaction is defined as a positive evaluation of performance based on all prior experiences with a company (Fornell, 1992; Fornell & Lehmann, 1994). Previous research provided evidence that several significant factors (expectations, performance, equity, and affect) may influence customer satisfaction. First, most empirical findings showed a positive relationship between satisfaction and expectations (Oliver, 1980; Swan & Trawick, 1981; Bearden & Teel, 1983). Moreover, numerous scholars pointed out that performance is positively related to customer satisfaction judgments (Churchill & Surprenant, 1982; Oliver & DeSarbo, 1988; Cronin & Taylor, 1992; Halstead, Hartman, & Schmidt, 1994). Third, Oliver (1997) argued that equity judgments are an important factor for customers to evaluate the fairness or rightness in reference to what others receive. Seiders and Berry (1998) explained the elements of equity judgments which include procedural justice, interactional justice, and distributive justice. Finally, the affective factors impacted a positive relationship with customer satisfaction (Websbrook, 1980; Westbrook & Oliver, 1991). Several scholars indicated that affective factors play

a critical role in the early stages of satisfaction and future studies should include various emotions of customers (Oliver, 1980; Koschate & Hoyer 2006).

Bearden and Teel (1983) pointed out that customer satisfaction is important to the marketer. Their findings indicated that repeat sales and customer loyalty had a positive relationship with satisfaction. Further, Day & Landon (1977) argued that satisfaction can impact individual customer behavior. In the operation of the electronic customer satisfaction, Szymanski and Hise (2000) developed an e-Satisfaction model to investigate online customer loyalty through four dimensions: convenience, merchandising, site design, and financial security. Recently, The ACSI model, a new type of customer satisfaction measurement system, was developed. The ACSI model adopted three manifest variables (overall satisfaction, expectancy disconfirmation, and performance vs. the ideal) to measure online customer satisfaction. ACSI is a useful tool to provide detailed information for marketers to analyze the purchasing decisions of customers.

Empirical: Online Customer Satisfaction. Lu (2003) developed a conceptual framework for evaluating web-based Business-to-Customer (B2C) electronic commerce (EC) applications. The framework includes three potential factors: (1) EC cost/benefit; (2) EC functionality; and (3) customer satisfaction. The study examined the inter-dependent and interrelated relationships among factors through a group testing of

hypotheses. Lu's literature review was thorough and provided background to the problem of EC business benefit and evaluated its application successes. A random sampling plan resulted in the final data producing a sample of 156 companies from 149,974 organizations registered in the UBD E-directory at <http://www.ubd.co.nz>, conditional on their reaching an appropriate level of EC development.

In this study, the researcher used customer-oriented and company-oriented surveys to test the proposed hypotheses. A customer-oriented desk survey was conducted in order to obtain customers' assessments (customer satisfaction) for these EC applications followed by a company-oriented survey using questionnaires. The respondents were asked to answer a series of questions on a discrete 7-point Likert Scale. The analysis of the results demonstrated that the functionality on an EC application had significant impact on customer satisfaction. The results indicated that main benefits are dependent on the improvement of the relationship with customers. It is critical for B2C EC to build improved relationships with online customers. Thus, customer satisfaction strongly influences beyond EC benefits and has the potential to become a key to measure an EC application success. Furthermore, the customer satisfaction is dependent on the expense of maintaining EC, but not of setting up EC. The online business companies need to actively investigate strategies to improve information and service quality provided through the Internet. In the summary, the study identified a number of

interrelated or inter-dependent relationships among the factors from EC application functions, cost benefit, and customer satisfaction. This study developed an actor-relationship model to provide useful information related to the ways business organizations may use web-based EC applications to obtain more benefits that are flowing from improving customer satisfaction, and strategies to improve customer satisfaction by determining EC investments in different ways. The one limitation of this study is that the sample focused on small and medium online businesses in New Zealand. The same approach may not be applied for EC applications in larger online business located in different countries.

Bansal, McDougall, Dikolli, and Sedatole (2004) conducted a quantitative empirical study to examine the antecedents of e-satisfaction and the relations between e-satisfaction and two new behavioral outcomes (customers' stated purchasing behavior and actual browsing behavior). The aim of this study was to explore the relationships between e-satisfaction and retention in the online environment. This study addressed two significant questions: (1) What drives Web site satisfaction; and (2) What is the relationship between Web site satisfaction and retention/referral, online purchasing, and Web stickiness.

In their review of literature, the authors compared service quality and e-satisfaction between offline and online environments. In the offline context, the

service quality is the major driver of customer satisfaction due to provider-customer interaction during the service encounter. However, in online business, the service encounter is a non-personal interaction. As a consequence, e-satisfaction is driven by web site characteristics (e.g. site design, Web store functionality, ease of understanding, ease of navigation). This study pointed out that in both online and offline settings, the challenge is to identify the drivers of satisfaction and then, examine the relationship between satisfaction and behavioral outcomes, such as retention and word-of-mouth. The sampling involved 145 predominantly multi-channel retailing firms for a total of 683 observations. The conceptual framework showed that “Web site attributes will drive overall satisfaction, which in turn will be related to behavioral outcomes” (Bansal et al., 2004, p.293). The factor analysis used LISREL 8 with Maximum-Likelihood (ML) (Joreskog & Sorbom, 1993) to estimate two structural models. The first model investigated Web site characteristics and customer service as drivers of the overall web site satisfaction (retention/referral; online conversion; and stickiness of the web site). The second model looked at overall web site satisfaction as directly related to the three outcome constructs namely retention/referral, online purchasing, and Web stickiness. The finding revealed that two propositions were confirmed by the LISREL analysis. The first proposition was that web site attributes will be significantly related to overall web site satisfaction. The second proposition was that overall web site satisfaction be

significantly related to stated behavioral outcomes and actual behavioral outcomes.

Furthermore, the findings suggested: (1) web site characteristics (ease-of-use, information available, product selection, price, and transaction duration) were the most important drivers of the behavioral outcomes for managers of online retailing companies; (2) If the ultimate goal of the improvement is to increase retention and referrals, the managers of online retailing companies should distribute additional resources to online customer service.

One of the weakness of this study was that it did not take into consideration the customer characteristics such as, age, gender, income, experience, and technology readiness, privacy, or security in shaping customer satisfaction perception.

Measurement of Online Customer Satisfaction. Customer satisfaction is important to the marketer. The underlying reason is that “customer satisfaction is generally assumed to be a significant determinant of repeat sales, positive word-of-mouth, and consumer loyalty” (Bearden & Teel, 1983, p.21). According to research, satisfaction has the potential to impact individual consumer behavior and customer satisfaction reflects a positive outcome from the outlay of scarce resources and the fulfillment of unmet needs (Day & Landon, 1977). Important studies in the measurement of online customer satisfaction were conducted using an e-satisfaction model (Szymanski & Hise, 2000). The American Customer Satisfaction Index (ACSI)

model, and the E-commerce Customer Satisfaction Index (ECCSI) model (Kim, 2005) are further explained.

E-satisfaction model. Szymanski and Hise (2000) developed an e-satisfaction model (Figure 1) to measure online customer satisfaction. They conducted a qualitative study for the purpose of examining online customer satisfaction in online retailing. The hypothesis assumed that: (1) satisfaction with e-retailing increases as perceptions of convenience become more positive; (2) satisfaction with e-retailing increases as perceptions of online merchandising become more positive; (3) satisfaction with e-retailing increase as perceptions of site design become more positive; and (4) satisfaction with e-retailing increases as perceptions of online financial security become more positive. The findings indicated that “convenience, site design, and financial security are the dominant factors in consumer assessments of e-satisfaction” (Szymanski & Hise, 2000, p.309).

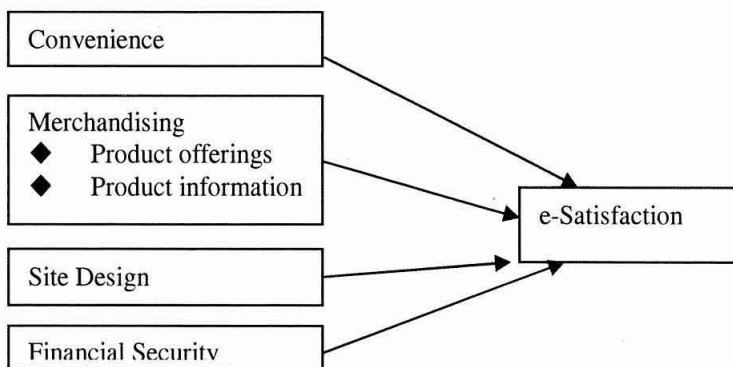


Figure 1. Model of e-Satisfaction

From “e-Satisfaction: an initial examination”, by D. M. Szymanski, and R. T. Hise, 2004, Journal of Retailing.

The ACSI model. The National Quality Research Center (NQRC) developed the American Customer Satisfaction Index to measure e-service quality in 1994. The ACSI is a gold standard for measuring satisfaction of consumers in the United States. On the other hand, the ACSI is “a new types of customer-based measurement system for evaluating-and-enhancing the performance of firms, industries, economic sectors, and national economies” (Fornell, Johnson, Anderson, Cha, & Bryant, 1996, p.7).

This model employed customer interviewing and econometric modeling to analyze customer satisfaction. The survey included approximately 80,000 North American interviews and involved more than 200 companies in over 40 different industries in the United States (Fornell, Johnson, Anderson, Cha, & Bryant, 1996). The ACSI score included three significant questions: (1) overall satisfaction; (2) expectancy disconfirmation; (3) performance vs. the ideal. Each variable score is on a different 1 to 10 scale (see Table 3).

Table 3

The Manifest Variable of ACSI Score and Likert-type Scale

Manifest Variable	(Likert-Type Scale) 1	(Likert-Type Scale) 10
Overall satisfaction	Very dissatisfied	Very satisfied
Expectancy disconfirmation	Falls short of your expectations	Exceeds your expectations
Performance vs. the ideal	Not very close to the ideal	Very close to the ideal

From “American Customer Satisfaction Index: Methodology Report”, by B. Bryant, and C. Fornell, 2005, National Quality Research Center.

In summary, ACSI is a useful tool for “evaluating and enhancing the health of the nation’s economy, both in terms of national competitiveness and the welfare of its citizens” (Fornell, et al., 1996, p.15). Furthermore, ACSI offers an important measure of a companies’ performance and future financial health for managers and investors. Finally, for customers, ACSI provides more information for making purchase decisions, and “leads to improvements in the quality of the goods and services they consume, as well as in their overall standard of living” (Fornell, et. al., 1996, p.15). The ACSI model is shown in Figure 2.

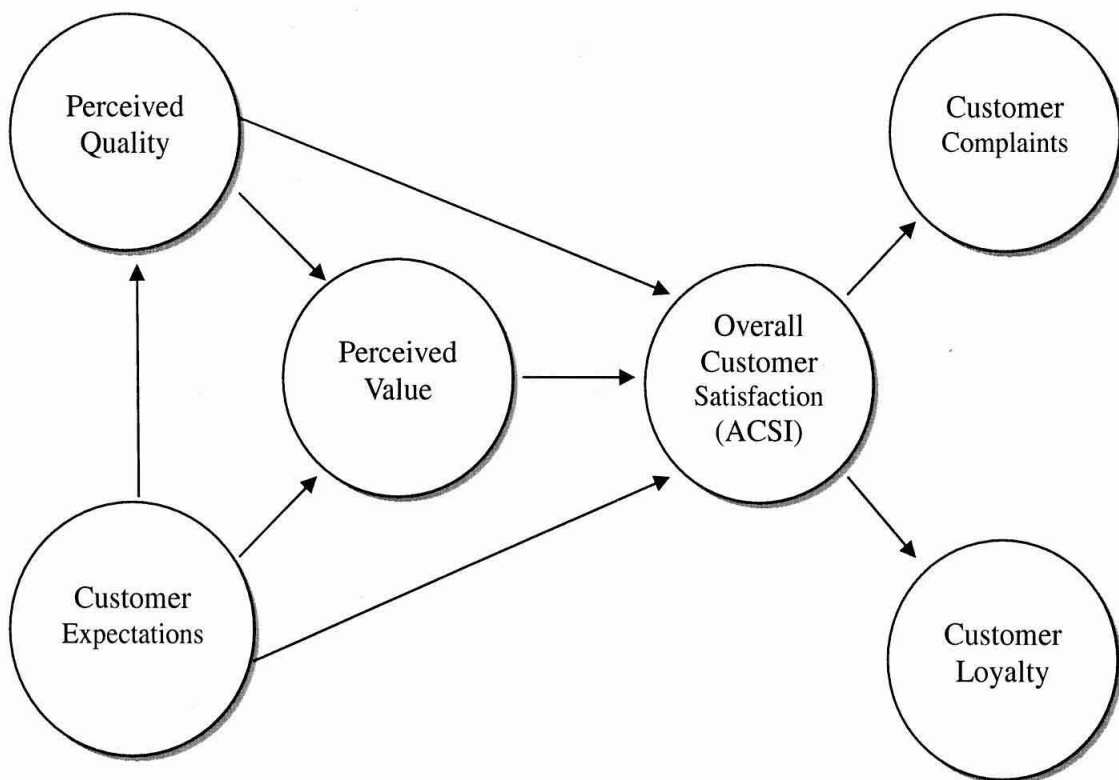


Figure 2. The American Customer Satisfaction Index (ACSI) model.

From "The American Customer Satisfaction Index: Nature, Purpose, and Findings," by C. Fornell, M. D. Johnson, E. W. Anderson, J. Cha, and B. E. Bryant, 1996, *Journal of Marketing*.

Index of online customer satisfaction (ECCSI). Kim (2005) developed an index of online customer satisfaction (ECCSI) using a weighted sum model to measure e-customer satisfaction. The ECCSI model applies the concept of customer satisfaction from management information systems (MIS), marketing and e-commerce. The ECCSI was confirmed by testing repurchase behavior and against repurchase intention with internet stores purchase frequency and reuse frequency as particular indicators of e-satisfaction. The significant factors of the ECCSI model include: e-commerce customer satisfaction, delivery and after sales service, purchase result and price attractiveness, product information, customer service, site design, process convenience, product attractiveness, payment method, site information, log-on convenience, repurchase intention, and repurchase behavior. The result of the ECCSI model showed that ten factors (delivery and after sales service, purchase result and price attractiveness, product information, customer service, site design, process convenience, product attractiveness, payment method, site information, log-on convenience) and the e-satisfaction index are good exponents of repurchase behavior and repurchase intention. The ECCSI provides a validity instrument to measure e-service quality and is rated very high at explaining actual repurchase behavior and repurchase intentions. The ECCSI model is presented in Figure 3.

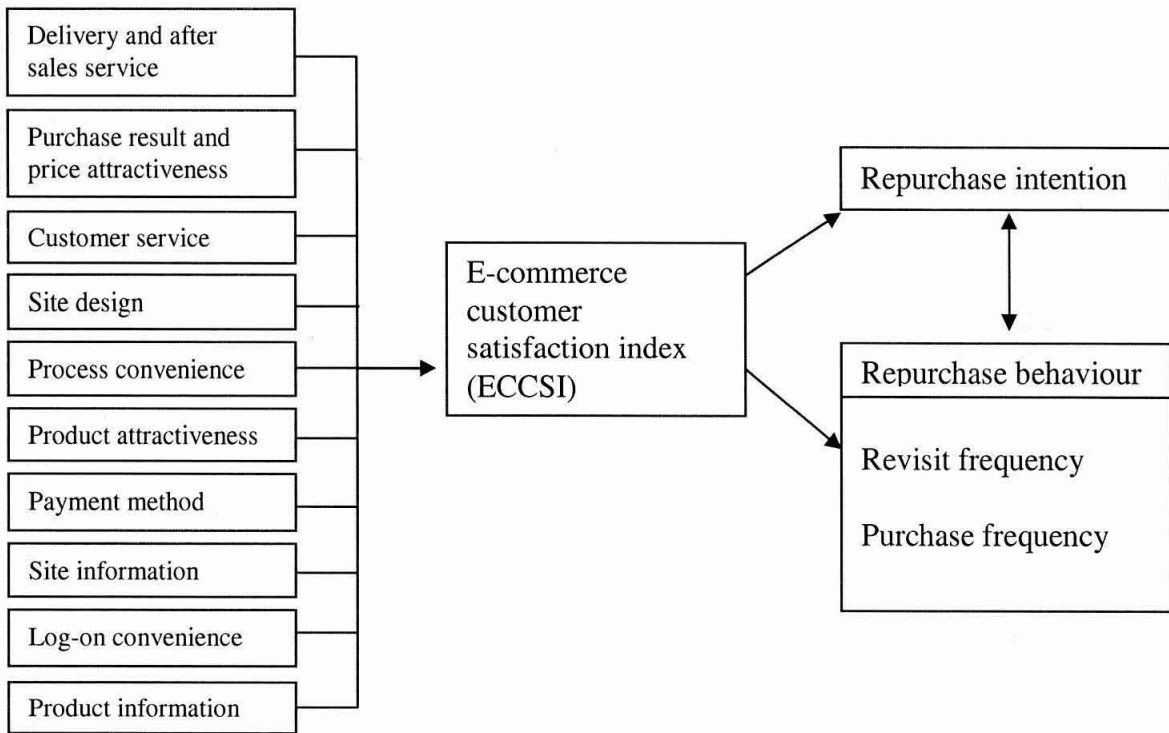


Figure 3. The e-commerce customer satisfaction model (ECCSI)

From "Developing an index of online customer satisfaction," by H. R. Kim, 2005, *Journal of Financial Services Marketing*.

Online Customer Loyalty

Conceptualization of customer loyalty. Customer loyalty has been defined as the feeling of attachment to or affection for a company's people, products, or services that will directly influence customer behavior (Jones & Sasser, 1995). Griffin (1998) proposed that customer loyalty has four characteristics: (1) repeat purchasing; (2) purchasing other products or services that the company provided; (3) building advertising; and (4) a resistance to promotions from other competitors. In addition, Sirohi, McLaughlin, and Wittink (1998) stated that three measures of customer loyalty are: (1)

willingness to purchase; (2) willingness to repurchase; and (3) willingness to recommend the store to others. On the other hand, De Wulf and Odekerken-Schroder (2003) measured behavior loyalty by purchasing frequency and expenditure amount.

Online customer loyalty. Cyr, Bonanni, and Iserver (2005) defined e-loyalty as intention to revisit a website, or to purchase from it in the future. Furthermore, Flavián, Guinalú, and Gurrea (2006) suggested that e-loyalty should be conceived as a “consumer’s intention to buy” from a website, and consumers will not change to another website. Srinivasan, Rolph, and Kishore (2002) proposed eight factors (8C) affecting e-loyalty that included: Customization, Contact interactivity, Care, Community, Convenience, Cultivation, Choice, and Character. Srinivasan et al. found that after consumers become loyal to a particular e-store, consumers will build a positive image of the online store, are pleased to recommend it to others, and are willing to pay higher prices to purchase products.

Theoretical: Online Customer Loyalty. Griffin (1998) indicated that the characteristics of customer loyalty include purchasing, repeat purchasing, and positive image of brand or firms. Sirohi, McLaughlin, and Wittink (1998) supported this point of view and suggested that three major factors of customer loyalty should be measured including: (1) willingness to purchase; (2) willingness to repurchase; and (3) willingness to recommend the store to others. In recent years, many studies of consumer loyalty

showed that behavior loyalty can be measured by purchasing frequency and expenditure amount (DeWulf & Odekerken-Schroder, 2003; Cyr, Bonanni, & Ilserver, 2005; Flavián, Guinalú, & Gurrea, 2006).

Empirical: Online Customer Loyalty. Bergeron and Sénécal (2001)

conducted an empirical study on how to increase customers' loyalty in online stores.

The authors indicated that “the customer loyalty concept has become the main preoccupation of marketers; however, it is quite understandable” (Bergeron & Sénécal, 2001, p.3). In the context of online retailing, the studies on factors that influence online customers' loyalty remain rare. Hence, the purpose of the study was to identify the primary factors that influence online customer loyalty.

The literature review was informative, and provided examples from real practice. The conceptual framework of the study is partially based on the “quality-value-loyalty” model of Parasuraman and Grewal (2000). According to Bergeron and Sénécal (2001), the most important factors influencing online customers' loyalty are: (1) influence of the company's products, prices and service; (2) influence of the employee's expertise; (3) influence of the company's distribution system; (4) influence of the company's web site.

A non-probabilistic sampling plan resulted in the final data producing sample of 917 participants who answered the survey conducted by the researchers. In order to minimize possible sampling bias, the survey used several techniques in attempts to reach

every Internet user: (1) e-mailed the survey to a considerable list of respondents that were representative of Internet users; and (2) advertised the survey on neutral, high-exposure sites, newsgroups and traditional media such as newspapers or trade magazines. The survey considered past empirical research to build the questionnaire and used a 7-point Likert type scale. The researchers previously stated that several methods (Cronbach's alpha, Principal Axis Factoring, and Maximum Likelihood) were employed to assess the measures' reliability and validity.

The results indicated that "70% of the respondents that qualify their knowledge as "intermediary" are disloyal to their supplier, and 60% of the online customers that believe to possess an "advanced" comprehension of e-commerce are loyal" (Bergeron & Sénécal, 2001, p.11). The analysis of the study also pointed out that loyal online customers perceived that their supplier ($x = 6.65$) offered them good service and saved them a lot of time in doing business. Thus, the ability of the companies to assist their consumers in saving time constitutes an essential factor that considerably influences the loyalty of consumers who shop online. In addition, the product variety and online stores' web site designs were also important factors that strongly influenced online customers' loyalty. Finally, "the results showed that even if a virtual supplier gives excellent service and the web site is very considered secure, prices must be competitive if the goal is to increase customers' loyalty" (Bergeron & Sénécal, 2001, p.16).

Bergeron and Sénécal (2001) concluded that “online customers’ loyalty mostly depends on a judicious combination of the companies’ marketing strategies” (p.16) including distribution, service, image, products and prices.

A perceived weaknesses of this study, was that the conceptual framework could have included other variables such as, brand image or advertisement. Customer-related variables such as different sociodemographic variables (income, ethnicity, or level of education) may influence online consumer loyalty and their inclusion would have enhanced the investigation.

Yun and Good (2007) conducted an empirical study that examined online customer loyalty intentions and provided a conceptual model to online retailers to develop customer loyalty from e-tail store image attributes. The research focused on the important final stage of the customer decision-making (post-purchase evaluation), and used structural equation modeling to examine the model and hypotheses. The goal of the study was to better understand the relationship between e-patronage intentions and e-loyalty. The literature review provided a clear background to the research topic and was useful in developing a model of online customer loyalty based on three themes: (1) e-tail store image; (2) e-patronage; (3) e-loyalty behaviors. The researchers anticipated that all three themes would strongly influence online customer loyalty.

A total probability sample of 203 participants from a large mid-western

university who had online purchasing experience at least twice in the previous 12 months were used in the study. The majority of the participants sampled were between 17-60 years of age, with a median age of 23. A total of 76% were undergraduates and 91% were single/never married. A web-based survey was used to determine the proposed model and test the hypotheses with a 7-point Likert-type scale (1 = strongly disagree; 7 = strongly agree).

Based on the conceptual model of online customer loyalty (see Figure 4), the authors proposed three broad hypotheses: (1) H1. A favorable e-tail store image will be derived from favorable e-merchandise, e-service, and e-shopping atmosphere attributes; (2) H2. A favorable e-tail store image will positively predict consumer e-patronage intentions; (3) H3. E-patronage intentions will lead to e-loyalty behaviors.

Confirmatory factor analysis (CFA) was employed to test the online loyalty model.

According to the results of CFA, the findings indicated support of all the three proposed hypotheses.

The study, however, did not examine other types of online stores, nor different product categories or services, and the data collection was limited to one specific university.

Measurement of Online Customer Loyalty. *The causal chain of loyalty model.*

Khadraoui, Gharbi, and Plaisent (2007) developed the causal chain of loyalty model

to measure online customer loyalty. The authors conducted a quantitative study to explore the potential factors of online customer loyalty in the internet context based on five potential factors (trust, cognitive loyalty, affective loyalty, conative loyalty, and action loyalty) that may critically influence online customer loyalty (see Table 4). The results supported this model and the findings indicated that: (1) trust positively influences loyalty; (2) “cognitive loyalty is a partial mediator between trust and affective loyalty”; (3) “affective loyalty is a partial mediator between cognitive loyalty and conative loyalty”; (4) “conative loyalty mediates the relationship between affective loyalty and action loyalty” (p.47).

Table 4

The Causal Chain of Loyalty Model

Manifest Variable	Dimensions	Number of items
Trust	1. Trust ability	4
	2. Trust benevolence and integrity	4
Loyalty	1. Cognitive loyalty	3
	2. Affective loyalty	2
	3. Conative loyalty	2
	4. Action loyalty	4

From “The Causal Chain of Loyalty”, by M. Khadraoui, J. Gharbi, and M. Plaisent, 2007, <http://www.u-bourgogne.fr/l>.

E-satisfaction and e-loyalty model. Anderson and Srinivasan (2003) developed e-satisfaction and e-loyalty models to measure online customer loyalty. The significant

factors of this research include: e-satisfaction, e-loyalty, trust, perceived value, purchase size, inertia, and convenience motivation. The model pointed out that the impact of e-satisfaction on e-loyalty may be significantly moderated by individual-level variables (inertia, convenience motivation, and purchase size) and company-level variables (trust and perceived value). In order to enhance online customer loyalty, this study suggested that “a company must continuously work at enhancing perceived value for customers to discourage their switching to competitors” (p.133). The E-satisfaction and e-loyalty model is presented in Figure 4.

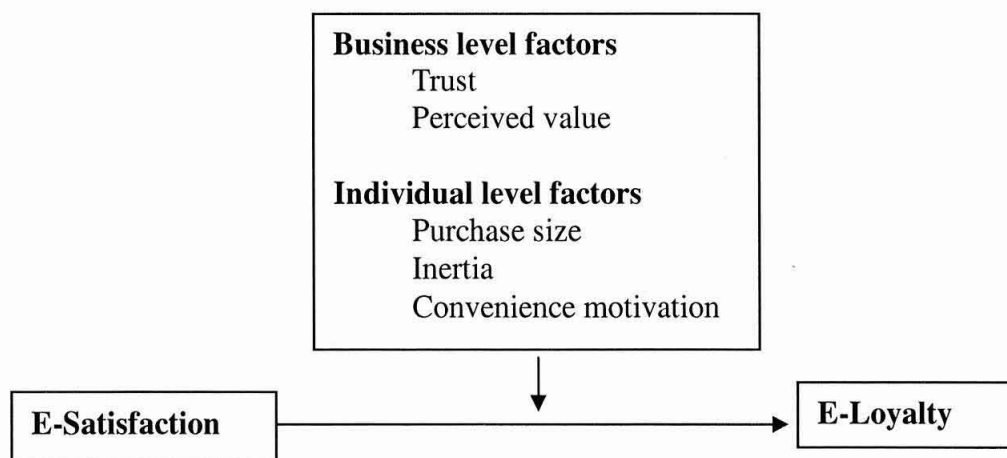


Figure 4. E-Satisfaction and E-Loyalty model

From " E-Satisfaction and E-Loyalty: A Contingency Framework," by Anderson and Srinivasan, 2003, *Psychology &Marketing*.

Online Customer Repurchase Intentions

Conceptualization of Repurchase Intention. Repurchase intention has been

discussed extensively by marketing researchers. Copeland (1923) defined repurchase intention as the intention to repeatedly purchase a particular product. Khalifa and Liu (2007) indicated that “repurchase is a form of volitional behavior, as customers generally enjoy more than one option of which store to buy again” (p.782). In the context of online retailing, repurchase intention has been described as the re-usage of the online channel to buy from a particular retailer (Khalifa & Liu, 2007). Bhattacharjee (2001) further discussed in his research online repurchasing behavior. His proposed model was formulated on Expectation Confirmation Theory (ECT) with expectation and postulated confirmation, satisfaction, and loyalty incentive as significant factors affecting online repurchasing (Bhattacharjee, 2001). Currently, repurchase intention has become a critical issue for B2C e-commerce. One conclusion drawn from the study is that repeat customers are a source of profit for any company as they tend to be less sensitive to price, have greater spending capacity, can be served at a lower cost, and pass on positive recommendations to other customers (Reichheld & Sasser, 1990).

Theoretical: Online Customer Repurchase Intentions. With the rapid growth of online retailing, repurchase intention has become a critical issue for marketing researchers. According to Reichheld and Sasser (1990), repeat customers are a source of profit for firms. Repeat customers can be served at a lower cost, and pass on positive images of firms to other customers. Gupta and Kim (2007) support this point

of view and argued that repeat customers are more profitable than new customers for firms. In a theoretical definition, repurchase intention is defined as a form of volitional behavior, and as the intention to repeatedly purchase products from a particular retailer (Copeland, 1923; Khalifa & Liu 2007).

Empirical: Online Customer Repurchase Intentions. Khlifia and Liu (2007)

used empirical research to examine consumer retention in the context of online shopping. The researchers applied contingency theory to measure the effects of online shopping habit and online shopping experience on consumer retention. The study identified five significant factors as useful important online shopping usefulness drivers including: (1) after-sale service; (2) transaction efficiency; (3) security; (4) convenience; and (5) cost savings. Khlifia and Liu integrated various relevant theories into their development of a research model including: (1) technology acceptance model (TAM) (Davis, Bagozzi, & Warshaw, 1989); (2) disconfirmation theory (Oliver & DeSarbo, 1988); and (3) IS continuance theory (Bhattacharjee, 2001).

The sampling involved 122 online customers who had online shopping experience from various internet stores, and were invited by e-mail to join this survey. The online survey used various measuring scales as follows: (1) items measuring Online Repurchase Intention from Limayem, Khalifa, and Frini (2000); (2) items measuring Online Shopping Habit from Limayem and Hirt (2003); (3) items measuring Online

Shopping Experience from Limayem and Hirt (2003); (4) items measuring Online Shopping Satisfaction from Bhattacharjee (2001); and (5) items measuring Perceived Usefulness from Bhattacharjee (2001).

The analysis of data used Partial Least Squares (PLS) (Wold, 1989) to test two major moderators (online shopping habit and online shopping experience) with research models. According to the PLS analysis, the results found that all path coefficients provided strong support for the research model and hypotheses. In the analysis of the research model with online shopping habit, the factors of perceived usefulness ($B = 0.31$; $P = 0.01$) and online shopping satisfaction ($B = 0.44$; $P = 0.01$) had positive effects on customer repurchase intention. The results statistically supported H1 to H7 namely: (1) H1. Perceived usefulness has a significant positive effect on online repurchase intention; (2) H2. Perceived usefulness has a significant positive effect on online shopping satisfaction; (3) H3. Online shopping satisfaction has a significant positive effect on online repurchase intention; (4) H4. Online shopping habit has a significant positive effect on online shopping satisfaction; (5) H5. Online shopping habit positively moderates the relationship between online shopping satisfaction and online repurchase intention; (6) H6. Online shopping experience has a significant positive effect on online shopping satisfaction; (7) H7. Online shopping experience positively moderates the relationship between online shopping satisfaction and online repurchase intention.

In summary, the findings demonstrate "the effect of satisfaction on repurchase intention becomes stronger when online shopping becomes more habitual" (Khelifa, & Liu, 2007, p.788) and "experienced online customers are more likely to intend to repurchase when satisfied" (Khelifa, & Liu, 2007, p.788).

Gupta and Kim (2007) conducted an empirical study to determine the effect of transaction experience on customers' decision making in online repurchases. The researchers employed a quantitative research and customer repurchase decision-making model to examine the relationship between transaction experiences and online repurchase. Gupta and Kim (2007) considered that "from a decision-making perspective, Internet vendors should use transaction experience to differentiate repeat customers, because customers modify their repurchase decision in successive transactions by adjusting their current beliefs to new information" (p.128). Thus, this study focused on two significant issues: (1) what factors influence an online customer's repurchase decision; and (2) how does an online customer's transaction experience moderate the repurchase decision calculus.

This literature review provided a theoretical background about online purchase decision-making. The researchers argued that early research "did not differentiate repeat customers by transaction experience, and they lack a proper theoretical foundation for explaining online purchase decision-making" (Gupta & Kim, 2007, p.128). To

explain these gaps, the researchers employed several theories (Mental Accounting Theory, Belief-Adjustment Model, and Cognitive Dissonance Theory) to develop a research model and hypotheses. Gupta and Kim's research model (see Figure 9) determined several significant factors in online customer repurchase intention including: (1) convenience; (2) pleasure; (3) perceived price; (4) perceived value; and (5) transaction experience.

A convenience sampling plan resulted in the final data-producing sample of 814 responses. A web-based survey was used to measure online repurchase intention based on convenience, pleasure, perceived price, perceived value, and transaction experience. The survey instrument consisted of self-developed and existing validated questions, including: (1) items for repurchase intention, developed by Dodds, Monroe, and Grewal (1991); (2) items for convenience, developed by Torkzadeh, and Dhillon (2002) and Childers, Christopher, Peck, and Carson (2001); (3) items for pleasure, developed by Holbrook, Chestnut, Olivia, and Greenleaf (1984); and (4) items for perceived value, developed by Sirdeshmukh, Singh, and Sabol (2002).

Gupta and Kim (2007) used LISREL to analyze the structural model. The results of LISREL showed that "perceived value (H1), perceived price (H3), convenience (H5), and pleasure (H7) had significant effects on repurchase intention" (Gupta & Kim, 2007, p.143). Furthermore, perceived price (H2), convenience (H4),

and pleasure (H6) had a significant effect on perceived value. A moderated regression analysis (MRA) was employed to examine the transaction experience, and the results indicated that the transaction experience had a positive effect of perceived price ($B = 0.108, P = 0.001$) and convenience ($B = -0.125, P = 0.003$) on repurchase intention. However, the results also showed that the transaction experience had a moderate effect on perceived value and pleasure on repurchase intention.

In summary, the research indicated two significant findings: (1) all the identified monetary and non-monetary factors significantly influence the perceived value of purchasing from an online store, and (2) all four factors (perceived value, perceived price, pleasure, and convenience) significantly influence customer-purchase intention. The major limitation in this particular study was the survey which focused on one internet bookstore. Thus, the results and findings may not be generalized to other internet stores. Furthermore, books belong to a low-involvement category, and the outcome may be different from purchases in high-involvement products.

Measurement of Online Customer Repurchase Intentions. *Repurchase*

Intention and Expectation Confirmation Theory. According to the research, repeat customers are five times more profitable than new customers (Gupta & Kim, 2007). To increase profits, retaining customers has become the critical issue for online shopping stores. Oliver (1980) originally developed the Expectation Confirmation Theory (ECT)

to explain and predict consumer satisfaction, loyalty, and repurchase intention.

Expectation Confirmation Theory (see Figure 5) focuses on post-purchase behavior. It is a widely used model in the consumer behavior literature, “particularly in explaining consumer satisfaction and repeat purchase” (Cheung, Chan, & Limayem, 2005, p.5).

Satisfaction is the central notion of this model that is formed by the gap between expectation and perceived performance. Expectation Confirmation Theory suggests that “if the perceived performance meets one’s expectation, confirmation is formed, and consumers are satisfied” (Cheung, et al., 2005, p.5). Many marketing researchers successfully adopted ECT to examine the potential relationship among consumer satisfaction, complaint behavior, and repurchase intention (Churchill & Surprenant, 1982; Wilton & Myers, 1986; Spreng, Mackenzie, & Olshavsky, 1996).

The process by which customers reach repurchase intentions in ECT is as follows:

(1) customers form an initial expectation of a specific product or service prior to purchase; (2) customers accept and use that product or service. Following a period of initial consumption, they form perceptions about its performance; (3) customers assess its perceived performance vis-à-vis their original expectation and determine the extent to which their expectation is confirmed; (4) customers form a satisfaction or affect based on their confirmation level and expectation on which that confirmation was based; and (5)

satisfied customers form a repurchase intention, while dissatisfied users discontinue its subsequent use.

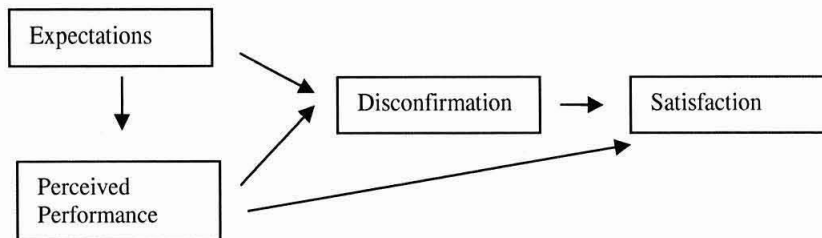


Figure 5. Expectation Confirmation Theory

From “A cognitive model of the antecedents and consequences of satisfaction decisions”, by Oliver, R. L., 1980, Journal of Marketing Research.

Cumulative online purchasing model. Holloway, Wang, and Parish (2005)

developed a model to measure online customer purchase and repurchase intention based on cumulative online purchasing experience. The purpose of this study was to examine the moderating influence of cumulative online purchasing experience by testing a traditional model of service recovery in the context of online retailing. The variables included distributive justice, post-recovery satisfaction, cumulative online purchasing experience, negative word of mouth, and repurchase intention. This conceptual model (see figure 6) assumed that “cumulative online purchasing experience will moderate the relationships between these variables in the online service failure/recovery encounter with two groups of online shoppers” (p.56). The result of the study pointed out that

“post-recovery satisfaction is more predictive of repurchase intentions in the high experienced group than in the less experienced group” (p.63).

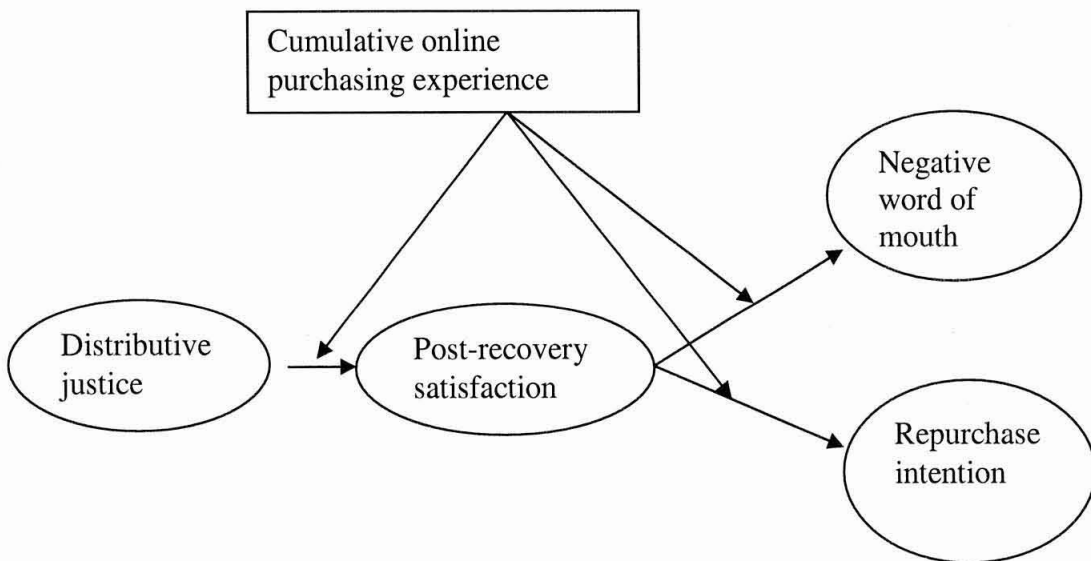


Figure 6. The Conceptual Model of Cumulative Online Purchasing Experience.
From “The Role of Cumulative Online Purchasing Experience in Service Recovery Management”, by Holloway, Wang, & Parish, 1980, *Journal of Interactive Marketing* Volume.

Theoretical Framework

The theoretical framework of this study was based on Kim’s (2005) E-commerce customer satisfaction index (ECCSI) model, Bressolles’ (2006) NetQual model, Anderson and Srinivasan’s (2003) contingency framework of e-satisfaction and e-loyalty, and Holloway, Wang, and Parish’s (2005) cumulative online purchasing experience.

The ECCSI model applies and integrates the concept of online customer satisfaction from three significant fields: management information systems (MIS), marketing, and e-commerce. The ECCSI defined e-customer satisfaction and developed an index for the weighted sum model of e-commerce customer satisfaction.

The NetQual model was developed to measure the 5 dimensions of e-service quality which refer to the functional characteristics of both the site and transaction (quality and quantity of information available, ease of site use, design or aesthetic aspect of the site, reliability or respect for commitment, and security/confidentiality of personal and financial data). The NetQual scale of e-service quality was used to: (1) evaluate and monitor changes in perceptions of service quality of retail and service sites in online markets; (2) set performance objectives in terms of electronic service quality; (3) perform a competitive analysis of a site in terms of electronic service quality compared with competitors; and (4) refine analysis of reasons for success or failure of a particular site in terms of electronic service quality.

A contingency framework of e-satisfaction and e-loyalty (Anderson & Srinivasan (2003) and cumulative online purchasing experience (Holloway et al., 2005) also provided the concept and link among e-service quality, e-satisfaction, e-loyalty, and repurchase intentions to build the theoretical framework in this study. The theoretical framework of this study is presented in Figure 7.

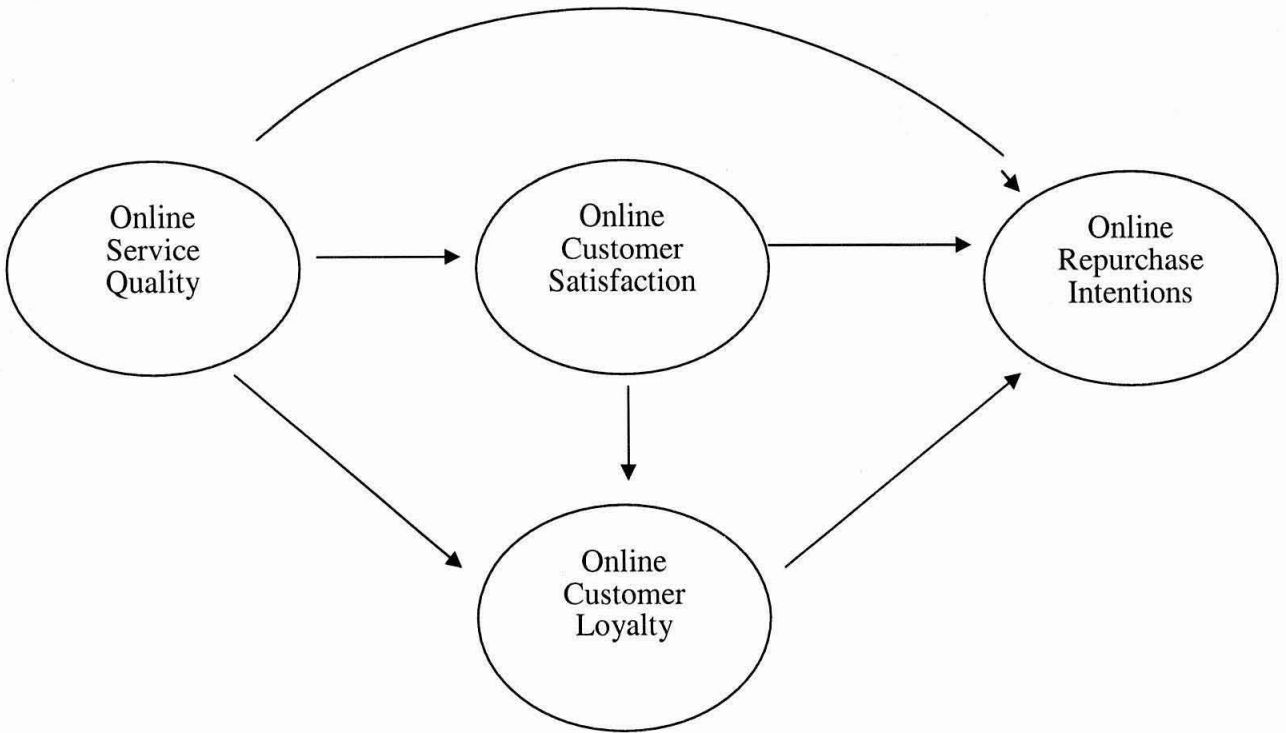


Figure 7. Theoretical framework of online service quality, online customer satisfaction, online customer loyalty, and online customer repurchase intentions.

Research Questions

The research questions of this study were as follows:

RQ1. Is there a significant positive relationship between e-service quality and repurchase intentions?

RQ2. Are there significant positive relationships among e-service quality, online customer satisfaction, and online repurchase intentions?

RQ3. Are there significant positive relationships among e-service quality, online customer loyalty, and online repurchase intentions?

RQ4. Are there significant positive relationships among e-service quality, online customer satisfaction, online customer loyalty, and online repurchase intentions?

Hypotheses

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

H1. E-service quality (information, ease-of-use, reliability, site design, and security) has a significant positive effect on online repurchase intentions.

H2. E-service quality (information, ease-of-use, reliability, site design, and security) has a significant positive effect on online customer satisfaction.

H3. Online customer satisfaction has a significant positive effect on online repurchase intentions.

H4. E-service quality (information, ease-of-use, reliability, site design, and security) has a significant positive effect on online customer loyalty.

H5. Online customer loyalty has a significant positive effect on online repurchase intentions.

H6. Online customer satisfaction has a significant positive effect on online customer loyalty.

H7. E-service quality (information, ease-of-use, reliability, site design, and security) and online customer satisfaction are significant explanatory variables of online repurchase intentions.

H8. E-service quality (information, ease-of-use, reliability, site design, and security) and online customer loyalty are significant explanatory variables of online repurchase intentions.

H9. E-service quality (information, ease-of-use, reliability, site design, and security), online customer satisfaction, and online customer loyalty are significant explanatory variables of online repurchase intentions.

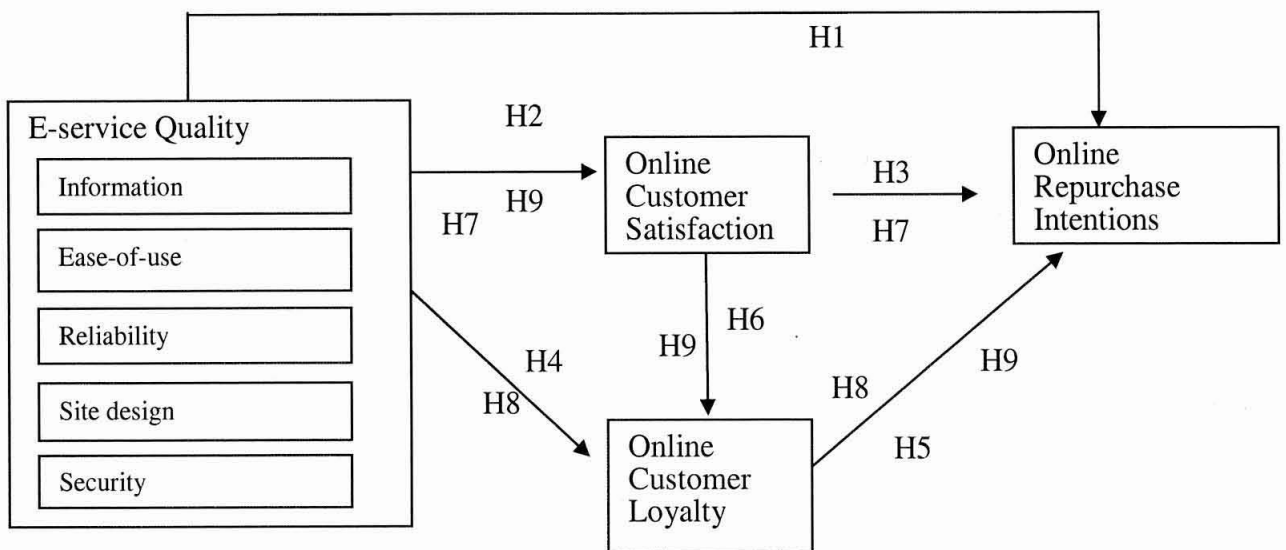


Figure 8. Hypothesized model

Chapter II provided a literature review of e-service quality, online satisfaction, online customer loyalty, and online customer repurchase intentions. The chapter included a discussion on the significant analysis of the theoretical and empirical literature. The theoretical framework, research hypothesis, and research questions were also presented in this chapter.

Chapter III discusses the research methodology for testing the nine research hypotheses and answering the four research questions about the relationship among e-service quality, online customer satisfaction, and online customer loyalty on online customer repurchase intentions. The chapter explains the research design, the population, sampling plan and setting, participant eligibility and exclusion criteria, survey instruments, ethical considerations, data collection methods, and data coding. Furthermore, the data analysis and evaluation of research methods (internal validity and external validity) was also addressed.

CHAPTER III

METHODOLOGY

Chapter III presents the methodology to explore the relationship among online service quality, online customer satisfaction, online customer loyalty, and online repurchase intentions. Chapter III describes and discusses the research design, the sampling plan and setting, instrumentation, ethical aspects, data collection procedures, and methods of data analysis.

Research Design

This quantitative, non-experimental, explanatory and correlational research design was used to test hypotheses and answer research questions about customer online shopping behavior and to test the relationship between e-service quality and online repurchase intentions with mediator variables of e-satisfaction and e-loyalty. The survey used systematic sampling and anonymity to collect data. The sample consisted of daytime undergraduate students of Fortune Institute of Technology in Taiwan. A systematic sampling method was used to assess the population. Descriptive statistics, factor analysis, simple regression, and multiple regression analysis were employed to test each of the hypotheses and answer research questions. The level of statistical significance of the regression models was set at $p < .05$.

The questionnaire included filter questions and five parts questionnaire. All filter questions require “yes” responses. The purpose of the filter questions was intentional to ensure that the respondents are eligible to do the survey: being 18 years old or more, being daytime undergraduate students at Fortune Institute of Technology, and having prior shopping experience on the Internet. Part 1 is a socio-demographic profile. The gender, age, duration of online shopping, and frequency of online shopping per month was examined. In part 2, an e-service quality scale which was developed by Bressolles (2006) and consists of five variables (18 items): information (3 items, with $\alpha=.93$), ease-of-use (5 items, with $\alpha=.95$), site design (3 items, with $\alpha=.90$), reliability (4 items, with $\alpha=.88$), and security (3 items, with $\alpha=.86$) used. In part 3, an online customer satisfaction scale was developed by Anderson and Srinivasan (2003) and consists of six items, with $\alpha=.89$ used. Part 4 is an online customer loyalty scale. It was developed by Anderson and Srinivasan (2003) and consists of seven items, with $\alpha=.91$ used. Finally, the part 5 is online repurchase intentions scale. This scale was developed by Holloway et al. (2005) and consists of four items, with $\alpha=.96$ used. All construct reliabilities were well above the acceptable alpha level of .70 (Nunnally, 1978). The summary of Cronbach’s Alpha for the Constructs is shown in Table 5. All instrument scales are shown in Appendix A.

Table 5

Summary of Cronbach's Alpha for the Constructs

Construct	Variable	Author	Number of Items	Alpha
E-service Quality	Information	Bressolles (2006)	3	0.93
	Ease-of-use	Bressolles (2006)	5	0.95
	Site design	Bressolles (2006)	3	0.90
	Reliability	Bressolles (2006)	4	0.88
	Security/Privacy	Bressolles (2006)	3	0.86
Online Customer Satisfaction	E- satisfaction	Anderson & Srinivasan (2003).	6	0.89
Online Customer Loyalty	E-loyalty	Anderson & Srinivasan (2003).	7	0.91
Online Repurchase Intentions	Online repurchase intentions	Holloway et al. (2005)	4	0.96

In this study, simple regression analysis and multiple regression analysis were used to test the nine hypotheses and answer the four research questions. Hypothesis 1 (H1) was tested to answer research question 1 (RQ1). Multiple regression was used to determine a significant relationship between e-service quality and online repurchase intentions. The level of statistical significance of the regression models was set at $p \leq .05$. The independent variable is e-service quality (information, ease-of-use, reliability, site design, and security). The dependent variable was online repurchase intentions.

Hypothesis 2 (H2) and hypothesis 3 (H3) were tested to answer research question 2 (RQ2). Multiple regression was used to determine a significant relationship between e-service quality and online customer satisfaction. The level of statistical significance of the regression models was set at $p \leq .05$. The independent variable is e-service quality (information, ease-of-use, reliability, site design, and security). The dependent variable was online customer satisfaction. For Hypothesis 3, Simple regression was used to determine a significant relationship between online customer satisfaction and online repurchase intentions. The level of statistical significance of the regression model was set at $p \leq .05$. The independent variable is online customer satisfaction. The dependent variable was online repurchase intentions.

Hypothesis 4 (H4) and hypothesis 5 (H5) were tested to answer research question 3 (RQ3). For hypothesis 4, multiple regression was used to determine a significant relationship between e-service quality and online customer loyalty. The level of statistical significance of the regression model was set at $p \leq .05$. The dependent variable is e-service quality (information, ease-of-use, reliability, site design, and security). The independent is online customer loyalty. For hypothesis 5, simple regression was used to determine a significant relationship between online customer loyalty and online repurchase intentions. The level of statistical significance of the regression models was

set at $p \leq .05$. The independent variable was online customer loyalty. The dependent variable was online repurchase intentions.

Hypothesis 6 (H6), hypothesis 7 (H7), hypothesis 8 (H8), and hypothesis 9 (H9) were tested to answer research question 4 (RQ4). For hypothesis 6, simple regression was used to determine significant relationships between online customer satisfaction and online customer loyalty. The level of statistical significance of the regression models was set at $p \leq .05$. The independent variable is online customer satisfaction. The dependent variable is online customer loyalty. For hypothesis 7, multiple regression was used to determine significant relationships between e-service quality and online customer satisfaction on online repurchase intentions. The level of statistical significance of the regression models was set at $p \leq .05$. The independent variables are e-service quality (information, ease-of-use, reliability, site design, and security) and online customer satisfaction. The dependent variable was online repurchase intentions. Multiple regression was used to determine significant relationships between e-service quality and online customer loyalty on online repurchase intentions for hypothesis 8. The level of statistical significance of the regression models was set at $p \leq .05$. The independent variables were e-service quality (information, ease-of-use, reliability, site design, and security) and online customer loyalty. The dependent variable was online repurchase intentions. For hypothesis 9, multiple regression was used to determine

significant relationships among e-service quality, online customer satisfaction, and online customer loyalty on online repurchase intentions. The level of statistical significance of the regression models was set at $p \leq .05$. The independent variables were e-service quality (information, ease-of-use, reliability, site design, and security), online customer satisfaction, and online customer loyalty. The dependent variable was online repurchase intentions.

Population and Sampling Plan

Population

Target Population. The target population included all Taiwanese online users who had previously shopped at various Internet stores. The number of total online users was 16,220,000 and the current number of online shopping consumers is 9,400,000 in Taiwan (Taiwan Network Information Center, 2010).

Accessible Population. The accessible population is daytime undergraduate students who attend Fortune Institute of Technology and had previously shopped at various Internet stores in Taiwan. Fortune Institute of Technology is located in Kaohsiung City, Taiwan. At the end of December 2010, Fortune Institute of Technology enrolls 2,990 daytime undergraduate students (Taiwan Ministry of Education, 2011).

Sampling Plan and Setting

Sample size. The sample size needed for multiple regression is based on the formula $n \geq 50 + 8m$, where n is the sample size and m is the number of predictor or explanatory variables (Green, 1991).

There were 11 total explanatory variables in this study. Thus, according to Green's (1991) formula $50 + 8m$, the minimum sample size for multiple regression analysis is 138 ($50 + (8 \times 11) = 138$). In this study, the subjects were located in four places at the Fortune Institute of Technology (cafeteria, book store, library, and student center). In each location 90 participants were recruited to participate in the study. A total sample size of 360 students exceeded the minimum observation requirement of 138 participants. The 11 explanatory variables for this study are shown in Table 6.

Table 6

Explanatory Variables in the study

Construct	Variable	No. of Variables
Socio-demographic	Gender, age, duration of online shopping experience, frequency of online shopping	4
E-service quality	Information, ease-of-use, reliability, site design, security	5
Online customer satisfaction	E-satisfaction	1
Loyalty intention	E-loyalty	1

Systematic sampling plan. A systematic sampling plan was used in this study.

The systematic sampling involved a random start and proceeded with the selection of every k^{th} ($k=\text{population size/sample size}$) element from then onwards (Kerlinger & Lee, 2000). In this study there were 2,990 daytime undergraduate students enrolled in Fortune Institute of Technology. The students who are entering the gate were sampled in random start from the cafeteria, the book store, the library, and the student center. The sample size was 360. The sampling interval was 8 ($k=2,990/360=8.3$). Hence, every 8th subject was selected and invited to participate in this survey during weekdays in each of four locations. The first subject was randomly selected. If a subject was not willing to participate in this survey, the next eligible subject was selected.

The schedule of data collection at four locations was: (1) the first week, the data collection was in the library, (2) the second week, the data collection was in the book store, (3) the third week, the data collection was in the student center, and (4) the fourth week, the data collection was in the cafeteria. Each location was recruited 90 participants. The total sample size in this study was 360. In this study, a research assistant Dr. Chen was hired for the purpose of distributing and collecting the questionnaires under the procedures.

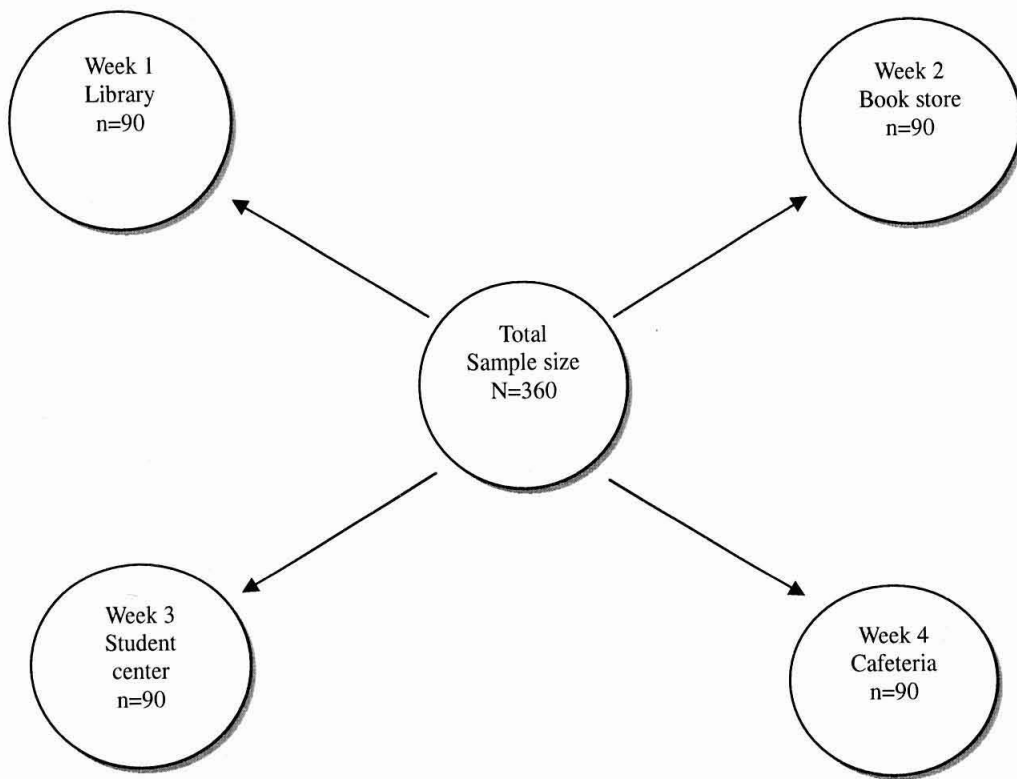


Figure 9. Sample size of the study

Eligibility criteria. The eligibility criteria of the sample were the following:

1. The subjects were 18 years and older,
2. The subjects were able to read and write traditional Chinese,
3. The subjects were currently studying during the daytime at Fortune Institute of Technology as undergraduate full-time students, and
4. The subjects had online shopping experience

Exclusion criteria. The exclusion criteria of the sample are:

1. The subjects who were under 18 years old,
2. The subjects who were not able to read and write traditional Chinese,
3. The subjects who were not studying during the daytime at Fortune Institute of Technology as undergraduate full-time students, and
4. The subjects who had no online shopping experience.

Instrumentation

This study included filter questions and five-part questionnaire. The filter questions were to ensure that subjects are eligible to participate in the survey. The five-part questionnaires measured online customer characteristics, e-service quality (*information, ease-of-use, site design, reliability, and security*), online customer satisfaction, online customer loyalty, and online repurchase intentions.

Filter questions

The purpose of the filter questions was to ensure that the respondents were eligible to participate in the survey: being 18 years old or more, being daytime undergraduate students at Fortune Institute of Technology, and had prior shopping experience on the Internet.

Part 1 Online Customer Characteristics

The socio-demographic profile consisted of 4 items. It included gender, age,

duration of online shopping, and frequency of online shopping per month. Gender is indicated by two values, males and females. Age is indicated by five values. There are 18 to 19 years old, 20 to 25 years old, 26-30 years old, 31-35 years old, 36-40 years old and over 40 years old. The duration of online shopping, is indicated by 7 values. There were 5 months or less, 6 to 12 months, 13 to 24 months, 25 to 36 months, 37 to 48 months, 49 to 60 months, and over 60 months. The frequency of online shopping per month is indicated by 4 values. It included 1 time or less, 2 to 5 times, 6 to 10 times, and over 10 times.

Part 2 E-service Quality Scale

Description. The e-service quality scale was adapted from Bressolles (2006). E-service quality consists of five variables and 18 items: information (3 items), ease-of-use (5 items), site design (3 items), reliability (4 items), and security (3 items). The five-point Likert-type scale was used and ranged from 1 (strongly disagree) to 5 (strongly agree). The items of e-service quality are presented in Table 7.

Table 7

Items of the E-service Quality Scale

Variable	Items
Information	This site provides relevant information. This site provides accurate information. This site provides in-depth information about the product(s) or services(s) proposed.
Ease-of-use	This site is easy to use. It is easy to search for information. This site is easy to navigate. The organization and layout of this site facilitate the search for information. The layout of this site is clear and simple.
Site Design	This site is colorful. This site is creative. This site has an attractive appearance.
Reliability	The product or service is delivered by the time promised by the company. You get what you ordered from this site. You get your merchandise quickly when you order. After-sale support on this site is excellent.
Security	I am confident in the security on this site. I feel like my privacy is protected on this site. I trust the web site administrators will not misuse my personal information.

Source: Adapted from Bressolles (2006). "NetQual-Proposition of a measurement scale to commercial Web sites and moderating effects," *Recherche et Applications en Marketing*, 39(5), pp. 45. Used with permission.

Reliability. Cronbach's alpha was used in the NetQual scale to examine internal consistency reliability. In Bressolles' (2006) study, the Cronbach's alpha of the NetQual scale are: information=.93, ease-of-use=.95, site design=.90, reliability =.88, and security.86. According to Nunnally (1978), the acceptable alpha level should be above at .70. Therefore, the construct reliabilities of the NetQual scale were well above the acceptable alpha level of internal consistency.

Validity. The construct validity was established (Bressolles, 2006). The confirmative factor loading of ease-of-use ranges from .79 to .94. The confirmative factor loading of site design ranges from .84 to .89. The confirmative factor loading of information ranges from .86 to .93. The confirmative factor loading of security ranges from .78 to .92. Consequently, the construct validity for e-service quality scale was obtained.

Part 3 Online Customer Satisfaction

Description. Online customer satisfaction was measured by the e-satisfaction scale developed by Anderson and Srinivasan (2003). This scale consisted of six items. The five-point Likert-type scale used ranged from 1 (strongly disagree) to 5 (strongly agree). However, two items are reversed statements. They were coded 5 (strongly disagree) to 1 (strongly agree). The items of e-satisfaction are presented in Table 8.

Table 8
Items of the Online Customer Satisfaction Scale

Variable	Items
Online Customer Satisfaction	I am satisfied with my decision to purchase from this Web site.
	If I had to purchase again, I would feel differently about buying from this web site.
	My choice to purchase from this Web site was a wise one.
	I feel badly regarding my decision to buy from this Web site (r).
	I think I did the right thing by buying from this Web site.
	I am unhappy that I purchased from this Web site (r).

Note: (r) shows the reversed statement.

Source: Adapted from Anderson and Srinivasan (2003). "E-Satisfaction and E-Loyalty: a Contingency Framework," *Psychology & Marketing*, 20(2), pp. 134. Copyright 2003 by Wiley Periodicals, Inc. Used with permission.

Reliability. Cronbach's alpha was used to test internal consistency reliability.

The Cronbach's alpha of e-satisfaction scale is .89. According to Nunnally (1978), the acceptable alpha level should be above at .70. Therefore, the reliability of the e-satisfaction scale was well above the acceptable alpha level of internal consistency.

Validity. To measure the various constructs, validated items used by other researchers were adapted. The e-satisfaction scale was assessed by adapting the scale developed by Oliver (1980). Therefore, the construct validity of the e-satisfaction scale was established.

Part 4 Online Customer Loyalty

Description. Online customer loyalty scale was adapted from Anderson and Srinivasan (2003). Online customer loyalty consists of six items. The five-point Likert-type scale was used and ranged from 1 (strongly disagree) to 5 (strongly agree). The items of online customer loyalty are shown in Table 9.

Table 9

Items of the Online Customer Loyalty Items

Variable	Items
Online customer loyalty	<p>I seldom consider switching to another Web site.</p> <p>As long as the present service continues, I doubt that I would switch web sites.</p> <p>I try to use the Web site whenever I need to make a purchase.</p> <p>When I need to make a purchase, this Web site is my first choice.</p> <p>I like using this Web site.</p> <p>To me this site is the best retail Web site to do business with.</p> <p>I believe that this is my favorite retail web site.</p>

Source: Adapted from Anderson and Srinivasan (2003). "E-Satisfaction and E-Loyalty: a Contingency Framework," *Psychology & Marketing*, 20(2), pp. 134. Copyright 2003 by Wiley Periodicals, Inc. Used with permission.

Reliability. Cronbach's alpha was used to test internal consistency reliability.

The Cronbach's alpha of the e-loyalty scale is .91. According to Nunnally (1978), the acceptable alpha level should be above at .70. Therefore, the reliability of the e-satisfaction scale was well above the acceptable alpha level of internal consistency.

Validity. To measure the various constructs, validated items used by other researchers were adapted. The online customer loyalty scale was evaluated by using adapted scale items from Gremler (1995) and Zeithaml, Berry, and Parasuraman (1996). Hence, the construct validity of the e-loyalty scale was established.

Part 5 Online Repurchase Intentions

Description. Online repurchase intentions was adapted from Holloway et al.

(2005) and consists of four items. The five-point Likert-type scale was used and ranged from 1 (strongly disagree) to 5 (strongly agree). The items of repurchase intentions are shown in Table 10.

Table 10

Items of the Online Repurchase Intentions Items

Variable	Items
Online Repurchase Intentions	The next time I purchase this product online, I will buy from the same online retailer.
	I would be willing to purchase form this company again.
	I would purchase from this online retailer again in the future.
	I would be very likely to increase my shopping activity with this online retailer.

Source: Adapted from Holloway, Wang, and Parish (2005). "The Role of Cumulative Online Purchasing Experience in Service Recovery Management," *Journal of Interactive Marketing*, 19(3), pp. 60. Copyright 2005 by Wiley Periodicals, Inc. and Direct Marketing Educational Foundation, Inc. Used with permission.

Reliability. Cronbach's alpha was used to test internal consistency reliability.

The Cronbach's alpha of the repurchase intentions scale was .96. According to Nunnally (1978), the acceptable alpha level should be above at .70. Therefore, the reliability of the e-satisfaction scale was well above the acceptable alpha level of internal consistency

Validity. To measure the various constructs, validated items used by other researchers were adapted. The repurchase intentions scale was evaluated by using scale

items adapted from Blodgett, Granbois, and Walters (1995). Consequently, the construct validity of the repurchase intentions scale was established.

Data Coding Scheme

This study was utilized SPSS software to analysis data. The first step of data analysis is data coding. Data coding was the transformation of research questionnaire data into numerical format for each value. Thus, variables were converted to binary format for each value in this study.

In this study, the filter questions were included in the questionnaire. The purpose of the filter questions was to make sure that the respondents were eligible to answer the questions: being 18 years old or more, being daytime undergraduate students at Fortune Institute of Technology, and having experience in purchasing products on the Internet. All filter questions required yes/no responses. There were no codes for these items. The data coding of part 1 to part 5 used is as follows:

Part 1 Socio Demographic Profile

The socio-demographic profile consisted of 4 items and was measured by items 1, 2, 3, and 4. The socio-demographic profile includes gender, age, duration of online shopping, and frequency of online shopping per month. Each one was coded as follows:

1. Gender is indicated by two values, males and females. There are coded numerically as 1(males) and 2 (females).

2. Age is indicated by five values. There are coded numerically as 1 (18 to 19), 2 (20 to 25), 3 (26-30), 4 (31-35), 5 (36-40), 6 (over 40).
3. The duration of online shopping, is indicated by 7 values. There were coded numerically as 1 (5 months or less), 2 (6 to 12 months), 3 (13 to 24 months), 4 (25 to 36 months), 5 (37 to 48 months), 6 (49 to 60 months), and 7 (over 60 months).
4. The frequency of online shopping per month is indicated by 4 values. The numbers were coded numerically as 1 (1 time or less), 2 (2 to 5 times), 3 (6 to 10 times), 4 (over 10 times).

Part 2 E-service Quality

E- service quality consisted of 18 items (ESQ1 to ESQ18) and was measured with five variables: (1) information was measured by items ESQ1, ESQ2, and ESQ3; (2) ease-of-use was measured by items ESQ4, ESQ5, ESQ6, ESQ7, and ESQ8; (3) site design was measured by items ESQ9, ESQ10, and ESQ11; (4) reliability was measured by items ESQ12, ESQ13, ESQ14, and ESQ15; (5) security was measured by items ESQ16, ESQ17, and ESQ18. The five-point Likert-type scale was indicated by 1 (strongly disagree) and 5 (strongly agree). The coding of e-service quality items is shown in Table 11.

Table 11

Coding of the E-service Quality Items

Variable	Indicator	Items
Information	ESQ 1	This site provides relevant information.
	ESQ 2	This site provides accurate information.
	ESQ 3	This site provides in-depth information about the product(s) or services(s) proposed.
Ease-of-use	ESQ 4	This site is easy to use.
	ESQ 5	It is easy to search for information.
	ESQ 6	This site is easy to navigate.
	ESQ 7	The organization and layout of this site facilitate the search for information.
	ESQ 8	The layout of this site is clear and simple.
Site Design	ESQ 9	This site is colorful.
	ESQ 10	This site is creative.
	ESQ 11	This site has an attractive appearance.
Reliability	ESQ 12	The product or service is delivered by the time promised by the company.
	ESQ 13	You get what you ordered from this site.
	ESQ 14	You get your merchandise quickly when you order.
	ESQ 15	After-sale support on this site is excellent.
Security	ESQ 16	I am confident in the security on this site.
	ESQ 17	I feel like my privacy is protected on this site.
	ESQ 18	I trust the web site administrators will not misuse my personal information.

Source: Adapted from Bressolles (2006). "NetQual-Proposition of a measurement scale to commercial Web sites and moderating effects," *Recherche et Applications en Marketing*, 39(5), pp. 45. Used with permission.

Part 3 Online Customer Satisfaction

Online customer satisfaction consisted of 6 items and was measured by items OCS1, OCS2, OCS 3, OCS4, OCS5, and OCS6. The five-point Likert-type scale was used and coded by 1 (strongly disagree) and 5 (strongly agree). However, items OCS4 and OCS6 were reversed statements (see Table 12). They are coded 5 (strongly disagree) to 1 (strongly agree).

Table 12
Coding of the Online Customer Satisfaction Items

Variable	Indicator	Items
E-satisfaction	OCS1	I am satisfied with my decision to purchase from this Web site.
	OCS2	If I had to purchase again, I would feel differently about buying from this web site.
	OCS3	My choice to purchase from this Web site was a wise one.
	OCS4	I feel badly regarding my decision to buy from this Web site (r).
	OCS5	I think I did the right thing by buying from this Web site.
	OCS6	I am unhappy that I purchased from this Web site (r).

Note: (r) shows the reversed statement.

Source: Adapted from Anderson and Srinivasan (2003). "E-Satisfaction and E-Loyalty: a Contingency Framework," *Psychology & Marketing*, 20(2), pp. 134. Copyright 2003 by Wiley Periodicals, Inc. Used with permission.

Part 4 Online Customer Loyalty

Online customer loyalty consisted of 7 items and was measured by items OCL1, OCL2, OCL3, OCL4, OCL1, OCL4, OCL5, OCL6 and OCL7. The five-point Likert-type scale was used and coded by 1 (strongly disagree) and 5 (strongly agree). The coding of online customer loyalty items is shown in Table 13.

Table 13

Coding of the Online Customer Loyalty Items

Variable	Indicator	Items
Online customer loyalty	OCL1	I seldom consider switching to another Web site.
	OCL2	As long as the present service continues, I doubt that I would switch web sites.
	OCL3	I try to use the Web site whenever I need to make a purchase.
	OCL4	When I need to make a purchase, this Web site is my first choice.
	OCL5	I like using this Web site.
	OCL6	To me this site is the best retail Web site to do business with.
	OCL7	I believe that this is my favorite retail web site.

Source: Adapted from Anderson and Srinivasan (2003). "E-Satisfaction and E-Loyalty: a Contingency Framework," *Psychology & Marketing*, 20(2), pp. 134. Copyright 2003 by Wiley Periodicals, Inc. Used with permission.

Part 5 Online Repurchase Intentions

Online repurchase intentions consisted of 4 items and was measured by item ORI1, ORI2, ORI3, and ORI4. The five-point Likert-type scale was used and coded by 1 (strongly disagree) and 5 (strongly agree). The coding of online repurchase intentions Items is shown in Table 14

Table 14

Coding of the Online Repurchase Intentions Items

Variable	Indicator	Items
Online Repurchase Intentions	ORI1	The next time I purchase this product online, I will buy from the same online retailer.
	ORI2	I would be willing to purchase form this company again.
	ORI3	I would purchase from this online retailer again in the future.
	ORI4	I would be very likely to increase my shopping activity with this online retailer.

Source: Adapted from Holloway, Wang, and Parish (2005). "The Role of Cumulative Online Purchasing Experience in Service Recovery Management," *Journal of Interactive Marketing*, 19(3), pp. 60. Copyright 2005 by Wiley Periodicals, Inc. and Direct Marketing Educational Foundation, Inc. Used with permission.

Procedures: Ethical Considerations and Data Collection Methods

Ethical Considerations

The following process describes the ethical considerations taken to protect participants. Every process of the data collection followed ethical considerations:

1. The researcher obtained the author's permission to use four instrument scales adapted in this study before collecting data (see Appendixes B, C, and D).
2. An application was submitted to the institutional Review Board (IRB) in order to ensure that data collection procedure meets all ethical considerations.
3. Upon receiving the approval from the IRB, the questionnaire used in this study was translated from English into traditional Chinese by using the

reverse-translation approach, with a certified translator to approve the precision of translation. When an official endorsement and certification was obtained, the survey was submitted to the IRB for final approval.

4. Due to the fact that the researcher was not able to return to Taiwan to conduct the survey, a research assistant was hired for the purpose of distributing and collecting the questionnaires under the procedures. The Assistant had a Lynn University doctoral degree and employed as a professor at the University in Taiwan. These credentials support the study.
5. Upon received approval from the Institutional Review Board, the data collection process was conducted.
6. During the data collection, subjects were free to choose whether or not to participate in this study. There was no penalty or loss of benefits to which subjects were otherwise entitled if subjects chose not to participate.
7. The subjects participated in the survey voluntarily, anonymously, and no personal identifiers were required.
8. The Fortune Institute of Technology granted permission to use the accessible population of the entire daytime undergraduate students (Appendix E). The participants were solicited at the main entrance of four locations on campus (cafeteria, bookstore, library, and student center) to conduct the data

collection.

9. The data collection start date was the date after this study was officially approved by the IRB and the data collection was completed four weeks after the approval date.
10. At the completion of data collection, IRB Form 8 (Termination of Project) was submitted to the Lynn University Institutional Review Board.
11. The data collected is kept as confidential information and saved electronically with password-protected computer systems for a period of five years and will not be exposed unless required by law. The collection data will be destroyed after five years.
12. The paper questionnaires will be destroyed five years after the completion of the study.

Data Collection Methods

The following process describes the methods of data collection.

1. This study utilized a self-reporting survey to collect data. The survey was distributed to daytime undergraduates who were attending the Fortune Institute of Technology in four main entrances of the cafeteria, the bookstore, the library, and the student center by using systematic and proportional sampling during weekdays in Kaohsiung city, Taiwan. The rationale for the

choice of the undergraduates from this particular setting is regarded as appropriate for the following reasons: (1) undergraduates are deemed appropriate as they have good computer skills and more frequent access to Internet than do other consumers (Lee, and Kozar, 2006); (2) students and non-students in Taiwan have no important difference in their motivation and quality perceptions when accessing the Internet (Chao, 2004).

2. The Fortune Institute of Technology has 2,990 daytime undergraduates.

The systematic sampling plan and anonymity were used to select participants.

Each location was recruited 90 participants. The total sample size in this study was 360 students. Therefore, the sample exceeds the required minimum size of 138 ($50+8m=50+8\times 11=138$) (Green, 1991).

3. The sampling interval was 8 ($k=2990/360=8.3$). Hence, every 8th subject was selected and invited to participate in this survey during weekdays in each of four locations. The first subject was randomly selected. If a subject was not willing to participate in this survey, the next eligible subject was selected.

4. In order to make sure each participant completed only one survey at the time of the selection, subjects were asked a question: Have you ever done this questionnaire before? If the selected subject had already completed this

survey, the next eligible subject was selected.

5. When the subjects agreed to participate, they were provided a questionnaire with a clip board and an envelope in which to put the completed questionnaire. The respondents were spent approximately 10 minutes to complete the questionnaire in a private place. When the respondents completed this questionnaire, it was placed into the assigned envelope and sealed. The respondents dropped the questionnaire into a slot in a closed data collection box located at the entrance to each of the four locations.

School hours and data collection period. The school hours for daytime undergraduate students are 8:00 a.m. to 5:00 p.m. during weekdays. Consequently, the data was collected during five weekdays (Monday, Tuesday, Wednesday, Thursday, and Friday) based on the school hours of the four locations (library, book store, student center, and cafeteria). The data collection schedule is shown in Table 15.

Table 15

Data collection schedule

Locations	Week	Collection period
Library	Week 1 (Mon to Fri)	8:00 am- 5:00 pm
Book store	Week 2 (Mon to Fri)	8:00 am- 5:00 pm
Student center	Week 3 (Mon to Fri)	8:00 am- 5:00 pm
Cafeteria	Week 4 (Mon to Fri)	8:00 am- 5:00 pm

The schedule of data collection at each location was: (1) The first week in the library, the data collection was from 8:00 a.m. to 5:00 p.m. during five weekdays (Monday, Tuesday, Wednesday, Thursday, and Friday), (2) The second week in the book store, the data collection was from 8:00 a.m. to 5:00 p.m. during five weekdays (Monday, Tuesday, Wednesday, Thursday, and Friday), (3) The third week in the student center, the data collection was from 8:00 a.m. to 5:00 p.m. during five weekdays (Monday, Tuesday, Wednesday, Thursday, and Friday), and (4) The fourth week in the cafeteria, the data collection was from 8:00 a.m. to 5:00 p.m. during five weekdays (Monday, Tuesday, Wednesday, Thursday, and Friday). Each location was recruited 90 participants. The total sample size in this study was 360 (see Figure 10).

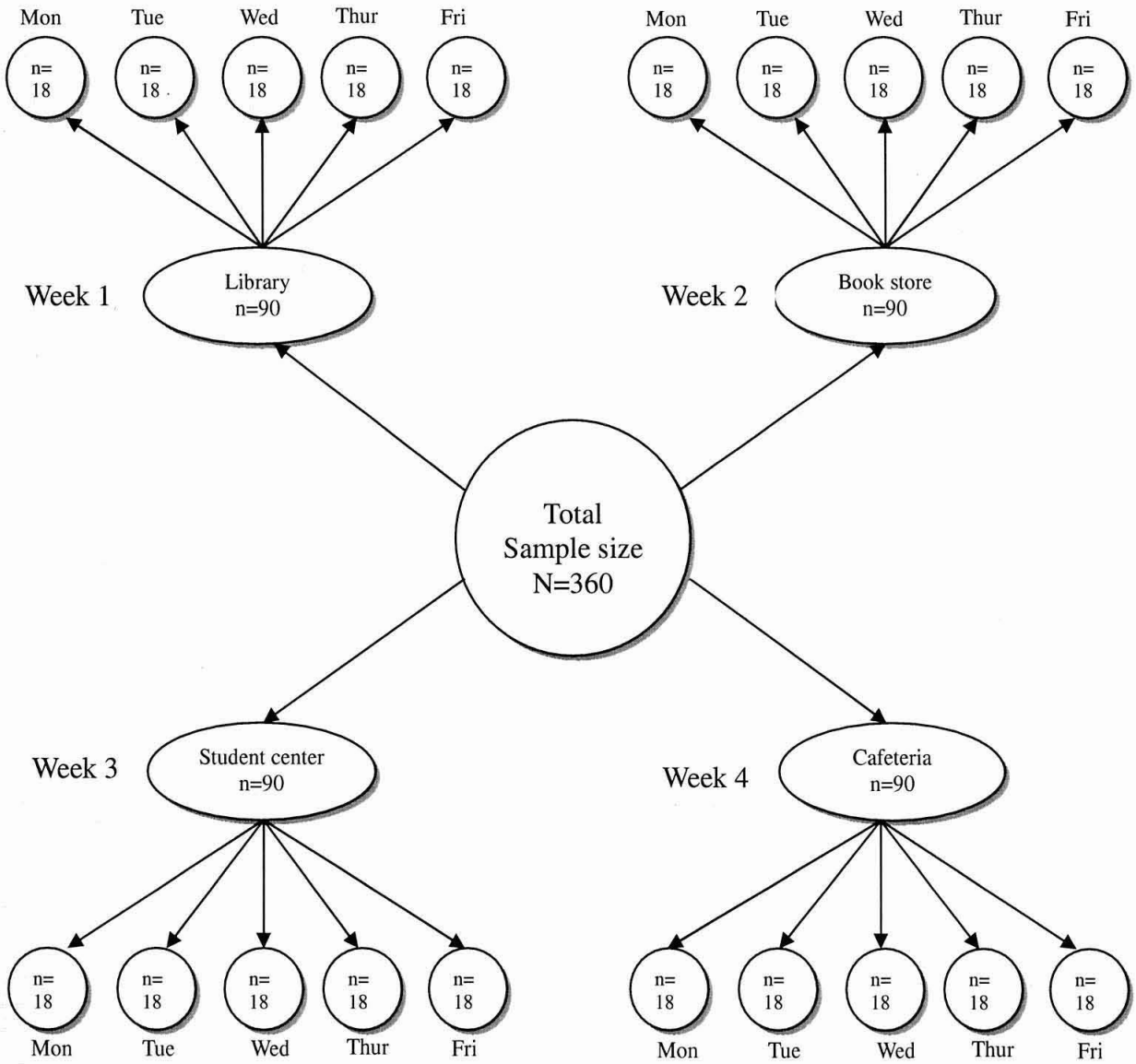


Figure 10. Collection period for four locations

Method of Data Analysis

This study was based on the research questions and hypotheses to identify the independent variables and dependent variables. Research questions one to four were developed to explore the relationships among e-service quality, e-satisfaction, e-loyalty, and online repurchase intention. Nine hypotheses were developed to test the relationships among e-service quality, e-satisfaction, e-loyalty, and online repurchase intentions.

The data were analyzed using the statistical software SPSS 17.0. The methods of data analysis include descriptive statistics, factor analysis, reliability analysis, simple regression analysis, and multiple regression analysis.

Descriptive Statistics

Descriptive statistics was employed to measure socio-demographic characteristics and the online customer shopping experience. This analysis showed the basic features of the data (frequency distributions, variability, and measures of central tendency) and described the sample for the data in this study.

Factor analysis

Factor analysis generally was used to determine the validity of constructs based on correlations among questionnaires. Additionally, it was run to fulfill data reduction in order to extract common factors from items measuring the constructs (Leech, Barrett,

& Morgan, 2005). According to Morgan, Leech, Gloeckner, and Barrett (2011), factor analysis can be used to extract a set of interrelated factors to establish the instrument's construct validity. Thus, in this study, factor analysis was adopted to measure the validity of four instruments included: e-service quality (18 items), online customer satisfaction (6 items), online customer loyalty (7 items), and online repurchase intentions (4 items).

Reliability analysis

Cronbach' alpha was used to measure the consistency of four scales including: e-service quality scale, e-satisfaction scale, e-loyalty scale, and repurchase intentions scale. According to Nunnally (1978), the instruments used in basic research have reliability of about .70 or better.

Simple regression analysis and multiple regression analysis

Hypothesis 1 (H1) was tested to answer research question 1 (RQ1). Multiple regression was used to determine the significant relationship between e-service quality and online repurchase intentions. The level of statistical significance of the regression models was set at $p \leq .05$. The independent variable was e-service quality (information, ease-of-use, reliability, site design, and security). The dependent variable was online repurchase intentions.

Hypothesis 2 (H2) and hypothesis 3 (H3) were tested to investigate research

question 2 (RQ2).

1. H2. Multiple regression was used to determine the significant relationship between e-service quality and online customer satisfaction. The level of statistical significance of the regression models was set at $p \leq .05$. The independent variable is e-service quality (information, ease-of-use, reliability, site design, and security). The dependent variable is online customer satisfaction.
2. H3. Simple regression was used to determine the significant relationship between online customer satisfaction, and online repurchase intentions. The level of statistical significance of the regression model was set at $p \leq .05$. The independent variable is online customer satisfaction. The dependent variable was online repurchase intentions.

Hypothesis 4 (H4) and hypothesis 5 (H5) were tested to answer research

question 3 (RQ3).

1. H4. Multiple regression was used to determine the significant relationship between e-service quality and online customer loyalty. The level of statistical significance of the regression models was set at $p \leq .05$. The independent variable was e-service quality (information, ease-of-use, reliability, site design, and security). The dependent variable was online

customer loyalty.

2. H5. Simple regression was used to determine the significant relationship between online customer loyalty, and online repurchase intentions. The level of statistical significance of the regression models was set at $p \leq .05$. The independent variable was online customer loyalty. The dependent variable was online repurchase intentions.

Hypothesis 6 (H6), hypothesis 7 (H7), hypothesis 8 (H8), and hypothesis 9 (H9), were tested to answer research question 4 (RQ4).

1. H6. Simple regression was used to determine the significant relationship between online customer satisfaction and online customer loyalty. The level of statistical significance of the regression models was set at $p \leq .05$. The independent variable was online customer satisfaction. The dependent variable was online customer loyalty.
2. H7. Multiple regression was used to determine the significant relationships between e-service quality and online customer satisfaction on online repurchase intentions. The level of statistical significance of the regression models was set at $p \leq .05$. The independent variables were e-service quality (information, ease-of-use, reliability, site design, and security/privacy) and online customer satisfaction. The dependent variable was online repurchase

intentions.

3. H8. Multiple regression was used to determine the significant relationships between e-service quality and online customer loyalty on online repurchase intentions. The level of statistical significance of the regression models was set at $p \leq .05$. The independent variables were e-service quality (information, ease-of-use, reliability, site design, and security) and online customer loyalty. The dependent variable was online repurchase intentions.
4. H9. Multiple regression was used to determine significant relationships among e-service quality, online customer satisfaction, and online customer loyalty on online repurchase intentions. The level of statistical significance of the regression models was set at $p \leq .05$. The independent variables were e-service quality (information, ease-of-use, reliability, site design, and security), online customer satisfaction, and online customer loyalty. The dependent variable was online repurchase intentions

Evaluation of Research Methods

Internal validity

The internal validity strengths include:

1. Multiple regression research was used to determine the relationship between variables.

2. The sample size was sufficient to conduct the statistical analysis.
3. Using valid and reliable instruments to measure the variable enhanced the internal validity.
4. Using a quantitative, non-experimental, and explanatory research design showed a higher internal validity than a quantitative exploratory or descriptive design.

The internal validity weaknesses include:

1. A non-experimental research design lacks the level of internal validity found in an experimental design.
2. The instrument of online repurchase intentions was modified by the researcher. Accordingly, the instrument may decrease validity reliability.
3. The instruments were translated, which may decrease the original validity and reliability.

External validity

The external validity strengths include:

1. The survey was completed in natural environment rather than a lab setting.
2. Homogeneous accessible population may decrease the effects of extraneous variables.
3. The students enrolled at Fortune Institute of Technology came from different

areas of Taiwan, which enhances the geographic diversity of the sample.

The external validity weaknesses include:

1. The accessible sample was limited to daytime undergraduate students which decreases the external validity.
2. The setting was limited to Fortune Institute of Technology which decreases global validity.

CHAPTER IV

RESULTS

Chapter IV presents the details of data analysis. This research investigated the relationships among e-service quality, online customer satisfaction, online customer loyalty and online customer repurchase intentions in the area of online business. This chapter included six sections. First, data-producing sample of Fortune Institute of Technology is described. Second, the characteristics of online customers are described. Third, factor analysis was adopted to measure the validity of instruments. Fourth, the reliability analysis of instruments is measured by Cronbach's alpha. Fifth, descriptive statistics and distribution of all variables are presented. Finally, the sixth section describes results of hypotheses testing. Simple regression and multiple regression were adopted to explore any significant relationships among online service quality, online customer satisfaction, online customer loyalty, and online repurchase intentions in online business. In this chapter, all data were analyzed by the statistical package for social sciences (SPSS) 17.0 program.

Data-Producing Sample

In this study, there were 514 eligible respondents from five locations at Fortune Institute of Technology invited to participate in this study. A total of 398 respondents agreed to participate in the survey and of the respondents, 38 were found to have invalid responses. The final number of valid questionnaires completed was 360. The response rate was 77% and the valid response rate was 70%. Table 16 presents the frequency distribution of respondents invited, participated respondents, invalid and valid responses.

Table 16

The Frequency of Total Online Customers

Location	respondent Invited	Total participated respondents	Invalid Responses	Valid Responses
Library	110	98	8	90
Book Store	130	99	9	90
Student Center	120	105	15	90
Cafeteria	154	96	6	90
Total	514	398	38	360

Characteristics of Online Customers

Of the 360 respondents, the sample consisted of 203 (56.4%) males and 157 (43.6%) females. The majority of the respondents were males (56.4%). Table 17 presents the frequency distribution of the respondents based on their gender.

Table 17

Frequency Distribution for Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	203	56.4	56.4	56.4
	Female	157	43.6	43.6	100.0

Total	360	100.0	100.0
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Table 18 presents the frequency distribution of the respondents based on their age.

A total of 360 respondents were within an age range from 18 to 40 years of age. The largest age group of respondents was between 20 and 25 years old (67.2%) and the smallest age group was between 36 to 40 years old (0.6%). The majority of the respondents were 20 to 25 years old (67.2%), followed by 18 to 19 years old (24.2%), 26 to 30 years old (6.9%), 31 to 35 years old (1.1%), and 36 to 40 years old (0.6%).

Table 18

Frequency Distribution for Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-19	87	24.2	24.2	24.2
	20-25	242	67.2	67.2	91.4
	26-30	25	6.9	6.9	98.3
	31-35	4	1.1	1.1	99.4
	36-40	2	0.6	0.6	100.0
	Above 40	0	0	0	100.0
	Total	360	100.0	100.0	

Of all respondents, 17.2% of respondents had used the Internet as a purchasing channel for 5 months or less, 23.1% for 6 to 12 months, 41.7% for 13 to 24 months, 12.8% for 25 to 36 months, 3.9% for 37 to 48 months, 0.8% for 49 to 60 months, and 0.6% for more than 60 months. The majority of the group with online shopping experiences was 13 to 24 months (41.7%), followed by 6 to 12 months (23.1%), 5 months or less (17.2%), 25 to 36 months (12.8%), 37 to 48 months (3.9%), 49 to 60 months (0.8%), and over 60 months (0.6%). Table 19 presents the frequency distribution for length of online shopping experience.

Table 19
Frequency Distribution for Length of Online Shopping Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	≤5 months	62	17.2	17.2	17.2
	6-12 months	83	23.1	23.1	40.3
	13-24 months	150	41.7	41.7	82.0
	25-36 months	46	12.8	12.8	94.8
	37-48 months	14	3.9	3.9	98.7
	49-60 months	3	0.8	0.8	99.6
	> 60 months	2	0.6	0.6	100.0
	Total	360	100.0	100.0	

The frequency distribution for online customers' purchasing frequency is presented in Table 20. The majority group of respondents who had previously purchased any product online one time or less was (61.9%), followed by 2 to 5 times (38.4%), 6 to 10 times (1.4%), and over 10 times (0.3%).

Table 20
Online customers' purchasing frequency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	≤1 time or less	223	61.9	61.9	61.9
	2-5 times	131	38.4	38.4	98.3
	6-10 times	5	1.4	1.4	99.7
	> 10 times	1	0.3	0.3	100.0
	Total	360	100.0	100.0	

Factor Analysis

Factor analysis is a useful tool to extract a set of interrelated factors to establish validity of the instrument's construct. In this study, all instruments were adopted from prior studies and included the following four constructs: e-service quality, online customer satisfaction, online customer loyalty, and online repurchase intentions. E-service quality, as a multiple dimensional construct is measured by five variables (information, ease-of-use, site design, reliability, and security). The construct online customer satisfaction was measured by the variable customer satisfaction which consisted

of four items. Online customer loyalty was measured by the variable customer loyalty, composed of seven items. And finally, the construct Online repurchase intentions was measured by the variable repurchase intentions and consisted of four items.

In this study, Kaiser-Meyer-Olkin (KMO) test and Bartlett's test were conducted to examine adequacy of items prior to executing factor analysis. Kaiser (1974) pointed out the value of KMO in the .90s as "marvelous", in the .80s as "meritorious", in the .70s as "middling", in the .60s as "mediocre", in the 0.50s as "miserable". In addition, the significant value of Bartlett's test should be $p < 0.5$. Table 21 presents the results of KMO and Bartlett's test. In this study, the results of KMO test for the construct online customer satisfaction was moderate, while for the other three constructs were all meritorious. The Bartlett's test was significant ($p \leq 0.05$).

Table 21

KMO and Bartlett's test

Construct	KMO and Bartlett's Test			
	KMO	Value	df	Sig.(p)
E-service Quality	.883	2982.761	153	.000*
Online Customer Satisfaction	.721	518.351	15	.000*
Online Customer Loyalty	.839	1197.522	21	.000*
Online Repurchase Intentions	.814	797.804	6	.000*

* $p \leq 0.05$

The next step in factor analysis was to measure the validity of the instruments and examine the items associated with the four constructs of e-service quality, online customer satisfaction, online customer loyalty, and online repurchase intentions.

E-service quality was measured by eighteen items (ESQ1 to ESQ18) as follows: three information items (ESQ1 to ESQ3) for the information variable; five ease-of-use items (ESQ4 to ESQ8) for the ease-of-use variable; three site design items (ESQ9 to ESQ11) for the site design variable; four reliability items (ESQ12 to ESQ15) for the reliability variable; and three security items (ESQ16 to ESQ18) for the security variable. Hair et al. (1997) pointed out that “the factor loadings of +/- .30 meet the minimal standard, while loadings above +/- .50 are practically significant” (p.384). In this study, the factor loading for e-service quality construct ranged from .818 to .519. Factor loading ranged from .519 to .754 for the information variable, .532 to .746 for the ease-of-use variable, .644 to .805 for site design variable, .565 to .757 for the reliability variable, and .731 to .818 for the security variable. According to the results, no items were removed.

Online customer satisfaction was measured by six customer satisfaction items (OCS1 to OCS6). The factor loading of online customer satisfaction ranged from .529 to .769, thus no items were removed. Online customer loyalty included seven customer loyalty items (OCL1 to OCL7) and factor loading ranged from .548 to .878, therefore no items were removed. Online repurchase intentions variable consisted of four repurchase intention items (ORI1 to ORI4) whose factor loading ranged from .638 to .806. Accordingly, no items were removed. Table 22 shows the results of factor analysis of the four construct

of e-service quality, online customer satisfaction, online customer loyalty, and online repurchase intentions.

Table 22

Factor Loadings for Each Construct

Item	Factor Loading			
	E-service Quality	Customer Satisfaction	Customer Loyalty	Repurchase Intentions
ESQ 1	.771			
ESQ 2	.754			
ESQ 3	.519			
ESQ 4	.625			
ESQ 5	.711			
ESQ 6	.746			
ESQ 7	.674			
ESQ 8	.532			
ESQ 9	.644			
ESQ 10	.805			
ESQ 11	.671			
ESQ 12	.691			
ESQ 13	.655			
ESQ 14	.757			
ESQ 15	.565			
ESQ 16	.731			
ESQ 17	.809			
ESQ 18	.818			
OCS 1		.658		
OCS 2		.529		
OCS 3		.621		
OCS 4		.769		
OCS 5		.570		
OCS 6		.722		
OCL 1			.878	

OCL 2	.850	
OCL 3	.548	
OCL 4	.652	
OCL 5	.702	
OCL 6	.668	
OCL 7	.647	
ORI 1		.638
ORI 2		.801
ORI 3		.806
ORI 4		.709

Reliability Analysis

In this study, Cronbach's alpha was employed to test the internal consistency of the instrument. The coefficients for online service quality was .894 (information= .764, ease-of-use= .849, site design= .792, reliability = .804, and Security= .862). For online customer satisfaction was .709, for online customer loyalty was .867 and for online repurchase intention was .881. According to Nunnally and Bernstein (1994), the instruments used in basic research have the minimum coefficient alpha values of .70 or better. As shown in Table 23, the reliability analysis indicated the internal consistency reliability of all instruments was established.

Table 23

Cronbach's alpha for the Constructs

Construct Variable	No. of item(s)	Cronbach's Alpha (α)
E-service Quality	18	.894
Information	3	.764
Ease-of-use	5	.849

Site design	3	.792
Reliability	4	.804
Security	3	.862
Online Customer Satisfaction	6	.709
Online Customer Loyalty	7	.867
Online Repurchase Intentions	4	.881

Descriptive Statistics

Frequency Distribution of All Variables

E-service quality was measured by the variables information, ease-of-use, reliability, site design and security. Table 24 shows the frequency distribution for e-service quality. First, most online retail stores offered relevant and in-depth information about their proposed products or services available to online shoppers. In addition, most online retail stores created a website that was easy to navigate facilitating customer searches for product information. Second, most online shoppers believed that the online retail store would deliver their order quickly and reliably. At the same time they believed that the after-sale support from the online store was poor, and were concerned about how secured their private information would be kept by the online store. Finally, online shoppers believed that customer security of their private information were absolutely critical.

Table 24
Frequency Distribution for E-service Quality Variables

Strongly Disagree (%) Neutral (%) Strongly Agree (%)

	1	2	3	4	5	Mean
Information						
This site provides relevant information.	1.1	5.0	23.3	52.5	18.1	3.81
This site provides accurate information.	0.3	9.4	41.1	38.3	10.8	3.50
This site provides in-depth information about the product(s) or services(s) proposed.	0.6	5.8	31.4	45.0	17.2	3.72

Table 24 (Continued)

Frequency Distribution for E-service Quality Variables

	Strongly Disagree (%)		Neutral (%)		Strongly Agree (%)	
	1	2	3	4	5	Mean
Ease-of-use						
This site is easy to use.	0.3	6.4	18.9	47.8	26.7	3.94
It is easy to search for information.	0.6	6.7	20.0	45.8	26.9	3.91
This site is easy to navigate.	0.6	4.7	18.6	44.2	31.9	4.02
The organization and layout of this site facilitate the search for information.	0.6	5.0	25.8	49.4	19.2	3.81
The layout of this site is clear and simple.	0.8	5.6	28.6	47.8	17.2	3.75
Site Design						
This site is colorful.	0.8	5.3	36.7	38.9	18.3	3.68
This site is creative.	1.4	10.3	53.6	27.5	7.2	3.28
This site has an attractive appearance.	2.5	10.6	45.8	29.2	11.9	3.37

Reliability

The product or service is delivered by the time promised by the company.	1.7	9.7	25.0	37.8	25.8	3.76
You get what you ordered from this site.	1.9	10.0	26.1	35.0	26.9	3.75
You get your merchandise quickly when you order.	1.4	12.2	24.7	39.4	22.2	3.68
After-sale support on this site is excellent.	2.2	11.4	43.9	30.0	12.5	3.39

Table 24 (Continued)

Frequency Distribution for E-service Quality Variables

	Strongly Disagree (%)		Neutral (%)		Strongly Agree (%)		Mean
	1	2	3	4	5		
Security							
I am confident in the security on this site.	2.2	12.2	35.3	35.0	15.3	3.48	
I feel like my privacy is protected on this site.	4.2	12.2	40.6	32.5	10.6	3.33	
I trust the web site administrators will not misuse my personal information.	4.7	13.3	37.2	32.2	12.5	3.34	

Frequency distribution for the construct online customer satisfaction is shown in

Table 25. Most online shoppers were satisfied with their decision to purchase from their preferred online retail stores. Furthermore, online shoppers believed that their choice to purchase from the Web site was a wise decision as a result of their satisfaction with the online retail store's product or service.

Table 25

Frequency Distribution for Online Customer Satisfaction

	Strongly Disagree (%)		Neutral (%)	Strongly Agree (%)		Mean
	1	2	3	4	5	
Online customer satisfaction						
I am satisfied with my decision to purchase from this Web site.	0.8	4.4	34.7	46.7	13.3	3.67
If I had to purchase again, I would feel differently about buying from this web site.	2.8	9.4	50.0	31.9	5.8	3.28
My choice to purchase from this Web site was a wise one.	1.1	5.8	48.6	37.5	6.9	3.43
I feel badly regarding my decision to buy from this Web site.	14.2	43.3	31.1	8.9	2.5	3.57
I think I did the right thing by buying from this Web site.	1.1	5.3	45.3	40.0	8.3	3.49
I am unhappy that I purchased from this Web site.	24.7	48.1	19.2	6.9	1.1	3.88

Table 26 shows the frequency distribution for the construct online customer loyalty.

Most online shoppers seldom consider switching to another online retail store. Online shoppers always try to use their preferred online retail store whenever there is a need to make a purchase.

Table 26
Frequency Distribution for Online Customer Loyalty

	Strongly Disagree (%)		Neutral (%)		Strongly Agree (%)	
	1	2	3	4	5	Mean
Online customer loyalty						
I seldom consider switching to another Web site.	4.7	21.7	36.1	30.0	7.5	3.13
As long as the present service continues, I doubt that I would switch web sites.	3.3	25.6	31.7	30.8	8.6	3.15
I try to use the Web site whenever I need to make a purchase.	0.6	5.3	26.1	51.7	16.4	3.78
When I need to make a purchase, this Web site is my first choice.	1.1	9.7	32.2	37.8	19.2	3.64
I like using this Web site.	0	5.0	37.5	41.7	15.8	3.68
To me this site is the best retail Web site to do business with.	1.1	9.2	45.3	33.9	10.6	3.43
I believe that this is my favorite retail web site.	1.4	12.8	48.6	27.8	9.4	3.31

Lastly, the frequency distribution for the construct online repurchase intentions is shown in Table 27. Most online shoppers believed that they would be willing to purchase from same online retail store again in the future. They indicated a preference for purchasing the same product from same online retail store in their next purchase. Finally, most online shoppers believed that they would continue their shopping with same online retailer in the future.

Table 27
Frequency Distribution for Online Repurchase Intentions

	Strongly Disagree (%)		Neutral (%)		Strongly Agree (%)		Mean
	1	2	3	4	5		
Online Repurchase Intentions							
The next time I purchase this product online, I will buy from the same online retailer.	1.1	7.8	33.9	46.1	11.1	3.58	
I would be willing to purchase form this company again.	0.3	4.2	21.4	57.5	16.7	3.86	
I would purchase from this online retailer again in the future.	0.6	4.4	20.8	54.7	19.4	3.88	
I would be very likely to increase my shopping activity with this online retailer.	1.1	7.2	36.4	38.3	16.9	3.62	

The Means and Standard Deviation of All Variables

The Means and Standard Deviation of E-service Quality. The e-service quality

scale, developed by Bressolles (2006), consisted of five dimensions (18 items) reflecting online service quality (information, ease-of-use, site design, reliability, and security) between online retailing stores and online consumers. A total of eighteen items was measured by a five-point Likert-type scale, ranging from 1 being “strongly disagree” to 5 being “strongly agree”.

The average mean score for the e-service quality scale was 3.61 (information=3.67, ease-of-use=3.89, site design=3.45, reliability=3.64, and security=3.38). The result indicated that most online retail websites are clear and simple to navigate, and searching for products’ information is easily accomplished.

The item with the highest mean score was “This site is easy to navigate” (M= 4.02, SD= .864), followed by “This site is easy to use” (M= 3.94, SD= .857). The item with the lowest mean score was “This site is creative” (M= 3.29, SD= .800). Table 28 presents the descriptive analysis of e-service quality variables and corresponding items.

Table 28
Descriptive Analysis of E-service Quality Items (N=360)

Indicators	Items	Mean	Standard deviation
Information	.	3.6796	
ESQ1	This site provides relevant information.	3.8139	.82531
ESQ2	This site provides accurate information.	3.5000	.82103
ESQ3	This site provides in-depth information about the product(s) or services(s) proposed.	3.7250	.83412
Ease-of-use		3.8900	
ESQ4	This site is easy to use.	3.9417	.85718
ESQ5	It is easy to search for information.	3.9194	.88419
ESQ6	This site is easy to navigate.	4.0222	.86373
ESQ7	The organization and layout of this site facilitate the search for information.	3.8167	.81746
ESQ8	The layout of this site is clear and simple.	3.7500	.83366
Site design		3.4500	
ESQ9	This site is colorful.	3.6861	.86002
ESQ10	This site is creative.	3.2889	.80034
ESQ11	This site has an attractive appearance.	3.3750	.91471
Reliability		3.6486	
ESQ12	The product or service is delivered by the time promised by the company.	3.7639	.99711
ESQ13	You get what you ordered from this site.	3.7500	1.02272
ESQ14	You get your merchandise quickly when you order.	3.6889	.99463
ESQ15	After-sale support on this site is excellent.	3.3917	.92290
Security		3.3879	
ESQ16	I am confident in the security on this site.	3.4889	.96737
ESQ17	I feel like my privacy is protected on this site.	3.3306	.96407
ESQ18	I trust the web site administrators will not misuse my personal information.	3.3444	1.01423

Note. E-service quality was measured by a five-point Likert-scale, with strongly disagree (1) and strongly agree (5) as anchors.

The Means and Standard Deviation of Online Customer Satisfaction

The online customer satisfaction scale, developed by Anderson and Srinivasan (2003), consisted of six items reflecting online customer satisfaction between online retailing stores and online consumers. The six items were measured by a five-point Likert-type scale, ranging from 1 being “strongly disagree” to 5 being “strongly agree”.

The average mean score for online customer satisfaction scale was 3.55. The item with the highest average mean score was “I think I did the right thing by buying from this Web site” (M= 3.88, SD= .897). The results indicated that most online shoppers prefer to shop from a particular online retail store. Table 29 presents the results of descriptive analysis for online customer satisfaction Items.

Table 29

Descriptive Analysis of Online Customer Satisfaction Items (N = 360)

Indicators	Items	Mean	Standard SD
OCS1	I am satisfied with my decision to purchase from this Web site.	3.6722	.79224
OCS2	If I had to purchase again, I would feel differently about buying from this web site.	3.2861	.82362
OCS3	My choice to purchase from this Web site was a wise one	3.4333	.75456
OCS4	I feel badly regarding my decision to buy from this Web site.	3.5778	.92598
OCS5	I think I did the right thing by buying from this Web	3.8833	.89738

	site.		
OCS6	I am unhappy that I purchased from this Web site.	3.4917	.76841
Average mean score for the online customer satisfaction scale		3.5574	

Note. Online customer satisfaction was measured by a five-point Likert-scale, with strongly disagree (1) and strongly agree (5) as anchors.

The Means and Standard Deviation of Online Customer Loyalty. The online customer loyalty scale, developed by Anderson and Srinivasan (2003), consisted of seven items reflecting an online customer loyalty between online retailing stores and online consumers. The seven items were measured by a five-point Likert-type scale, ranging from 1 being “strongly disagree” to 5 being “strongly agree”.

The average mean score for online customer loyalty scale was 3.45. The item with the highest average mean score was “I try to use the Web site whenever I need to make a purchase” (M= 3.78, SD= .800). The results indicated that a loyal customer will return to shop from same online retail store when they need to make a future purchase. Table 30 presents the results of descriptive analysis for online customer loyalty Items.

Table 30
Descriptive Analysis of Online Customer Loyalty Items (N = 360)

Indicators	Items	Mean	Standard deviation
OCL1	I seldom consider switching to another Web site.	3.1389	.99449
OCL2	As long as the present service continues, I doubt that I would switch web sites.	3.1583	1.00967
OCL3	I try to use the Web site whenever I need to make a purchase.	3.7806	.79983
OCL4	When I need to make a purchase, this Web site is my first choice.	3.6417	.93638

OCL5	I like using this Web site.	3.6833	.79676
OCL6	To me this site is the best retail Web site to do business with.	3.4361	.84202
OCL7	I believe that this is my favorite retail web site.	3.3111	.86265

Average item score for the online customer loyalty scale **3.4500**

Note. Online customer loyalty was measured by a five-point Likert-scale, with strongly disagree (1) and strongly agree (5) as anchors.

The Means and Standard Deviation of Online Repurchase Intentions. The online repurchase intentions scale, developed by Holloway et al. (2005), consisted of seven items reflecting an online customer repurchase intentions between online retailing stores and online consumers. The four items were measured by a five-point Likert-type scale, ranging from 1 being “strongly disagree” to 5 being “strongly agree”.

The average mean score for online repurchase intentions scale was 3.73. The item with the highest average mean score was “I would purchase from this online retailer again in the future” (M= 3.88, SD= .786). The results indicated that most online shoppers prefer to return shop from the same online retail store. Table 31 presents the results of descriptive analysis for online repurchase intentions Items.

Table 31

Descriptive Analysis of Online Repurchase Intentions Items (N = 360)

Indicators	Items	Mean	Standard deviation
ORI1	The next time I purchase this product online, I will buy from the same online retailer.	3.5833	.83031
ORI2	I would be willing to purchase form this company again.	3.8611	.74463

ORI3	I would purchase from this online retailer again in the future.	3.8806	.78613
ORI4	I would be very likely to increase my shopping activity with this online retailer	3.6278	.88649

Average mean score for the Online Customer Loyalty scale **3.7382**

Note. Online repurchase intentions was measured by a five-point Likert-type scale, with strongly disagree (1) and strongly agree (5) as anchors.

Pearson *r* Correlation

The Pearson's correlation was used to find a correlation between at least two variables. The value for Pearson *r* correlation can range between .00 "no correlation" and 1.00 "perfect correlation". The results indicated that relationship between most independent variables was weak (Pearson $r < .24$) to moderate (Pearson $r < .50$) except the relationship between information and ease-of-use (Person $r = .573$), information and online customer satisfaction (Person $r = .502$), reliability and online customer satisfaction (Person $r = .533$), and security and online customer satisfaction (Person $r = .523$). For the relationship between independent variables (online service quality, online customer satisfaction, and online customer loyalty) and dependent variable (online repurchase intentions), it was moderate to moderately strong (Person $r < .74$), with the highest Person r at .551 between online customer satisfaction and online repurchase intentions, and .690 between online customer loyalty and online repurchase intentions. Pearson *r* correlation for all variables is shown in Table 32.

Table 32

Pearson r Correlation for All Variables

	INF	EAS	SIT	REL	SEC	OCS	OCL	ORI
INF	1							
EAS	.573**	1						
SIT	.417**	.391**	1					
REL	.418**	.381**	.277**	1				
SEC	.425**	.339**	.407**	.493**	1			
OCS	.502**	.480**	.358**	.533**	.523**	1		
OCL	.421**	.354**	.208**	.286**	.306**	.472**	1	
ORI	.460**	.435**	.254**	.331**	.332**	.551**	.690**	1

** . Correlation is significant at the .01 level (2-tailed).

Hypotheses Testing

In this study, multiple regression and simple regression were used to test nine hypotheses. The significant level of .05 was used. Therefore, the hypothesis was supported when the level of statistical significance of the regression models was $p \leq .05$. The hypothesis was not supported when the level of statistical significance of the regression models was $p > .05$. The hypothesis was partially supported when any one of the independent variables was not significant with respect to dependent variable in the model.

Hypothesis 1: E-service quality (information, ease-of-use, reliability, site design, and security) has a significant positive effect on online repurchase intentions.

For the hypothesis 1, multiple regression analysis was conducted to examine the relationship between the construct e-service quality measured by the information, ease-of-use, reliability, site design, and security variable, and the dependent variable of online repurchases intentions. As shown in Table 36, the F value (27.06) for the overall regression was significant ($p < .001$). The coefficient of the adjusted R square value was .266. This indicated that 26.6% of the variation in online repurchase intentions was explained by the model. The remaining 73.4% of the variation of the dependent variable is due to the other variables not included in this model.

The order of strength relationship was information ($\beta = .251$) and ease-of-use ($\beta = .223$). Furthermore, both of the significant predictors of information and ease-of-use had a direct relationship with online repurchase intentions. Thus, hypothesis 1 was partially supported since only two of five independent variables were significant predictors. Table 33 presents the multiple regression analysis of e-service quality for online repurchase intentions.

Table 33

Multiple Regression of E-service Quality for Online Repurchase Intentions

N=360 F=27.055 P=.000 R²=.276 Adjusted R²=.266					
Explanatory Variable	B	SE	β	t	Sig. (p)
(Constant)	.5334	.882		6.045	.000
Information	.342	.081	.251	4.218	.000
Ease-of-use	.185	.047	.223	3.899	.000

The summary of multiple regression analysis of e-service quality for online customer repurchase intentions is shown in Table 34. The coefficient of the adjusted R square value was .266. The result indicated that 26.6% of the variation of online repurchase intentions was accounted for information and ease-of-use in combination.

Table 34

Summary of Multiple Regression of E-service Quality for Online Repurchase Intentions

Hypothesis	Dependent variable	Adjusted R ²	Significant Predictors
H1	Online Repurchase Intentions	26.6%	Information Ease-of-use

A summary of significant predictors of e-service quality variables for online repurchase intentions is presented in Table 35. Of the five e-service quality variables, information and ease-of-use were the only significant important and positive factors to online repurchase intentions.

Table 35

Significant Predictors Summary of E-Service Quality for Online Repurchase Intentions

Construct	Significant Predictors	Online repurchase intentions (H1)
E-service Quality	Information	x
	Ease-of-use	x
	Reliability	
	Site Design	
	Security	

Hypothesis 2: E-service quality (information, ease-of-use, reliability, site design, and security) has a significant positive effect on online customer satisfaction.

For the hypothesis 2, multiple regression analysis was conducted to examine the relationship between e-service quality construct measured by the information, ease-of-use, reliability, site design, and security variables and the dependent variable of online customer satisfaction. As shown in Table 39, the F value (58.95) for the overall regression was significant ($p < .001$). The coefficient of the adjusted R square value was .447. This indicated that 44.7% of the variation in online customer satisfaction was explained by the model. The remaining 55.3% of the variation of the dependent variable is due to the other variables not included in this model.

The order of strength relationship was reliability ($\beta = .262$), security ($\beta = .243$), ease-of-use ($\beta = .187$), and information ($\beta = .164$). Furthermore, reliability, security, ease-of-use, and information had a direct relationship with online customer satisfaction. Thus, hypothesis 2 was partially supported since four of the five independent variables were significant predictors. Table 36 presents the multiple regression analysis of e-service quality for online customer satisfaction.

Table 36

Multiple Regression of E-Service Quality for Online Customer Satisfaction

N=360 F=58.950 P=.000 R ² =.454 Adjusted R ² =.447					
Explanatory Variable	B	SE	β	t	Sig. (p)
(Constant)	.7533	.874		8.615	.000
Information	.254	.080	.164	3.165	.002
Ease-of-use	.177	.047	.187	3.763	.000
Reliability/Fulfillment	.266	.048	.262	5.524	.000
Security/Privacy	.296	.059	.243	4.999	.000

The summary of multiple regression analysis of e-service quality for online customer satisfaction is shown in table 37. The coefficient of the adjusted R square value was .447. The results indicated that 44.7% of the variance of online customer satisfaction accounted for was attributed to information, ease-of-use, reliability, and security in combination.

Table 37

Summary of Multiple Regression of E-Service Quality for Online Customer Satisfaction

Hypothesis	Dependent variable	Adjusted R ²	Significant Predictors
H2	Online Customer Satisfaction	44.7%	Reliability Security Ease-of-use Information

A summary of significant predictors of e-service quality variables for online customer satisfaction is presented in Table 38. Of the five e-service quality variables, reliability, security, ease-of-use, and information were the most important and positive

factors to online customer satisfaction.

Table 38

Significant Predictors Summary of E-Service Quality for Online Customer satisfaction

Construct	Significant Predictors	Online customer satisfaction (H2)
E-Service Quality	Information	x
	Ease-of-use	x
	Reliability	x
	Site Design	
	Security	x

Hypothesis 3: Online customer satisfaction has a significant positive effect on online repurchase intentions.

For the hypothesis 3, simple regression analysis was conducted to examine the relationship between online customer satisfaction variable and the dependent variable of online repurchase intentions. As shown in Table 39, the F value (156.182) for the overall regression was significant ($p < .001$). The coefficient of the adjusted R square value was .302. This indicated that 30.2% of the variation in online repurchase intentions was explained by the model. The remaining 69.8% of the variation of the dependent variable is due to the other variables not included in this model. Meanwhile, online customer satisfaction had a direct relationship ($\beta = .551$) with online customer repurchase intentions. Thus, hypothesis 3 was supported since the independent variable

was a significant predictor. Table 39 presents the simple regression analysis of online customer satisfaction for online repurchase intentions.

Table 39

Regression of Online Customer Satisfaction on Online Repurchase Intentions

N=360	F=156.182	P=.000	R²=.304	Adjusted R²=.302		
Explanatory Variable	B	SE	β	<i>t</i>	Sig. (p)	
(Constant)	.4645	.834		5.570	.000	
Online customer satisfaction	.483	.039	.551	12.437	.000	

In summary, the coefficient of the adjusted R square value was .302. The results indicated that 30.2% of the variance of online repurchase intentions was attributed to online customer satisfaction. Furthermore, of the online customer satisfaction variable, online customer satisfaction was the most important and positive factor to online repurchase intentions.

Hypothesis 4: E-service quality (information, ease-of-use, reliability, site design, and security) has a significant positive effect on online customer loyalty.

For the hypothesis 4, multiple regression analysis was conducted to examine the relationship between e-service quality variables (information, ease-of-use, reliability, site design, and security) and the dependent variable of online customer loyalty. As shown in Table 40, the *F* value (19.416) for the overall regression was significant ($p < .001$).

The coefficient of the adjusted R square value was .204. This indicated that 20.4% of the variation in online customer loyalty was explained by the model. The remaining 80% of the variation of the dependent variable is due to the other variables not included in this model.

The order of strength relationship was information ($\beta = .272$) and ease-of-use ($\beta = .143$). Furthermore, both significant predictors of information and ease-of-use had a direct relationship with online customer loyalty. Thus, hypothesis 4 was partially supported since only two of the five independent variables were significant predictors.

Table 40 presents the multiple regression analysis of e-service quality for online customer loyalty.

Table 40

Multiple Regression of Online Service Quality on Online Customer Loyalty

N=360 F=19.416 P=.000 R ² =.215 Adjusted R ² =.204					
Explanatory Variable	B	SE	β	t	Sig. (p)
(Constant)	16.461	1.647		9.993	.000
Information	.664	.151	.272	4.389	.000
Ease-of-use	.212	.088	.143	2.400	.017

The summary of multiple regression analysis of e-service quality for online customer loyalty is shown in Table 41. The coefficient of the adjusted R square value was .204. The results indicated that 20.4% of the variance of online customer loyalty was attributed to information, and ease-of-use in combination.

Table 41

Summary of Multiple Regression of E-Service Quality for Online Customer Loyalty

Hypothesis	Dependent variable	Adjusted R ²	Significant Predictors
H4	Online Customer Loyalty	20.4%	Information Ease-of-use

A summary of significant predictors of e-service quality variables for online customer loyalty is presented in Table 42. Of the five variables measuring e-service quality construct, information and ease-of-use were significant and had a positive relationship with online customer loyalty.

Table 42

Significant Predictors Summary of E-Service Quality for Online Customer loyalty

Construct	Significant Predictors	Online customer loyalty (H4)
E-Service Quality	Information	x
	Ease-of-use	x
	Reliability	
	Site Design	
	Security	

Hypothesis 5: Online customer loyalty has a significant positive effect on online customer repurchase intentions.

For the hypothesis 5, simple regression analysis was conducted to examine the relationship between online customer loyalty variable and the dependent variable of online repurchase intentions. As shown in Table 43, the *F* value (325.639) for the overall regression was significant ($p < .001$). The coefficient of the adjusted R square value was .475. This indicated that 47.5% of the variation in online customer repurchase intentions was explained by the model. The remaining 52.5% of the variation of the dependent variable is due to the other variables not included in this model. Meanwhile, online customer loyalty had a direct relationship ($\beta = .690$) with online repurchase intentions. Thus, hypothesis 5 was supported since the independent variable was significant predictors. Table 43 presents the simple regression analysis of online customer loyalty for online repurchase intentions.

Table 43

Regression of Online Customer Loyalty for Online Repurchase Intentions

N=360 F=325.639 P=.000 R²=.476 Adjusted R²=.475					
Explanatory Variable	B	SE	β	<i>t</i>	Sig. (p)
(Constant)	2.968	.673		4.412	.000
Online Customer Loyalty	.385	.021	.690	18.045	.000

In summary, the coefficient of the adjusted R square value was .475. The results indicated that 47.5% of the variance of online repurchase intentions was attributed to online customer loyalty. Furthermore, online customer loyalty was significant and had a positive effect on online repurchase intentions.

Hypothesis 6: Online customer satisfaction has a significant positive effect on online customer loyalty.

For the hypothesis 6, simple regression analysis was conducted to examine the relationship between online customer satisfaction variable and the dependent variable of online customer loyalty. As shown in Table 44, the *F* value (102.553) for the overall regression was significant ($p < .001$). The coefficient of the adjusted R square value was .221. This indicated that 22.1% of the variation in online customer loyalty was explained by the model. The remaining 77.9% of the variation of the dependent variable is due to the other variables not included in this model. Meanwhile, online customer satisfaction had a direct relationship ($\beta = .472$) with online customer loyalty. Thus, H6 was supported since the independent variable was significant predictor. Table 44 presents the simple regression analysis of online customer satisfaction for online customer loyalty.

Table 44

Regression of Online Customer Satisfaction on Online Customer Loyalty

N=360 F=102.553 P=.000 R ² =.223 Adjusted R ² =.221					
Explanatory Variable	B	SE	β	t	Sig. (p)
(Constant)	15.309	1.580		9.692	.000
Online Customer Loyalty	.741	.073	.472	10.127	.000

In summary, the coefficient of the adjusted R square value was .221. The results indicated that 22.1% of the variation of online customer loyalty was attributed to online customer satisfaction. Furthermore, online customer satisfaction was significant and had a positive effect on online customer loyalty.

Hypothesis 7: E-service quality (information, ease-of-use, reliability, site design, and security) and online customer satisfaction are significant explanatory variables of online repurchase intentions.

For the hypothesis 7, multiple regression analysis was conducted to examine the relationship among e-service quality variables (information, ease-of-use, reliability, site design, and security), online customer satisfaction variable, and the dependent variable of online repurchase intentions. As shown in Table 45, the *F* value (33.370) for the overall regression was significant ($p < .001$). The coefficient of the adjusted R square value was .351. This indicated that 35.1% of the variation in online repurchase intentions was explained by the model. The remaining 64.9% of the variation of the dependent

variable is due to the other variables not included in this model.

The order of strength relationship was online customer satisfaction ($\beta = .396$), information ($\beta = .186$), and ease-of-use ($\beta = .149$). Furthermore, online customer satisfaction, information, and ease-of-use had a direct relationship with online repurchase intentions. Thus, hypothesis 7 was partially supported since only two of five independent variables were significant predictors. Table 45 presents the multiple regression analysis of e-service quality and online customer satisfaction for online repurchase intentions.

Table 45

Multiple Regression of E-service Quality and Online Customer Satisfaction for Online Repurchase Intentions

N=360 F=33.370 P=.000 R²=.362 Adjusted R²=.351					
Explanatory Variable	B	SE	β	<i>t</i>	Sig. (p)
(Constant)	2.722	.913		2.982	.003
Information	.254	.077	.186	3.282	.001
Ease-of-use	.123	.045	.149	2.718	.007
Online Customer Satisfaction	.347	.050	.396	6.875	.000

The summary of multiple regression analysis of e-service quality and online customer satisfaction for online repurchase intentions is shown in Table 46. The coefficient of the adjusted R square value was .351. The results indicated that 35.1% of the variance of online repurchase intentions was attributed to online customer satisfaction,

information, and ease-of-use.

Table 46

Summary of Multiple Regression of E-Service Quality and Online Customer Satisfaction for Online Repurchase Intentions

Hypothesis	Dependent variable	Adjusted R ²	Significant Predictors
H7	Online Repurchase Intentions	35.1%	Online Customer Satisfaction Information Ease-of-use

A summary of significant predictors of e-service quality variables and online customer satisfaction variable for online customer repurchase intentions is presented in Table 47. Of the five e-service quality variables and one online customer satisfaction variable, online customer satisfaction, information and ease-of-use were the most important and positive factors to online repurchase intentions.

Table 47

Significant Predictors Summary of E-Service Quality and Online Customer Satisfaction for Online Repurchase Intentions

Construct	Significant Predictors	Online customer repurchase intentions (H7)
E-Service Quality	Information	x
	Ease-of-use	x
	Reliability	
	Site Design	
	Security	
Online Customer Satisfaction	Online Customer Satisfaction	x

Hypothesis 8: E-service quality (information, ease-of-use, reliability, site design, and security) and online customer loyalty are significant explanatory variables of online repurchase intentions.

For the hypothesis 8, multiple regression analysis was conducted to examine the relationship among e-service quality variables (information, ease-of-use, reliability, site design, and security), online customer loyalty variable, and the dependent variable of online repurchase intentions. As shown in Table 48, the F value (66.950) for the overall regression was significant ($p < .001$). The coefficient of the adjusted R square value was .524. This indicated that 52.4% of the variation in online repurchase intentions was explained by the model. The remaining 47.6% of the variation of the dependent variable is due to the other variables not included in this model.

The order of strength relationship was online customer loyalty ($\beta = .571$) and ease-of-use ($\beta = .141$). Furthermore, both of significant predictors of online customer loyalty and ease-of-use had a direct relationship with online repurchase intentions since only two of six independent variables were significant predictors. Thus, hypothesis 8 was partially supported. Table 48 presents the multiple regression analysis of online service quality and online customer loyalty for online repurchase intentions.

Table 48

Multiple Regression of E-service Quality and Online Customer Loyalty for Online Repurchase Intentions

N=360 F=66.950 P=.000 R ² =.532 Adjusted R ² =.524					
Explanatory Variable	B	SE	β	t	Sig. (p)
(Constant)	2.011	.804		1.945	.001
Ease-of-use	.117	.038	.141	3.046	.002
Online Customer Loyalty	.318	.023	.571	13.894	.000

The summary of multiple regression analysis of e-service quality and online customer loyalty for online repurchase intentions is shown in Table 49. The coefficient of the adjusted R square value was .524. The results indicated that 52.4% of the variance of online repurchase intentions was attributed to online customer loyalty and ease-of-use.

Table 49

Summary of Multiple Regression of E-Service Quality and Online Customer Loyalty for Online Repurchase Intentions

Hypothesis	Dependent variable	Adjusted R ²	Significant Predictors
H8	Online Repurchase Intentions	52.4%	Online Customer Loyalty Ease-of-use

A summary of significant predictors of e-service quality variables and online customer loyalty variable for online repurchase intentions is presented in Table 50. Of the five e-service quality variables and one online customer loyalty variable, online

customer loyalty and ease-of-use were the most important and positive factors to online repurchase intentions.

Table 50
Significant Predictors Summary of E-Service Quality and Online Customer Loyalty for Online Repurchase Intentions

Construct	Significant Predictors	Online repurchase intentions (H8)
E-Service Quality	Information	
	Ease-of-use	x
	Reliability	
	Site Design	
	Security	
Online Customer Loyalty	Customer Loyalty	x

Hypothesis 9: E-service quality (information, ease-of-use, reliability, site design, and security), online customer satisfaction, and online customer loyalty are significant explanatory variables of online repurchase intentions.

For the hypothesis 9, multiple regression analysis was conducted to examine the relationship among e-service quality variables (information, ease-of-use, reliability, site design, and security), online customer satisfaction variable, online customer loyalty variable, and the dependent variable of online repurchase intentions. As shown in Table 51, the *F* value (63.495) for the overall regression was significant ($p < .001$). The coefficient of the adjusted R square value was .549. This indicated that 54.9% of the

variation in online customer repurchase intentions was explained by the model. The remaining 45.1% of the variation of the dependent variable is due to the other variables not included in this model.

The order of strength relationship was online customer loyalty ($\beta = .520$), online customer satisfaction ($\beta = .226$), and ease-of-use ($\beta = .107$). Furthermore, online customer loyalty, online customer satisfaction, and ease-of-use had a direct relationship with online repurchase intentions. Thus, hypothesis 9 was partially supported since only three of the six independent variables were significant predictors. Table 51 presents the multiple regression analysis of e-service quality, online customer satisfaction, and online customer loyalty for online repurchase intentions.

Table 51

Multiple Regression of E-Service Quality, Online Customer Satisfaction and Online Customer Loyalty for Online Repurchase Intentions

N=360 F=63.495 P=.000 R²=.558 Adjusted R²=.549					
Explanatory Variable	B	SE	β	<i>t</i>	Sig. (p)
(Constant)	.929	.815		1.140	.011
Ease-of-use	.088	.038	.107	2.324	.021
Online Customer Satisfaction	.198	.044	.226	4.532	.000
Online Customer Loyalty	.290	.023	.520	12.499	.000

The summary of multiple regression analysis of e-service quality, online customer satisfaction and online customer loyalty for online repurchase intentions is shown in

Table 52. The coefficient of the adjusted R square value was .549. The result indicated that 54.9% of the variance of online repurchase intentions was accounted for online customer satisfaction, online customer loyalty, and ease-of-use.

Table 52

Summary of Multiple Regression of E-Service Quality, Online Customer Satisfaction and Online Customer Loyalty for Online Repurchase Intentions

Hypothesis	Dependent variable	Adjusted R ²	Significant Predictors
H9	Online Repurchase Intentions	54.9%	Online Customer Satisfaction Online Customer Loyalty Ease-of-use

A summary of significant predictors of e-service quality variables, online customer satisfaction variable, and online customer loyalty variable for online repurchase intentions is presented in Table 53. Of the five e-service quality variables, online customer satisfaction variable, and online customer loyalty variable, online customer satisfaction, online customer loyalty, and ease-of-use were the most important and positive factors to online repurchase intentions.

Table 53

Significant Predictors Summary of E-service Quality, Online Customer Satisfaction and Online Customer Loyalty for Online Repurchase Intentions

Construct	Significant Predictors	Online repurchase intentions (H9)
E-Service Quality	Information	
	Ease-of-use	x
	Reliability	
	Site Design	
	Security	
Online Customer Satisfaction	Online Customer Satisfaction	x
Online Customer Loyalty	Online Customer Loyalty	x

Summary of Findings

A summary of regression models for nine hypotheses is presented in Table 54.

According to the multiple regression analysis of hypothesis 1, the information and ease-of-use variables of e-service quality construct were significant predictors of online repurchase intentions. The information and ease-of-use variables had a direct relationship with online repurchase intentions. Meanwhile, these two variables explained 27.6% of the variation in online repurchase intentions. The other independent variables of e-service quality construct (reliability, site design, and security) were not significant factors affecting the dependent variable.

For hypothesis 2, the result of multiple regression analysis indicated that the

information variable, ease-of-use variable, reliability variable, and security variable of e-service quality had significant and a direct relationship on the dependent variable of online customer satisfaction. This combination of e-service quality variables explained 44.7% of the variance in online customer satisfaction. Meanwhile, only site design variable was not a significant variable affecting the dependent variable.

For hypothesis 3, the simple regression analysis revealed that online customer satisfaction had a significant and direct relationship on online repurchase intentions with an adjusted R square of 30.2%.

For hypothesis 4, the results of multiple regression analysis indicated that information variable and ease-of-use variable of e-service quality had a significant and direct effect on the dependent variable of online customer loyalty. This combination of e-service quality variables explained 20.4% of the variation in online customer loyalty. Meanwhile, the other variables of e-service quality value (reliability, site design, and security) were not significant factors affecting the dependent variable.

For hypothesis 5, the simple regression analysis indicated that online customer loyalty had a significant and direct relationship on online repurchase intentions with an adjusted R square of 47.5%.

For hypothesis 6, the simple regression analysis revealed that online customer satisfaction had a significant and direct relationship on online customer loyalty with an

explained variation of 22.1%.

For hypothesis 7, the result of multiple regression analysis indicated that information variable and ease-of-use variable of e-service quality and online customer satisfaction had a significant and direct relationship on dependent variable of online repurchase intention. This combination of e-service quality variables (information and ease-of-use) and online customer satisfaction was able to explain 35.1% of the variation in online repurchase intentions. Meanwhile, the other variables (reliability, site design, and security) of e-service quality value were not significant factors impacting the dependent variable.

For hypothesis 8, the result of multiple regression analysis indicated that ease-of-use variable of e-service quality and online customer loyalty had a significant and direct relationship on dependent variable of online repurchase intentions. Ease-of-use variable of e-service quality and online customer loyalty were able to explain 52.4% of the variation in online repurchase intentions. Furthermore, the other variables (information, reliability, site design, and security) of e-service quality value were not significant factors affecting the dependent variable.

For hypothesis 9, the result of multiple regression analysis indicated that ease-of-use variable of e-service quality, online customer satisfaction, and online customer loyalty had a significant and direct relationship on dependent variable of online repurchase

intentions. Ease-of-use variable of e-service quality, online customer satisfaction, and online customer loyalty were able to explain 54.9% of the variation in online repurchase intentions. Furthermore, the other variables (information, reliability, site design, and security) of e-service quality value were not significant factors affecting the dependent variable.

Table 54
Summary of Regression Models for Nine Hypotheses

Hypothesis	D V	EV	Predictors							Supported
H1	ORI	27%	INF*	EAS*	REL	SIT	SEC			Partially
H2	OCS	45%	INF*	EAS*	REL*	SIT	SEC*			Partially
H3	ORI	30%						OCS*		Yes
H4	OCL	20%	INF*	EAS*	REL	SIT	SEC			Partially
H5	ORI	48%						OCL*		Yes
H6	OCL	22%						OCS*		Yes
H7	ORI	35%	INF*	EAS*	REL	SIT	SEC	OCS*		Partially
H8	ORI	52%	INF	EAS*	REL	SIT	SEC		OCL*	Partially
H9	ORI	55%	INF	EAS*	REL	SIT	SEC	OCS*	OCL*	Partially

Note. * indicates important and positive factor

DV: Dependent Variable EV: Explained Variance

INF: information EAS: ease-of-use REL: reliability SIT: sit design SEC: security

OCS: online customer satisfaction OCL: online customer loyalty

ORI: online repurchase intentions

Chapter IV presented the results of the socio-demographic characteristics, data-producing sample, findings of research question and hypotheses testing. Chapter V provides interpretations of the statistical analysis, discussion of the findings, implications for theory, and limitations. The recommendations for the future research are included.

CHAPTER V

DISCUSSION

Many studies of e-commerce pointed out that service quality influences customer satisfaction, and influences customer purchase behaviors (Griffith & Krampf, 1998; Liu & Arnrtt, 2000; Zeithaml, Parasuraman, & Malhotra, 2000). According to Li and Suomi (2007), the e-service quality plays an important role in e-marketing which wins consumers for enterprises through the Internet. Li and Suomi (2007) explained that “companies providing e-services to customers aim at delivering high value to consumers building customer loyalty, encouraging repeat purchases, and maintaining long-term relationships with customers” (p.331). However, there were no empirical studies which explored the integrated model and the relationship between e-service quality and online repurchase intentions. This study was the first to combine theories of the e-service quality (information, ease-of-use, reliability, sit design, and security), online customer satisfaction, and online customer loyalty to examine their impact on online repurchase intentions. Hence, the purpose of this non-experimental and correlational study was to explain the different influences of the e-service quality, online customer satisfaction, and online customer loyalty on online repurchase intentions. Chapter V provides interpretations of findings, practical implications, limitations, conclusions, and recommendations of this study for the future research.

Interpretations

Based on the data analysis in chapter IV, all findings were compared with prior research studies to provide possible insights within this chapter. All hypotheses will be interpreted and discussed. The relationship between independent and dependent variables will be presented. Finally, all of the constructs of the e-service quality, online customer satisfaction, and online customer loyalty will be interpreted to explain online repurchase intentions in Taiwanese B2C online retailing industry.

For hypothesis 1, multiple regression analysis was conducted to examine the relationship between e-service quality variables (information, ease-of-use, reliability, site design, and security) and online repurchases intentions. The findings demonstrated that the variables of information and ease-of-use positively influenced online repurchase intentions. First, the findings related to the information variable were consistent with the prior study of Jang & Burns (2005), indicating that information representing price, promotion, and product quality were an important factor in online customer shopping intention. Second, findings related to the ease-of-use variable were supported by the Fram & Grady, (1995), Gupta & Kim, (2007). Finally, Gupta and Kim (2007) also indicated that the convenience to shopping from the website had significant effects on repurchase intention.

For hypothesis 2, multiple regressions were conducted to examine the relationship

between e-service quality variables (information, ease-of-use, reliability, site design, and security) and online customer satisfaction. The results indicated that the variables of information, ease-of-use, reliability, and security positively influenced online customer satisfaction while the variable of site design did not. This finding was consistent with the prior study by Collier & Bienstock, 2006 who concluded that service quality has been shown to promote customer satisfaction in marketing. In addition, the result of this study also confirmed the proposition of Bansal, McDougall, Dikolli, and Sedatole (2004) indicating that web site characteristics (ease-of-use, information availability, and transaction duration) were significantly related to online customer satisfaction. On the other hand, for the information variable, the finding was supported by Kim, Kim and Lennon (2006) asseverating that retail web sites need to offer online service attributes that satisfy consumer needs of adequate information when shopping online. For the reliability variable, the finding confirmed the proposition of Yang and Fang (2004) who affirm that accurate order fulfillment and keeping service promises are primary service quality elements leading to customer satisfaction. However, in this study, the site design variable did not have an obvious effect on online customer satisfaction. This was not consistent with the empirical research of Szymanski and Hise (2000) and Kim (2005) who have indicated that site design is one of the dominant factors in e-satisfaction. A possible explanation for this finding is perhaps that online shoppers were most concerned

about information of products, easy to use for website, delivery, and security of personal data than the looks of a site.

For hypothesis 3, simple regression was conducted to examine significant relationships between online customer satisfaction and online repurchase intentions. The finding indicated that online customer satisfaction had a positively significant effect on online repurchase intentions. This was supported by Hess, Ganesan, and Klein, (2003) who found that customer satisfaction is significant and positively related to customer repurchase intentions. Furthermore, this finding was consistent with prior studies (Oliver, 1980; Churchill & Suprenant, 1982; Bearden & Teel, 1983; Oliver & DeSarbo, 1988; Rust & Zahorik, 1993; Rust, Zahorik, & Keiningham, 1995; Hallowell, 1996; Jones & Suh, 2000) revealing that customer satisfaction is one of the primary factors of customer repurchase intentions as verified in different kinds of industrial and social contexts. In fact, the customer will be more likely to shop at the same web site when the online customer is satisfied with an internet store in the context of online shopping (Khalifa & Liu, 2007). As a result, online customer satisfaction impacts individual online customer behavior in the context of online shopping.

For hypothesis 4, the results revealed that information and ease-of-use positively influenced online customer loyalty. This finding was consistent with prior findings (Bergeron & Sénécal, 2001; Sénécal, 2001; Collier & Bienstock, 2006). Meanwhile, in

the context of online business, Bergeron and Sénécal (2001) stated that one of the main factor influencing online customers' loyalty was service. Also, Li and Suomi (2007) indicated that companies providing e-services to customers aim at delivering high value to consumers building customer loyalty with customers.

For hypothesis 5, simple regression was used to evaluate the significant relationship between online customer loyalty and online repurchase intentions. The analysis resulted in a finding that online customer loyalty had a positively significant effect on online repurchase intentions. This finding was supported by prior studies (Griffin, 1998; McLaughlin & Wittink, 1998; Lam, Shankar, Erramilli, & Murthy, 2004), indicating that customer loyalty is one of the critical indicators for repurchase intentions.

For hypothesis 6, the result of analysis indicated that online customer satisfaction had a positively significant effect on online customer loyalty. This was consistent with prior studies (Szymanski & Hise, 2000; Anderson & Srinivasan, 2003) whose findings concur that online customer satisfaction has been shown to promote customer loyalty in context of online business.

For hypothesis 7, the finding was consistent with prior studies (Griffith & Krampf, 1998; Liu & Arnrtt, 2000; Zeithaml, Parasuraman, & Malhotra, 2000; Li & Suomi, 2007) in that service quality influences customer satisfaction, and influences customer purchase behaviors. Moreover, Hess, Ganesan, and Klein (2003) stated that customer satisfaction

with the service recovery response is significant and positively related to customer repurchase intentions. Thus, the e-service quality is an important factor to build customer satisfaction and encourage repurchase Intentions.

For hypothesis 8, the result of this study is supported by Li and Suomi (2007) who found that that “companies providing e-services to customers aim at delivering high value to consumers building customer loyalty, encouraging repeat purchases, and maintaining long-term relationships with customers” (p.331).

For hypothesis 9, multiple regression analysis was conducted to examine the relationship among e-service quality variables (information, ease-of-use, reliability, site design, and security), and online customer satisfaction, online customer loyalty and online repurchase intentions. The finding confirmed the proposition of Wolfinbarger and Gilly (2003) that a well-designed e-service will increase online customer satisfaction, build customer loyalty, and encourage online repurchase intentions.

However, the reliability, site design, and security variables of the e-service construct did not influence online repurchase intentions in hypothesis 1, hypothesis 7, hypothesis 8 and hypothesis 9, and also did not influence online customer loyalty in hypothesis 4. A possible explanation for this finding may be explained by: (1) the reliability of products order and product delivery does not impact online shoppers' consideration when customers try to purchase goods from the same online a second or third time as they are

now trusting the website otherwise they would not shop from it again. (2) Internet speed is not as fast in Taiwan when compared to other Asian countries (i.e. Japan and Korea). Thus, online shoppers in Taiwan prefer a web site that is simple, with less fancy graphics and less bells and whistles as those features make a page heavy and take longer to download. (3) most of the online retail stores are now, due to competition, offering excellent security to protect online customers' credit card information when their online shoppers order products. Thus, the security is not an important factor for online repurchase intentions in the context of online business in Taiwan.

Practical Implications

Business-to-Consumer (B 2 C) e-commerce is a highly competitive field in Taiwan.

The purpose of this study was to explore the effect of e-service quality on online repurchase intentions with customer satisfaction and customer loyalty. In this study, the findings cite some practical implications for enhancing online repurchase intentions in the Business-to-Consumer (B 2 C) e-commerce:

1. Online retailers have the potential to improve online customer satisfaction and loyalty through information features in websites. For example, online retailers should continue detailed product information such as product functionality, uses, specifications, physical dimensions, styles, colors, pricing structures and

guarantees. Today's shoppers want to know ahead of time all they can find out about a product before shopping since they cannot physically inspect the product and returning a product after it is bought poses many problems.

2. Online retailers should continue to improve online customer satisfaction and loyalty by keeping websites easy to use. This simplicity is accomplished by presenting clean pages, with efficient navigation menu and search capabilities.
3. Online retailers should continue to improve online customer satisfaction through features that make a website reliable. For example, online retailers have to ensure that customers obtain their specific orders from the site within the specified delivery date.
4. Online retailers should continue to improve online customer satisfaction through security features. For example, online retailers can invest on encryption software and anti-hacking equipment to protect online customers' private information such as credit card number, phone number, address, and account numbers.
5. According to the results of this study, the dimension of ease-of-use is the most important factor of e-service quality construct for customer satisfaction, loyalty, and online repurchases intention. Thus, online retailers have the potential to provide simple, clear, and easy to research product information to facilitate ordering products for online shoppers while increasing customers' satisfaction

and building customers' loyalty. When an online customer is satisfied with an internet store, the research indicates that the customer will be more likely to shop at the same site repeatedly.

6. Finally, the key feature of online retail business is the fact that it is open 24 hours a day and it is self-service. Thus, online retailers should continue to have to improve their websites in order to insure availability free from viruses like such as denial of service attacks which render a busy website unavailable for legitimate users. In addition, more efficient check-out procedures would allow customers to enjoy a more pleasurable online shopping experience resulting in increased satisfaction.

Conclusions

This study investigated whether online repurchase intentions could be explained by e-service quality, online customer satisfaction, and online loyalty. The value of this study was the empirical validation of the relationship among e-service quality, online customer satisfaction, online customer loyalty, and online repurchase intentions.

The conclusions of this study included:

1. Information availability and ease-of-use variables positively influences online repurchase intentions. This results were consistent with prior studies (Jang &

Burns, 2005; Fram & Grady, 1995; Gupta & Kim, 2007) indicating that information representing price, promotion, and product quality are important factor in online customer shopping intention, and the convenience of shopping from a website have significant effects on repurchase intention.

2. Information availability, ease-of-use, reliability, and security features of a website positively influences online customer satisfaction. The finding partially confirms the proposition of Bansal, McDougall et. al., (2004) that web site characteristics (ease-of-use, information available, and transaction duration) significantly related to online customer satisfaction. However, this study found that the site design variable did not have an effect on online customer satisfaction. It is perhaps due to some differences in Taiwanese online shoppers who are more concerned about information of products, easy-of-use of use for website, delivery, and security of personal data rather than the aesthetics of a website design.
3. Online customer satisfaction has a positive significant effect on online repurchase intentions. This finding was supported by Hess, Ganesan, and Klein, (2003). The dimension of online customer satisfaction impacts individual online customer behavior in the context of online shopping.
4. Information availability and ease-of-use of websites have positive influence on

online customer loyalty. This finding was consistent with prior findings (Bergeron & Sénécal, 2001; Sénécal, 2001; Collier & Bienstock, 2006). Thus, online retail companies may provide more information about products and ease-of-use Website to customers in order to deliver high value e-service quality and build loyalty with customers.

5. Online customer loyalty have a positively significant effect on online repurchase intentions. This finding was supported by the prior studies (Griffin, 1998; McLaughlin & Wittink, 1998; Lam, Shankar, Erramilli, & Murthy, 2004), who found that customer loyalty is one of the critical indicators for repurchase intentions.
6. Online customer satisfaction had a positively significant effect on online customer loyalty. This finding was consistent with prior studies (Szymanski & Hise, 2000; Anderson & Srinivasan, 2003) whose findings concur that online customer satisfaction has been shown to promote customer loyalty in context of online business.
7. E-service quality dimension influences customer satisfaction, and influences customer purchase behaviors. The findings were consistent with prior studies (Griffith & Krampf, 1998; Liu & Arnrtt, 2000; Zeithaml, Parasuraman, & Malhotra, 2000; Li & Suomi, 2007). The results also supported the empirical

study by Hess, Ganesan, and Klein (2003) revealing that e-service quality is an important factor for building customer satisfaction and encouraging repurchase Intentions.

8. An improved e-service will increase online customer satisfaction, build customer loyalty, and encourage online repurchase intentions. This finding confirmed the proposition of Wolfinbarger and Gilly (2003).

Limitations

There are several limitations in this study. The limitations of this research were as follows.

1. The sample may not be representative of the total population of the different countries' online shoppers. The accessible sample was derived from daytime undergraduate students in Taiwan. The homogeneity of the accessible sample may limit the generalizability.
2. This study was primarily a one-time, systematic sampling survey study due to the constraints of cost and time. However, a long-term longitudinal approach should be more significant for a research on online repurchase intentions factors, specially because the customers could be studied over a long period of time in terms of their interaction with preferred online retailers.
3. The target industry in this research was the Business-to-Consumer (B2C)

online commerce. All the results were projected only to customers of online retailing businesses. Thus, the finding of this study may not be projected accurately to other online business categories, such as Government-to-Government (G2G), Business-to-Business (B2B), or Business-to-Employee (B2E).

4. This study did not examine personal factors such as job, income, variety-seeking behavior, or impulsiveness that may have an effect on the length of time a customer is with a particular online store or the many times a customer buys the same product. These personal factors may influence online repurchase intentions.
5. This study did not examine different product categories, product pricing and online store classifications. In the context of online businesses, customers may consider more factors in staying with an online retail store.
6. The accessible sample focused on undergraduate students. In this study the age of participants did not over 40 years old. Thus, with older or younger population the results may be different. .

Recommendations for future research

1. It is recommended in future research studies add additional relevant variables (e.g. price attractiveness, process convenience, product attractiveness, and

payment method) be examined to find more significant factors of e-service for measuring online customer satisfaction, loyalty, and repurchase intentions.

2. This study focused on industry of Business-to-Consumer. It is recommended that future studies be conducted in other e-commerce categories (e.g. Government-to-Government, Business-to-Business, and Business-to-Employee) to verify the effect of e-service quality on returning stakeholders.
3. It is recommended that future studies use other statistical techniques such as structural equation modeling (SEM) to measure the causal relationships among e-service quality, online customer satisfaction, online customer loyalty, and online repurchase intentions.
4. It is recommended that future studies measure e-service quality factors in predicting online customers' repurchase intentions in the context of cross-national and socio-cultural differences.
5. Due to the time constraints of this research, it is recommended that a longitudinal survey be used to monitor perceived performance of e-service quality and evolution of online customers' repurchase intentions for an extended period of time.
6. This study did not consider personal factors such as job, income, variety-seeking behavior, or impulsiveness. It is recommended that future

studies explore the relationship among personal factors (job, income, variety-seeking behavior, or impulsiveness), e-service quality, and online repurchase intentions.

7. This study did not consider different product categories, price, and online store classifications. It is recommended that future studies be conducted in different product categories, and pricing structures to validate the effect of e-service quality on customer online repurchase intentions.
8. The age of participants this study was between 18 and 40 years of age. It is recommended that future studies be conducted in different level of age to validate the effect of e-service quality on customer online repurchase intentions in different age groups.

Finally, in spite of some limitations in this study, the findings do contribute to the understanding of customer online repurchase intentions and provide critical insights for online retail companies to deliver outstanding quality websites in order to build customer satisfaction and loyalty, and to enhance repurchase intentions in the context of online retailing.

REFERENCES

- Anderson, R. E., & Srinivasan, S. S. (2003). E-satisfaction and E-loyalty: A contingency framework. *Psychology and Marketing*, 20(2), 99-121.
- Aveiro, P. (2007). Evidences from link between quality and loyalty in e-service: an empirical study. *SISTEMAS & GESTÃO*, 2(1), 1-15.
- Bailey, J. E., & Pearson, S. W. (1983). Development of a tool for measuring and analyzing computer user satisfaction. *Management Science*, 29(5), 530-546.
- Bansal, H. S., McDougall, G. H., Dikolli, S. S., & Sedatole, K. L. (2004). Relating e-satisfaction to behavioral outcomes: an empirical study. *The Journal of Services Marketing*, 18(4), 290-302.
- Bearden, W. O., & Teel, J. E. (1983). Selected determinants of consumer satisfaction and complaint reports. *Journal of Marketing Research*, 20(February), 21-28.
- Becker, A. L. (1991). Language and languaging. *Language & Communication*, 11, 33-35.
- Bergeron, J., & Sénécal, Sylvain (2001). How can retailers increase online customers' loyalty: an exploratory study. *Hawaii Conference on Business, Honolulu*.
- Bhattacharjee, A. (2001). An empirical analysis of the antecedents of electronic commerce service continuance. *Decision Support Systems*, 32(2), 201-214.
- Bitner, M. J., Booms, B. H. & Tetreault, M. S. (1990). The service encounter: diagnosing

favorable and unfavorable incidents. *Journal of Marketing*, 54, 71-84.

Bloemer, J., & Ruyter, K. D. (1998). On the relationship between store image, store satisfaction and store loyalty. *European Journal of Marketing*, 32(5/6), 499-513.

Brady, M. K., & Cronin, J. J. (2001). Some new thoughts on conceptualizing perceived service quality: A hierarchical approach [Electronic version]. *Journal of Marketing*, 65(3), 34-49.

Brawner, C. E., Felder, R. M., Allen, R., & Brent, R. (2001). 1999-2000 Succeed faculty survey of teaching practices and perceptions of institutional attitudes toward teaching.

Bressolles, G. & Nantel, F. J. (2008). The measurement of electronic service quality. *International Journal of E-Business Research*, 4(3), 1-19.

Burke, R. R. (2002). Technology and the customer interface: What consumers want in the physical and virtual store. *Journal of the Academy of Marketing Science*, 30, 411-432.

Cao, M., Zhang, Q., & Seydel, J. (2005). B2C e-commerce web site quality: an empirical examination. *Industrial Management & Data Systems*, 105(5), 645-661.

Cheung, C., Chan, G., & Limayem, M. (2005). A critical review of online consumer behaviour. *Journal of Electronic Commerce in Organizations*, 3(4), 1-19.

- Childers, T. L., & Christopher, L. C., Peck, J., & Carson, S. (2001). Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of Retailing*, 77(4), 511-535.
- Churchill, G. A., & Surprenant, C. (1982). An investigation into the determinants of customer satisfaction. *Journal of Marketing Research*, 19(4), 491-504.
- Clow, K., & Vorhies, D. (1993). Building a competitive advantage for service firms. *Journal of Services Marketing*, 7(1), 22-32.
- Cisco Systems (November/December 2003). *Consumers develop an online habit*
Retrieved from
http://www.cisco.com/en/us/about/ac123/iqmagazine/archives/nov_dec_2003/departments/net_index/online_habit.html
- Collier, J. E., & Bienstock, C. C. (2006). Measuring service quality in E-retailing. *Journal of Service Research*, 8(3), 260-275.
- Coner, A., & Gungor, M. O. (2002). Factors affecting customer loyalty in the competitive Turkish metropolitan retail markets. *The Journal of American Academy of Business*, 189-195.
- Copeland, M. T. (1923). Relation of consumer's buying habits to marketing methods. *Harvard Business Review*, 1(4), 282-289.

Cristobal, E., & Marimon, F. (2007). E-Retailing management: Analyzing the Spanish e-consumers behaviour. *IADIS International Journal on WWW/Internet*, 5(1), 98-112.

Cronin, J. J., & Taylor, S. A. (1992). Measuring service quality: A reexamination and extension. *Journal of Marketing*, 56(2), 55-58.

Culnan, M. J. (1999). *Georgetown Internet privacy policy study: privacy online in 1999: A report to the FTC*. Washington DC: Georgetown University.

Cyr, D., Bonanni, C., & Ilsever, J. (2005). Beyond trust: Website design preferences across cultures. *Journal of Global Information Management*, 13(14), 24-52.

Retrieved from http://www.dianne Cyr.com/docs/Beyond_Trust.pdf

Dabholkar, P. A. (1996). Consumer evaluations of new technology-based self-service options: An investigation of alternative models of service quality. *International Journal of Research in Marketing*, 13(1), 29-51.

Dabholkar, P. A., Shepherd, C. D., & Thorpe, D. I. (2000). A comprehensive framework for service quality: an investigation of critical conceptual and measurement issues through a longitudinal study. *Journal of Retailing*, 76(2), 139-173.

- Davidow, M. (2003). Have you heard the word? The effect of word of mouth on perceived justice satisfaction and repurchase intentions following complaint handling. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior, 16*, 67-80.
- Davis, J. (1989). Construct validity in measurement: A pattern matching approach. *Evaluation and Program Planning, 12*(1), 31-36.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology "a comparison of two theoretical models". *Management Science, 135*(1), 982-1003.
- De Wulf, K., & Odekerken-Schroder, G. (2003). Assessing the impact of a retailer's relationship efforts on consumers' attitudes and behavior. *Journal of Retailing and Consumer Services, 10*(2), 95-108.
- Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand and store information on buyers' product evaluations. *Journal of Marketing Research, 28*(3), 307-319.
- E-Tailing (2004), "The Merchant Speaks, "April 2004.
- Finn, D. W., & Lamb, C. W., (1991). An evaluation of the SERVQUAL scales in a retailing setting [Electronic version]. *Advances in Consumer Research, 18*(1),

483-490.

Flavián, C., Guinalú, M., & Gurrea, R. (2006). The role played by perceived usability, satisfaction and consumer trust on website loyalty. *Information and Management*, 43(1), 1-14.

Fornell, C. (1992). A national customer satisfaction barometer: The swedish experience. *Journal of Marketing*, 56(1), 6-21.

Forrester forecast. (2011). *Forrester forecast: Online retail sales will grow to \$250 billion by 2014*. Retrieved from <http://techcrunch.com/2010/03/08/forrester-forecast-online-retail-sales-will-grow-to-250-billion-by-2014/>

Fram, E. H., & Grady, D. B. (1995). Internet buyers: will the surfers become buyers? *Direct Marketing*, 63-65.

Friedman, B., Kahn, P., & Howe, D. (2000). Trust online. *Communications of the ACM*, 43(12), 34-40.

Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The american customer satisfaction index: Nature, purpose, and findings. *Journal of Marketing*, 60(4), 7-18.

Green, S. B. (1991). How many subjects does it take to do a regression analysis? *Multivariate Behavioral Research*, 26(3), 499-510. Retrieved from

http://www.leaonline.com/doi/abs/10.1207/s15327906mbr2603_7

Google Inc. (2004). *E-commerce site trend report*. Retrieved from

<http://www.spunlogic.com/media/pdf/DoubleClickQ12004ECommerceTrendReport.pdf>

Google Inc. (2004). *E-commerce site trend report*. Retrieved from

http://emea.doubleclick.com/WEB_ADMIN/documents/dc_q304ecommerce_04111.pdf

Gowan, M., Seymour, J., Ibarreche, S., & Lackey, C. (2001). Service quality in a public agency: same expectations but different perceptions by employees, managers and customers. *Journal of Quality Management*, 6(2), 275-291.

Griffin, J. (1998). Customer loyalty: Earning it and keeping it. *Discount Merchandiser*, 38(3), 98-100.

Griffith, D. A. & Krampf, R. A. (1998). An examination of the web-based strategies of the top 100 U.S. retailers. *Journal of Marketing Theory & Practice*, 6(3), 12-23.

Grönroos, C. (1982). *Strategic management and marketing in the service sector*.

Cambridge, MA: Marketing Science Institute.

Grönroos, C. (1990). *Service management and marketing*. Lexington, MA: Lexington Books.

- Gupta, S., & Kim, H-W. (2007). The moderating effect of transaction experience on the decision calculus in on-line repurchase. *International Journal of Electronic Commerce*, 12(1), 127-158.
- Hair, F. J., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998), *Multivariate Data Analysis, 5th Edition*, Prentice Hall International, Inc.
- Hallowell, R. (1996). The relationships of customer satisfaction, customer loyalty, and profitability: an empirical study. *International Journal of Service Industry Management*, 7, 27-42.
- Halstead, D., Halstead, D., & Schmidt, S. L. (1994). Multisource effects on the satisfaction formation process. *Journal of the Academy of Marketing Science*, 22(2), 114-129.
- Halstead, D., Jones, M. A., & Cox, A. N. (2007). Satisfaction theory and the disadvantaged consumer. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 20 (December), 15-35.
- Hoffman, D.L.& Yung, Y.F., (2000). Measuring the customer experience in online environments: A structural modeling approach. *Marketing Science*, Winter, 19(1), 22-44.

- Holbrook, M. B., Chestnut, R. W., Olivia, T. A., & Greenleaf, E. A. (1984). Play as consumption experience: The roles of emotions, performance, and personality in the enjoyment of games. *Journal of Consumer Research*, 11(2), 728-739.
- Holzwarth, M., Janiszewski, C., & Neumann, M. M. (2006). The influence of avatars on online consumer shopping behavior. *Journal of Marketing*, 70, 19-36.
- Homburg, C., Koschate, N., & Hoyer, W. D. (2006). The role of cognition and affect in the formation of customer satisfaction: A dynamic perspective. *Journal of Marketing*, 70(7), 21-31.
- Jacoby, J., & Chestnut, R.W. (1978). *Brand loyalty measurement and management*. New York, NY: John Wiley & Sons.
- Jang, E., & Burns, L. D. (2005). Components of apparel retailing web sites. *Journal of Fashion Marketing and Management*, 8(4), 375-388.
- Jones M. A., & Suh, J. (2000). Transaction-specific satisfaction and overall satisfaction: an empirical analysis. *Journal of Services Marketing* 14(2), 147-159.
- Jones, T.O., & Sasser, E. (1995). Why satisfied customer defects. *Harvard Business Review*, 71, 88-99.
- Joreskog, K. G., & Sorbom, D. (1993). *LISREL8: Structural equation modeling with the SIMPLIS command language*. Chicago: Scientific Software.

- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39, 31-36.
- Kerlinger, F.N., & Lee, H. B. (2000). *Foundations of behavioral research*. Fort Worth, TX: Harcourt College Publication.
- Khalifa, M., & Liu, V. (2007). Online consumer retention: contingent effects of online shopping habit and online shopping experience. *European Journal of Information Systems*, 16, 780-792.
- Kim, H. (2005). Developing an index of online customer satisfaction. *Journal of Financial Services Marketing*, 10(1), 49-64.
- Kim, J. (2003). A multidimensional and hierarchical model of integrated service quality for the Internet golf stores. *Dissertation Abstracts International*, 64(7), 205A. (UMI No. 3098383)
- Kim, M., Kim, J. & Lennon, S. J. (2006). Online service attributes available on apparel retail web sites: An E-S-QUAL approach. *Managing Service Quality*, 16(1), 51-77.
- Lam, S.Y., Shankar, V., Erramilli, M.K., & Murthy, B. (2004). Customer value, satisfaction, loyalty, and switching costs: An illustration from a business-to-business service context. *Journal of the Academy of Marketing Science*, 32(3), 293-311.
- Lehtinen, U., & Lehtinen, J. R. (1982). Service quality: a study of quality dimensions,

Unpublished Working Paper. *Service Management Institute Helsinki*, 439-360.

Leech, N., Barrett, K. C., & Morgan, G. (2005). *SPSS for intermediate statistics: Use and interpretation*. Mahwah, NJ: Erlbaum.

Liu, C., & Arnett, K. P. (2000). Exploring the factors associated with web site success in the context of electronic commerce. *Information & Management*, 38(1), 23-34.

Li, H., & Suomi, R. (2007). Evaluating electronic service quality: A transaction process based evaluation model. *Evaluating Electronic Service Quality*, 331-340.

Loiacono, E., Watson, R., & Goodhue, D. (2002). WEBQUAL: a measure of web site quality. *Marketing Educators' Conference: Marketing Theory and Applications*, 13, 432-7.

Lu, J. (2003). A model for evaluating E-commerce based on cost/benefit and customer satisfaction. *Information Systems Frontiers*, 5(3), 265-277.

MacCallum, R. C., & Austin, J. T. (2000). *Applications of structural equation modeling in psychological research*. *Annual Review of Psychology*, 51, 201-222.

Miniwatts Marketing Group. (2008). *World Internet users and population statistics*. Retrieved from <http://www.internetworlds.com/stats.htm>

Murray, K. B., & Haubl, G. (2005). Skill-based habits of use and consumer choices. *Advances in Consumer Research* 32, 35-36.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.

- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17, 460-469.
- Oliver, R.L. (1981). Measurement and evaluation of satisfaction processes in retail setting. *Journal of Retailing*, 57(3), 25-49.
- Oliver, R. L. (1993). Cognitive, affective, and attribute bases of the satisfaction response. *Journal of Consumer Research: An Interdisciplinary Quarterly*, 20(3), 418-430.
- Oliver, R. L. (1997). *Satisfaction: A behavioral perspective on the consumer*. New York: McGraw-Hill.
- Oliver, R. L., & DeSarbo, W. S. (1988). Response determinants in satisfaction judgments. *Journal of Consumer Research: An Interdisciplinary Quarterly*, 14(4), 495-507.
- Oliverira, P., Roth, A. V., & Gilland, W. (2002). Dimensions of e-quality. *Technological Forecasting & Social Change*, 69, 721-739.
- Parasuraman, A., & Grewal, D. (2000). The impact of technology on the quality-value-loyalty chain: A research agenda. *Journal of the Academy of Marketing Science*, 28(1), 168-174.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. (1988). SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64, 12-40.

Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). E-S-QUAL-a multiple-item scale for assessing electronic service quality. *Journal Service Research*, 7(3), 213-233.

Quinn, J., & Wood, W. (2005). Everyday habits and self-regulation. *Advances in Consumer Research* 32, 34-35.

Reichheld, F. F., & Sasser, W. E. (1990). Zero defections: Quality comes to services. *Harvard Business School Review*, 68(5), 105-111.

Reichheld, F. F., & Schdfter, P. (2000). E-loyalty: Your secret weapon on the web. *Harvard Business Review*, 78(4), 105-113.

Retail in Asia. (2011), *Taiwan online retail sales value over USD11.6b in 2010*.

Retrieved from:

<http://www.retailinasia.com/article/tech/online-retailing/2010/10/taiwan-online-retail-sales-value-over-usd116b-2010>

Rust, R. T. (2001). The rise of e-service. *Journal Service Research*, 3(4), 283-285.

Rust, R. T., & Zahorik, A. J. (1993). Customer satisfaction, customer retention, and market share. *Journal of Retailing* 69, 193-215.

Rust, R. T., Zahorik, A. J., & Keiningham T. L. (1995). Return on quality (ROQ): making service quality financially accountable. *Journal of Marketing* 59, 58-70.

- Ruyter, K. D., Wetzel, M., & Kleijnen, M. (2001). Multi-channel shopping: understanding what drives channel choice. *Journal of Consumer Marketing*, 19(1), 42-53.
- Santos, J. (2003). E-service quality- a model of virtual service dimensions. *Managing Service Quality*, 13(3), 233-247.
- Seiders, K., & Berry, L. L. (1998). Service fairness: What it is and why it matters. *The Academy of Management Executive*. 12(2), 8-20.
- Sirdeshmukh, D., Singh, J., & Sabol, B. (2002). Consumer trust, value and loyalty in relational exchanges. *Journal of Marketing*, 66(1), 15-37.
- Sirohi, N., McLaughlin, W. W., & Wittink, D. R. (1998). A model of consumer perceptions and store loyalty intentions for a supermarket. *Journal of Retailing*, 74(2), 223-245.
- Soderlund, M., Vilgon, M., & Gunnarsson, J. (2001). Predictiong purchasing behavior on business-to-business markets. *European Journal of Marketing* 35(1/2), 168-181.
- Spreng, R. A., Mackenzie, S. C., & Olshavsky, R. W. (1996). A re-examination of the determinants of consumer satisfaction. *Journal of Marketing*, 60, 15-32.
- Srinivansan, S. S., Rolph, A., & Kishore, P. (2002). Customer loyalty in E-commerce: An exploration of its antecedents and consequences. *Journal of Retailing*, 78, 41-51.

- Swan, J. E., & Trawick, I. F. (1981). Disconfirmation of expectations and satisfaction with a retail service [Abstract]. *Journal of Retailing*, 57(3), 49-67.
- Szymanski, D. M., & Hise, T. R. (2000). E-satisfaction: an initial examination. *Journal of Retailing*, 76, 309-377.
- Taiwan Ministry of Education. (2011). Retrieved from 大專校院校別學生數.
http://www.edu.tw/files/site_content/b0013/99_student.xls
- Taylor, S. A. (1997). Assessing regression-based importance weights for quality perceptions and satisfaction judgments in the presence of higher order and/or interaction effects [Electronic version]. *Journal of Retailing*, 73(1), 135-159.
- Taylor, S. A., & Baker, T. L. (1994). An assessment of the relationship between service quality and customer satisfaction in the formation of customers' purchase intentions [Electronic version]. *Journal of Retailing*, 70(2), 163-178.
- Teo, T. (2011). Using structural equation modeling (SEM) In educational research: Practices and issues. *International Journal of Applied Educational Studies*, 10(1), 49-65.
- Torkzadeh, G., & Dhillon, G. (2002). Measuring factors that influence the success of Internet commerce. *Information Systems Research*, 13(2), 187-204.
- TWNIC (2011). Retrieved from 台灣網路購物

<http://www.twnic.net.tw/download/200307/1101a.pdf>

- Wachter, K. (2002). Longitudinal assessment of web retailers: issues from a consumer point of view. *Journal of Fashion Marketing and Management*, 6(2), 134-145.
- Westbrook, R. A. (1980). Intrapersonal affective influences upon consumer satisfaction with products. *Journal of Consumer Research*, 7(June), 49-54.
- Wilton, P. C., & Myers, H. G. (1986). Task, expectancy, and information assessment effects in information utilization processes. *Journal of Consumer Research*, 12(4), 469-486.
- Wolfenbarger, M., & Gilly, M. (2003). ETailQ: dimensionalizing, measuring, and predicting retail quality. *Journal of Retailing*, 79, 183-193.
- Woodside, A. G., Frey, L. L., & Daly, R. T. (1989). Linking service quality, customer satisfaction and behavioral intention. *Journal of Health Care Marketing*, 9(4), 5-17.
- Yang, Z. (2001). Consumer perceptions of service quality in internet-based electronic commerce. *Paper presented at the meeting of the 30th EMAC Conference, Bergen.*
- Yen, C-H., & Lu, H.P. (2008). Factors influencing online auction repurchase intention. *Internet Research*, 18(1), 7-25.
- Yoo, B., & Donthu, N. (2001). Developing a scale to measure perceived quality of an Internet shipping site (SITEQUAL). *Quarterly Journal of Electronic Commerce*,

2(1), 31-46.

Yun, Z., & Good, L. (2007). Developing customer loyalty from E-tail store image attributes. *Managing Service Quality*, 17(1), 4-22.

Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service quality delivery through web sites: A critical review of extant knowledge. *Journal of Academic of Marketing Science*, 30(4), 362-375.

Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2000). *A conceptual framework for understanding E-service quality: Implications for future research and managerial practice*. Working Paper Report No.00-115, Marketing Science Institute.

BIBLIOGRAPHY

- Anderson, E. W., & Sullivan, M. W. (1993). The antecedents and consequences of customer satisfaction for firms. *Marketing Science*, 12(2), 125-143.
- Bennington, L., & Cummane, J. (1998). Measuring service quality: A hybrid methodology. *Total Quality Management*, 9(6), 395-405.
- Boulding, W., Kalra, A., Staelin, R., & Zeithaml, V. A. (1993). A dynamic process model of service quality: From expectations to behavioral intentions. *Journal of Marketing Research*, 30(1), 7-27.
- Cronin, J. J., Jr., & Taylor, S. A. (1994). SERVPERF versus SERVQUAL: Reconciling performance-based and perceptions-minus-expectations measurement of service quality. *Journal of Marketing*, 58(1), 125-131.
- Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The American Customer Satisfaction Index: Nature, purpose, and findings. *Journal of Marketing*, 60(4), 7-18.
- Fredericks, J. O., & Salter, J. M., II. (1998). What does your customer really want?. *Quality Progress*, 31(1), 63-65.
- George, D., & Mallery, P. (2003). *SPSS for windows step by step: A simple guide and reference* (4th ed.). Boston, MA: Pearson Education, Inc.
- Grimm, L. G., & Yarnold, P. R. (Eds.). (2000). *Reading and understanding more multivariate statistics*. Washington, DC: American Psychological Association.

- Holloway, B. B., & Beatty, S. E. (2003). Service failure in online retailing: A recovery opportunity. *Journal of Service Research*, 6(1), 92-105.
- Luarn, P., & Lin, H.-H. (2004). A customer loyalty model for e-service context. *Journal of Electronic Commerce Research*, 4(4), 156-167.
- Miller, J. L., Craighead, C. W., & Karwan, K. R. (2000). Service recovery: A framework and empirical investigation. *Journal of Operations Management*, 18(4), 387-400.
- Spreng, R. A., & Mackoy, R. D. (1996). An empirical examination of a model of perceived service quality and satisfaction. *Journal of Retailing*, 72(2), 201-214.
- Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1993). Research note: More on improving service quality measurement [Electronic version]. *Journal of Retailing*, 69(1), 140-147.
- Pitt, L. F., Watson, R. T., & Kavan, C. B. (1995). Service quality: A measure of information systems effectiveness [Electronic version]. *MIS Quarterly*, 19(2), 173-187.
- Pitt, L. F., Watson, R. T., & Kavan, C. B. (1997). Measuring information systems service quality: Concerns for a complete canvas [Electronic version]. *MIS Quarterly*, 21(2), 209-221.
- PricewaterhouseCoopers LLP. (2000). E-tailing and its impact on commercial real estate. *Real Estate Value Cycles*. Retrieved from http://www.lakewest.com/PDFdocs/WP_Report_on_the_State_of_Etailing.PDF

- Saurina, C., & Coenders, G. (2002). Predicting overall service quality: A structural equation modeling approach. *Developments in Social Science Methodology*. Retrieved from <http://mrvar.fdv.uni-lj.si/pub/mz/mz18/coender2.pdf>
- Schneider, B., & White, S. S. (2004). *Service quality: Research perspectives*. Thousand Oaks, CA: Sage Publications, Inc.
- Scientific Software International, Inc. (2000). *Confirmatory factor analysis*. Retrieved from <http://www.ssicentral.com/lisrel/factor.htm>
- Scientific Software International, Inc. (2000). *Exploratory factor analysis*. Retrieved from <http://www.ssicentral.com/lisrel/lis00397.htm>
- Standard & Poor's Co. (2001). Retailing: General [Electronic version]. *Industry Surveys*, 169(48), 1-35.
- Teas, R. K. (1994). Expectations as a comparison standard in measuring service quality: An assessment of a reassessment [Electronic version]. *Journal of Marketing*, 58(1), 132-139.
- Tucker, L. R., & MacCallum, R. C. (1997). *Introduction to exploratory factor analysis*. Retrieved from <http://www.unc.edu/~rcm/book/ch7.pdf>
- U. S. Department of Commerce. (2003, March 19). *E-Stats*. Retrieved from <http://www.census.gov/eos/www/papers/2001/2001estatstext.pdf>
- Wang, F. (2002). E-tailing: An analysis of web impacts on the retail market [Electronic version]. *Journal of Business Strategies*, 19(1), 73-93.
- Watson, R. T., Pitt, L. F., & Kavan, C. B. (1998). Measuring information systems service quality: Lessons from two longitudinal case studies [Electronic version]. *MIS Quarterly*, 22(1), 61-79.

Wolfenbarger, M., & Gilly, M. C. (2000). *Consumer's perceived quality of e-commerce experiences: First progress report*. Retrieved from

<http://www.crito.uci.edu/consortium/public-pubs/consumers-gilly.pdf>

Zemke, R., & Connellan, T. (2001). *E-service: 24 ways to keep your customers when the competition is just a click away*. New York, NY: AMACOM.

APPENDIX A

SURVEY INSTRUMENT

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 (Tung-Hsuan Liu) 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

The study is about the relationships of e-service quality, online customer satisfaction, online customer loyalty, and online repurchase intentions. There will be approximately 360 people participating in this study. Participants are daytime undergraduate students who attended Fortune Institute of Technology

PROCEDURES

If you agree to participate after reading this consent form, you may proceed to answer the survey provided in this package. You will be given a survey questionnaire on a "clip board". By completing the survey, you are giving your consent. The survey contains three parts with a total of 39 questions. The survey should take no longer than 10 minutes to complete. After completing the survey, place the surveys in the envelope provided by the researcher. Please place the envelope in a box placed in close proximity to you.

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 online retail stores provide a better shopping environment and experience to customers.

ANONYMITY

Survey will be anonymous. Please do not write your identifying information on the questionnaires. You will not be identified and data will be reported as "group" responses. Participation in this survey is voluntary and return of the completed survey will constitute your informed consent to participate. All information will be held in strict confidence and will not be disclosed unless required by law or regulation. The results of this study may be published in a dissertation, scientific journals or presented at professional meetings. In addition, your individual privacy will be maintained in all publications or presentations resulting from this study.

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

Effect of E-service Quality on Customer Online Repurchase Intentions questionnaire

Filter question

Instruction: Please answer the filter question below. You do not need to do Part1 to Part5, if you have any negative answer in this section.

1. Are you 18years old or more?
 Yes
 No
2. Are you a daytime undergrad student in Fortune Institute of Technology?
 Yes
 No
3. Do you have previously shopped from internet stores?
 Yes
 No

Part 1: Socio-Demographic Profile

Instruction: Please choose the category for each question that best describes you.

1. What is your gender:
 Male
 Female
2. What is your age?
 18-19
 20-25
 26-30
 31-35
 36-40
 Above 40
3. How long have you been using the internet to purchase products?
 5 months or less
 6 to 12 months
 13 to 24 months
 25 to 36 months
 37 to 48 months
 49 to 60 months
 more than 60 months
4. How often do you purchase any products on the internet stories?
 1 time or less
 2 to 5 times
 6 to 10 times
 More than 10 times

Part 2 E-service Quality

Instruction: Please consider your most recent experience with any online shopping store, circle your level of agreement for each item, using a scale of 1=strongly disagree to 5=strongly agree.

	Strongly Disagree					Strongly Agree	
	1	2	3	4	5		
1. This site provides relevant information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2. This site provides accurate information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
3. This site provides in-depth information about the product(s) or services(s) proposed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4. This site is easy to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
5. It is easy to search for information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
6. This site is easy to navigate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
7. The organization and layout of this site facilitate the search for information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
8. The layout of this site is clear and simple.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
9. This site is colorful.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
10. This site is creative.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
11. This site has an attractive appearance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
12. The product or service is delivered by the time promised by the company.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
13. You get what you ordered from this site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
14. You get your merchandise quickly when you order.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
15. After-sale support on this site is excellent.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
16. I am confident in the security on this site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
17. I feel like my privacy is protected on this site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
18. I trust the web site administrators will not misuse my personal information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Not: Question 1 to 18 was adapted from Bressolles (2006). "NetQual-Proposition of a measurement scale to commercial Web sites and moderating effects," *Recherche et Applications en Marketing*, 39(5), pp. 45. Used with permission.

Part 3 Online Customer Satisfaction

Instruction: Please consider your most recent experience with any online shopping store, circle your level of agreement for each item, using a scale of 1=strongly disagree to 5=strongly agree.

	Strongly Disagree					Strongly Agree	
	1	2	3	4	5		
1. I am satisfied with my decision to purchase from this Web site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2. If I had to purchase again, I would feel differently about buying from this web site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

3. My choice to purchase from this Web site was a wise one.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I feel badly regarding my decision to buy from this Web site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I think I did the right thing by buying from this Web site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I am unhappy that I purchased from this Web site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Not: Question 1 to 6 was adapted form from Anderson and Srinivasan (2003). "E-Satisfaction and E-Loyalty: a Contingency Framework," *Psychology & Marketing*, 20(2), pp. 134. Used with permission.

Part 4 Online Customer Loyalty

Instruction: Please consider your most recent experience with any online shopping store, circle your level of agreement for each item, using a scale of 1=strongly disagree to 5=strongly agree.

	Strongly Disagree					Strongly Agree	
	1	2	3	4	5		
1. I seldom consider switching to another Web site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2. As long as the present service continues, I doubt that I would switch web sites.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
3. I try to use the Web site whenever I need to make a purchase.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4. When I need to make a purchase, this Web site is my first choice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
5. I like using this Web site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
6. To me this site is the best retail Web site to do business with.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
7. I believe that this is my favorite retail web site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Not: Question 1 to 7 was adapted form from Anderson and Srinivasan (2003). "E-Satisfaction and E-Loyalty: a Contingency Framework," *Psychology & Marketing*, 20(2), pp. 134. Used with permission.

Part 5 Online Repurchase Instructions

Instruction: Please consider your most recent experience with any online shopping store, circle your level of agreement for each item, using a scale of 1=strongly disagree to 5=strongly agree.

	Strongly Disagree					Strongly Agree	
	1	2	3	4	5		
1. The next time I purchase this product online, I will buy from the same online retailer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2. I would be willing to purchase form this company again.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

3. I would purchase from this online retailer again in the future.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4. I would be very likely to increase my shopping activity with this online retailer	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Not: Question 1 to 4 was adapted form from Holloway, Wang, and Parish (2005). "The Role of Cumulative Online Purchasing Experience in Service Recovery Management," *Journal of Interactive Marketing*, 19(3), pp. 60. Used with permission.

Thank you for your helping in this study questionnaire

APPENDIX B

PERMISSION TO USE NetQual SCALE

From: Bressolles Gregory [REDACTED]
Sent: 2011/6/9 [Thursday] PM 03:15
To: TungHsuan Liu
Subject: RE : Permission for NetQual scale use

Dear Tung-Hsuan,

Many thanks for your email. Of course you can use the NetQual scale in your research. Good luck for your PhD. Do not hesitate to send me yours results when they will be available.

Best regards,

Grégory BRESSOLLES
Marketing Professor
Holder of the e-Commerce and Retail Chair
www.bem.edu/Chaires/eCD

[REDACTED]
Tel. : [REDACTED]
Fax : [REDACTED]
BEM

[REDACTED]
www.bem.edu

Think about the Environment: only print this message if necessary.

De : Tung Hsuan Liu [REDACTED]
Date d'envoi : mercredi 8 juin 2011 18:03
À : Bressolles Gregory
Objet : Permission for NetQual scale use

APPENDIX C

PERMISSION TO USE E-SATISFACTION AND E-LOYALTY SCALES

From: [REDACTED]
Sent: 2011/6/9 [Thursday] PM 12:50
To: TungHsuan Liu
Subject: RE: Permission for e-satisfaction and e-loyalty scales use

Dear Tung-Hsuan Liu,

Thank for your e-mail requesting use of our "satisfaction scale" and "e-loyalty scale." Dr. Srin Swaminthan and I are pleased to give you permission to use these instruments in your dissertation research. Best wishes for continued success in your doctoral studies. Rolph

Rolph E. Anderson, Ph.D.
The Royal H. Gibson, Sr. Professor of Marketing Management
Department of Marketing
LeBow College of Business
Drexel University
Philadelphia, PA 19104
Office Telephone: [REDACTED]

-----Original Message-----

From: Tung Hsuan Liu [REDACTED]
Sent: Wednesday, June 08, 2011 12:07 PM
To: Rolph Anderson
Subject: Permission for e-satisfaction and e-loyalty scales use

APPENDIX D

PERMISSION TO USE REPURCHASE INTENTIONS SCALE

From: [REDACTED]
Sent: 2011/6/9 [Thursday] AM 10:55
To: Tung Hsuan Liu
Subject: RE: Permission for repurchase intentions scales use

Hello,

I am more than happy for you to use my scale. This letter confirms my permission.

I wish you great success in your dissertation research.

Kind Regards to you,
Betsy Holloway

Betsy Bugg Holloway, PhD
Dwight Moody Beeson Chair of Business
Associate Professor of Marketing
Brock School of Business
Samford University
Tel: [REDACTED] / Fax: [REDACTED]
Email: [REDACTED]

APPENDIX E

Permission Letter from Fortune Institute of Technology

From: wenchun [REDACTED]
Sent: 2011/10/4 [Tuesday] AM 10:35
To: Tung Hsuan Liu
Subject: **FW: agree to conduct your survey**

Dear Mr.Liu

Yes, we agree to conduct your survey with questionnaires on the sample of undergraduate students in the Fortune Institute of Technology.

Best Regards,

Chen wen-chun

APPENDIX F

IRB Approval



LYNN UNIVERSITY

3601 North Military Trail
Boca Raton, FL 33431-5598

Via Email: [REDACTED]

December 5, 2011

Tung-Hsuan Liu
[REDACTED]
[REDACTED]

Dear Tung-Hsuan:

The proposal that you have submitted, "*Effect of E-Service Quality On Customer Online Repurchase Intentions*" has been granted for approval by the Lynn University's Institutional Review Board.

You are responsible for complying with all stipulations described under the Code of Federal Regulations 45 CFR 46 (Protection of Human Subjects). This document can be obtained from the following address:
<http://phrp.nihtraining.com/users/login.php>

Form 8 (Termination Form) <https://my.lynn.edu/ICS/icsfs/IRB-FORM-8.pdf?target=a12421a3-f6ee-4b42-98c4-868b68fda165> needs to be completed and returned to Ms. Teddy Davis at tdavis@lynn.edu when you fulfill your study. You are reminded that should you need an extension or report a change in the circumstances of your study, an additional document must be completed.

For further information, please click on the following:

<http://www.hhs.gov/ohrp/humansubjects/anprmchangetable.html>

Good luck in all your future endeavors!

Warmest regards,

Dr. Theodore Wasserman

Dr. Theodore Wasserman

IRB Chair

Cc: Dr. G. Cox

Dr. J. Francis

File #2011-017

APPENDIX G

Certification of Translation

TRANSNATIONAL SERVICES, INC.

Atlanta Office:

685 Springview Ct., Roswell, GA 30076

Tel. () or ()

Fax: ()

E-mail: ()

Miami Office:

13220 SW 98th Place, Miami, Florida 33176

Tel. ()

Fax: ()

E-mail: ()

CERTIFICATE OF ACCURACY

STATE OF GEORGIA)

) SS:

FULTON COUNTY)

Mr. Haiyan Wang, a certified Chinese and Russian translator and interpreter for U.S. Department of State, U.S. Federal Courts, Miami Immigration Courts, Miami-Dade and Broward County Courts, Georgia State Courts and a member in good standing of the American Translators Association (ATA), being duly sworn, deposes and says,

That he is fluent in both the English and the Chinese languages.

That he has translated the annexed documents translated from the English into Chinese language described as SURVEY QUESTIONNAIRE.

That the above documents are consisting of 3 pages and that this is a true and complete translation to the best of his knowledge, ability and belief.

FURTHER AFFIANT SAYETH NOT

()
Haiyan Wang (Translator)

SUBSCRIBED AND SWORN TO before me at Fulton County, Georgia on this 26th day of November, 2011

()
Jian Yu
Notary Public (Seal)

My Commission Expires:



APPENDIX H

Survey Instrument (Chinese Version)

問 卷 調 查

過濾問題

說明:以下問題若有否定的答案則無需繼續作答

1. 您的年齡為 18 歲或以上嗎?
 是
 不是
2. 您是和春技術學院日間部的大學生嗎?
 是
 不是
3. 您之前有在台灣的網路商店購物過嗎?
 有
 沒有

第一部分：網路消費者特徵

說明：請在每一個問題裡挑選最能描述您個人資料的項目，並請在打勾。

1. 請問您性別:
 男
 女
2. 請問您的年齡?
 18-19
 20-25
 26-30
 31-35
 36-40
 40 以上
3. 請問你使用網路購物有多久了?
 五個月或少於五個月
 半年到一年
 一年一個月到二年
 兩年一個月到三年
 三年一個月到四年
 四年一個月到五年
 五年以上
4. 請問您每個月在網路購物的次數?
 1 次或少於 1 次
 2 到 5 次
 6 次或更多

第二部分:電子商務的服務品質

說明: 這部分是測量電子商務的服務品質。請就您最近的網路購物經驗, 勾選下列 5 個不同的欄位, 1=強烈不同意, 5=強烈同意

	完全不同意	有些不同意	普通	有些同意	完全同意
	1	2	3	4	5
1. 這個購物網站提供適當的資訊	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. 這個購物網站提供正確的資訊	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. 這個購物網站提供關於商品的詳細資訊或服務的建議	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. 這個購物網站介面很容易使用	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. 這個購物網站很容易搜尋商品的資訊	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. 這個購物網站介面很容易操作	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. 這個網站的介面和設計促進商品資訊的搜尋更便利	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. 這個購物網站的設計既清楚又簡單	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. 這個購物網站的外觀設計色彩鮮豔	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. 這個購物網站的設計富有創意性	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. 這個購物網站的外觀設計具有吸引力	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. 這間網路購物公司保證商品會在期限內送達並且具有好的服務品質	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. 當您在這個網站訂購商品後, 您拿到的商品和您訂購的商品是一樣的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. 當您從這個網站下訂單時, 您很快的收到您所訂購的商品	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. 這個網站的商品售後服務做得非常好	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. 我對於這個購物網站的安全性有信心	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. 這個網站讓我感覺到我的個人隱私資料是被保護的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. 我相信這個購物網站的管理者將不會濫用我的個人資料	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Not: Question 1 to 18 were adapted from Bressolles (2006). "NetQual-Proposition of a measurement scale to commercial Web sites and moderating effects," *Recherche et Applications en Marketing*, 39(5), pp. 45.

Used with permission.

第三部分:電子商務的滿意度

說明: 這部分是測量電子商務的滿意度。請就您最近的網路購物經驗，勾選下列 5 個不同的欄位， 1 =強烈不同意, 5=強烈同意

	完全不同意	有些不同意	普通	有些同意	完全同意
	1	2	3	4	5
1. 我很滿意我的決定在這個網站上購物	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. 如果我再次購物則該網站會令我有不同的購物感受	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. 我在這網站上購物是明智的決定	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. 我認為在這網站上的購物決定是不適當的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. 我認為在這個網站上購物是對的選擇	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. 在這個網站上購物，我感到很不快樂	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Not: Question 1 to 6 was adapted form from Anderson and Srinivasan (2003). "E-Satisfaction and E-Loyalty: a Contingency Framework," *Psychology & Marketing*, 20(2), pp. 134. Used with permission.

第四部分:的忠誠度

說明: 這部分是測量電子商務的忠誠度。請就您最近的網路購物經驗，勾選下列 5 個不同的欄位， 1 =強烈不同意, 5=強烈同意

	完全不同意	有些不同意	普通	有些同意	完全同意
	1	2	3	4	5
1. 我很少考慮要換到其他的購物網站	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. 只要這個購物網站目前的服務繼續下去，我想我不會想轉換到其他購物網站	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. 我嘗試使用這個購物網站，每當我需要購買商品的時候	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. 當我需要購買商品時，這個網站是我第一的選擇	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. 我喜歡使用這個購物網站	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. 對我來說，這個網站是可以讓我進行購物的最好網站	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. 我相信這是最喜愛的網路商店	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Not: Question 1 to 7 was adapted form from Anderson and Srinivasan (2003). "E-Satisfaction and E-Loyalty: a Contingency Framework," *Psychology & Marketing*, 20(2), pp. 134. Used with permission.

第五部分:再購買的意願

說明: 這部分是測量再購買的意願。請就您最近的網路購物經驗, 勾選下列 5 個不同的欄位, 1 =強烈不同意, 5=強烈同意

	完全不同意	有些不同意	普通	有些同意	完全同意
	1	2	3	4	5
1. 下次我再從網路購買這種產品時, 我會在相同的網路商店購買	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. 我願意再次從這家網路商店購買東西	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. 未來我將會在這家網路商店再次購買商品	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. 我非常有可能在這個網路商店增加我的購物活動次數	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Not: Question 1 to 4 was adapted form from Holloway, Wang, and Parish (2005). "The Role of Cumulative Online Purchasing Experience in Service Recovery Management," *Journal of Interactive Marketing*, 19(3), pp. 60. Used with permission.

問卷到此全部結束, 感謝您的對此研究問卷的貢獻。

APPROVAL OF DISSERTATION

**EFFECT OF E-SERVICE QUALITY ON CUSTOMER ONLINE REPURCHASE
INTENTIONS**

By Tung-Hsuan Liu

Jeanette Francis, D.B.A
Dissertation Committee Chair

Date

John Cipolla, Ph.D.
Dissertation Committee Member

Date

Alison Rampersad, Ph.D.
Dissertation Committee Member

Date

Order Number: _____

Effect of E-service Quality on Customer Online Repurchase Intentions

Tung-Hsuan, Liu, Ph.D.

Lynn University, 2012

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U.M.I.
300 N. Zeeb Road
Ann Arbor, MI 48106

ABSTRACT

Effect of E-service Quality on Customer Online Repurchase Intentions

In the early years of online retailing, having an online presence and low prices were believed to be key drivers of success. More recently, electronic service quality has become essential as an online marketing strategy. Online stores provide higher service quality to create online customer loyalty, improve customer satisfaction, and keep a lasting competitive advantage.

According to the literature review, service quality is an important instrument of developing a competitive advantage in e-business. It is one of the most critical factors for maintaining long-term relationships with customers, building customer loyalty, and encouraging repeat purchases (Li & Suomi, 2007). Therefore, service quality has become a significant factor in determining the success or failure of an online business by influencing online customer shopping experiences and has a greatly effects both online customer satisfaction and customer loyalty. However, most past studies focused on the relationship between e-service quality, e-satisfaction and online purchase intentions. No empirical studies have explored the relationship between e-service quality and online repurchase intentions. In other words, this research investigated the potential for future online purchases by the customers significantly contributing to the research knowledge base.

The purpose of this study was to explore and analyze the effect of e-service quality on customer intention to repurchase online. The study employed the e-commerce customer satisfaction index (ECCSI) model and the NetQual model to examine potential relationships and effects of several variables on online repurchase behavior. A quantitative, non-experimental, explanatory, and correlational research design was used to answer four research questions and test nine hypotheses. The sample consists of daytime undergraduate students at a university in Taiwan. The data was analyzed using statistical software to conduct descriptive analysis, reliability analysis, factor analysis, simple regression, and multiple regression.

In this study, the finding indicated that two variables (information and ease-of-use) of e-service quality dimension had positively influenced online repurchase intentions. Meanwhile, E-service quality also had a positively significant effect on customer satisfaction and loyalty. Online customer satisfaction and loyalty had a positively significant effect on online repurchase intentions. Finally, the results indicated that a greater e-service quality will increase online customer satisfaction, build customer loyalty, and encourage online repurchase intentions. Thus, the online retailer should be build long-term relationship with their customers through e- service quality to improve customer satisfaction and loyalty and enhance customer repurchase intentions. Lastly, the limitations and recommendation for future research are included.

Effect of E-service Quality on Customer Online Repurchase Intentions

Dissertation

Presented in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

Lynn University

By

Tung-Hsuan Liu

May 28, 2012

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Year manuscript completed 2012

Advisor/Committee Chair Dr. Jeanette Francis

Committee Member Dr. Robert Green

Committee Member _____

Committee Member Dr. John Cipolla

Committee Member _____

Committee Member _____

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African studies	0293
American studies	0323
Asian American studies	0343
Asian studies	0342
Baltic studies	0361
Black studies	0325
Canadian studies	0385
Caribbean studies	0432
Classical studies	0434
East European studies	0437
Ethnic studies	0631
European studies	0440
French Canadian culture	0482
Gender studies	0733
GLBT studies	0492
Hispanic American studies	0737
Holocaust studies	0507
Islamic culture	0512
Judaic studies	0751
Latin American studies	0550
Middle Eastern studies	0555
Native American studies	0740
Near Eastern studies	0559
North African studies	0560
Pacific Rim studies	0561
Regional studies	0604
Scandinavian studies	0613
Slavic studies	0614
South African studies	0654
South Asian studies	0638
Sub Saharan Africa studies	0639
Women's studies	0453

BUSINESS

Accounting	0272
Arts management	0424
Banking	0770
Business	0310
Entrepreneurship	0429
Finance	0508
Management	0454
Marketing	0338
Sports management	0430

COMMUNICATIONS AND INFORMATION SCIENCES

Communication	0459
Information science	0723
Journalism	0391
Library science	0399
Mass communication	0708
Technical communication	0643
Web studies	0646

FINE AND PERFORMING ARTS

Art criticism	0365
Art history	0377
Cinematography	0435
Dance	0378
Design	0389
Film studies	0900
Fine arts	0357
Music	0413
Performing arts	0641
Theater	0465
Theater history	0644

EDUCATION

Adult education	0516
Art education	0273
Bilingual education	0282
Business education	0688
Community college education	0275
Continuing education	0651
Curriculum development	0727
Early childhood education	0518
Education	0515
Education finance	0277
Education policy	0458
Educational administration	0514
Educational evaluation	0443
Educational leadership	0449
Educational psychology	0525
Educational technology	0710
Educational tests & measurements	0288
Elementary education	0524
English as a second language	0441
Foreign language instruction	0444
Gifted education	0445
Health education	0680
Higher education	0745
Higher education administration	0446
History of education	0520
Home economics education	0278
Industrial arts education	0521
Instructional design	0447
Language arts	0279
Mathematics education	0280
Middle school education	0450
Multicultural education	0455
Music education	0522
Pedagogy	0456
Performing arts education	0457
Philosophy of education	0998
Physical education	0523
Reading instruction	0535
Religious education	0527
School counseling	0519
Science education	0714
Secondary education	0533
Social sciences education	0534
Sociology of education	0340
Special education	0529
Teacher education	0530
Vocational education	0747

HUMANITIES

HISTORY

African history	0331
American history	0337
Ancient history	0579
Asian history	0332
Black history	0328
Canadian history	0334
European history	0335
History	0578
History of Oceania	0504
History of science	0585
Latin American history	0336
Medieval history	0581
Middle Eastern history	0333
Military history	0722
Modern history	0582
Russian history	0724
World history	0506

LANGUAGE & LITERATURE

African literature	0316
American literature	0591
Ancient languages	0289
Asian literature	0305
Canadian literature	0352
Caribbean literature	0360
Classical literature	0294
Comparative literature	0295
English literature	0593
French Canadian literature	0355
Germanic literature	0311
Icelandic & Scandinavian literature	0362
Language	0679
Latin American literature	0312
Linguistics	0290
Literature	0401
Literature of Oceania	0356
Medieval literature	0297
Middle Eastern literature	0315
Modern language	0291
Modern literature	0298
Rhetoric	0681
Romance literature	0313
Slavic literature	0314

PHILOSOPHY AND RELIGION

Aesthetics	0650
Biblical studies	0321
Canon law	0375
Clerical studies	0319
Comparative religion	0618
Divinity	0376
Epistemology	0393
Ethics	0394
Logic	0395
Metaphysics	0396
Pastoral counseling	0397
Philosophy	0422
Philosophy of Religion	0322
Philosophy of science	0402
Religion	0318
Religious history	0320
Spirituality	0647
Theology	0469

LAW AND LEGAL STUDIES

Alternative dispute resolution	0649
Intellectual property	0513
International law	0616
Law	0398
Patent law	0562

SOCIAL SCIENCES

Archaeology	0324
Area planning and development	0341
Criminology	0627
Cultural anthropology	0326
Demography	0938
Economic history	0509
Economic theory	0511
Economics	0501
Economics, Commerce-Business	0505
Economics, Labor	0510
Folklore	0358
Forensic anthropology	0339
Geography	0366
Individual & family studies	0628
International relations	0601
Labor relations	0629
Military studies	0750
Organization theory	0635
Organizational behavior	0703
Peace studies	0563
Physical anthropology	0327
Political Science	0615
Public administration	0617
Public policy	0630
Recreation and tourism	0814
Social research	0344
Social structure	0700
Social work	0452
Sociolinguistics	0636
Sociology	0626
Transportation planning	0709
Urban planning	0999

INTERDISCIPLINARY

Alternative energy	0363
Biographies	0304
Climate change	0404
Cultural resources management	0436
Energy	0791
Food science	0359
Home economics	0386
Information technology	0489
Multimedia	0558
Museum studies	0730
Sustainability	0640
Textile research	0994
Wood sciences	0746

Behavioral, Natural, and Physical Sciences

AGRICULTURE

Agriculture	0473
Agriculture economics	0503
Agronomy	0285
Animal diseases	0476
Animal sciences	0475
Fisheries and aquatic sciences	0792
Forestry	0478
Horticulture	0471
Plant pathology	0480
Plant sciences	0479
Range management	0777
Soil sciences	0481
Urban forestry	0281
Wildlife management	0286

ARCHITECTURE

Architecture	0729
Architectural engineering	0462
Landscape architecture	0390

BEHAVIORAL SCIENCES

Animal behavior	0602
Behavioral sciences	0384
Clinical psychology	0622
Cognitive psychology	0633
Counseling psychology	0603
Developmental psychology	0620
Experimental psychology	0623
Occupational psychology	0624
Personality psychology	0625
Physiological psychology	0989
Psychobiology	0349
Psychology	0621
Quantitative psychology and psychometrics	0632
Social psychology	0451

BIOLOGICAL SCIENCES

Biochemistry	0487
Bioinformatics	0715
Biology	0306
Biomechanics	0648
Biophysics	0786
Biostatistics	0308
Cellular biology	0379
Developmental biology	0758
Endocrinology	0409
Entomology	0353
Evolution & development	0412
Genetics	0369
Histology	0414
Limnology	0793
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Molecular biology	0307
Morphology	0287
Neurosciences	0317
Parasitology	0718
Physiology	0719
Plant biology	0309
Systematic biology	0423
Virology	0720
Zoology	0472

ECOSYSTEM SCIENCES

Ecology	0329
Macroecology	0420
Paleoecology	0426

ENGINEERING

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Biomedical engineering	0541
Chemical engineering	0542
Civil engineering	0543
Computer engineering	0464
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Electrical engineering	0544
Engineering	0537
Geological engineering	0466
Geophysical engineering	0467
Geotechnology	0428
Industrial engineering	0546
Mechanical engineering	0548
Mining engineering	0551
Naval engineering	0468
Nanotechnology	0652
Nuclear engineering	0552
Ocean engineering	0547
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Aeronomy	0367
Atmospheric chemistry	0371
Atmospheric sciences	0725
Biogeochemistry	0425
Biological oceanography	0416
Chemical oceanography	0403
Continental dynamics	0406
Geobiology	0483
Geochemistry	0996
Geographic information science and geodesy	0370
Geology	0372
Geomorphology	0484
Geophysics	0373
Hydrologic sciences	0388
Marine geology	0556
Meteorology	0557
Mineralogy	0411
Paleoclimate science	0653
Paleontology	0418
Petroleum geology	0583
Petrology	0584
Physical geography	0368
Physical oceanography	0415
Planetology	0590
Plate tectonics	0592
Remote sensing	0799
Sedimentary geology	0594

HEALTH AND MEDICAL SCIENCES

Aging	0493
Alternative medicine	0496
Audiology	0300
Dentistry	0567
Epidemiology	0766
Gerontology	0351
Health care management	0769
Health sciences	0566
Immunology	0982
Kinesiology	0575
Medical ethics	0497
Medical imaging and radiology	0574
Medicine	0564
Mental health	0347
Nursing	0569
Nutrition	0570
Obstetrics and gynecology	0380
Occupational health	0354
Occupational therapy	0498
Oncology	0992
Ophthalmology	0381
Osteopathic medicine	0499
Pathology	0571
Pharmaceutical sciences	0572
Pharmacology	0419
Physical therapy	0382
Public health	0573
Public health occupations education	0500
Speech therapy	0460
Surgery	0576
Toxicology	0383
Veterinary medicine	0778

**MATHEMATICAL AND
PHYSICAL SCIENCES**

Acoustics	0986
Analytical chemistry	0486
Applied mathematics	0364
<i>Astronomy</i>	0606
Astrophysics	0596
Atomic physics	0748
Chemistry	0485
Condensed matter physics	0611
Electromagnetics	0607
High temperature physics	0597
Inorganic chemistry	0488
Low temperature physics	0598
Materials science	0794
Mathematics	0405
Mechanics	0346
Molecular chemistry	0431
Molecular physics	0609
Nanoscience	0565
Nuclear chemistry	0738
Nuclear physics	0756
Optics	0752
<i>Organic chemistry</i>	0490
Particle physics	0798
Physical chemistry	0494
Physics	0605
Plasma physics	0759
Polymer chemistry	0495
Quantum physics	0599
Statistics	0463
Theoretical mathematics	0642
Theoretical physics	0753

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Group