Impact of perceived website service quality on customer e-loyalty on a lodging website

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Impact of perceived website service quality on customer e-loyalty on a lodging website

by

Myunghee (Mindy) Jeon

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

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Ames, Iowa
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ABSTRACT

Customer loyalty on websites, *e-loyalty*, is reflected on customer behavior, regardless of online or offline business. Specifically, it is believed that customer loyalty on a website is strongly associated with website service quality. This study rigorously reviewed previously reported research in the website service quality dimensions and attempted to integrate these dimensions under three major categories. Then, the associations between website service quality dimensions and their consequences were examined.

In an attempt to investigate the different perceptions of website service quality dimensions upon age groups, results revealed that no significant differences in the perception of website service quality dimensions existed among four age groups – Seniors, Baby Boomers, Gen Xers and Yers. This implied that regardless of age differences, people perceived the dimensions of website service quality in the same way.

Results of the study also indicated that website service quality, identified as FUNC, CE and REP dimensions, was directly associated with customer perceived service quality of a lodging website. Customer perceived service quality directly affected overall customer satisfaction and customer return intention to the website. Ultimately, customer return intention affected customer loyalty on a lodging website. Accordingly, eight hypotheses established the associations among website service quality dimensions to perceived service quality (PSQ), from PSQ to overall customer satisfaction (OCS), from OCS to return intention (RI), and from RI to customer loyalty (CL).

In summary, findings of this study provided evidence that website service quality
dimensions were directly associated with customer perceived service quality of a lodging website. Also, the findings have shown important implications to ensure quality services of a lodging website to capture customers’ perceived service quality that may evolve to customer return intention and loyalty. These findings may assist hospitality management to establish and implement customer-oriented marketing strategies to increase customer perceived service quality on a website, which will enhance their return intentions and customer loyalty. Hospitality management should put extensive efforts to determine what practices of a lodging website will be useful for customers to make them return to the website. Based upon these findings, it is believed that hospitality management can design its website to accommodate its customers’ expectations.

Keywords: E-commerce, e-loyalty, a lodging website, website service quality.
CHATER I. INTRODUCTION

Impacts of the Internet

Today, many travel-service websites enable Internet users to access a wide range of travel-related services to plan their trips, from information searching to booking hotel rooms or airline tickets. This resulted in the Internet becoming one of the most important platforms for travel-related service businesses today (Ho & Lee, 2007). As the ubiquity of the Internet has accommodated travelers’ attempts to search travel-related information from websites, electronic purchases of travel products and services have grown significantly, amounting to 52 percent of reservations made online in 2005 compared to 40 percent in 2004 (Kerner, 2005).

According to the Internet World Statistics (2008), the Internet user rate has grown to 130 percent in 2008 (248 million), compared to that of the year of 2000 (108 million) in North America. The Travel Industry Association of America (TIA) reported that approximately 120 million American adults used the Internet in 2005, which is equivalent to 56 percent of a total of 216.1 million adults. Among these Internet users, approximately 84 percent visited the Internet for searching information in planning their travels, which are nearly 101.3 million adults.

The Executive Report of TIA (2008) reported that four in ten (40%) e-travel customers are in Generations X and Y, while half (50%) are Baby Boomers. The report showed that Baby Boomers spent online for travel an average of $2,249, while Generations X and Y purchased online an average of $2,028. Generations X and Y are more experienced than Baby Boomers and Seniors in online travel planning. It was found
that these age groups were different in their usage and opinions of travel websites. Demographic variables are closely related to level of the Internet usage using lifestyle factors in assessing Internet usage (Assael, 2005). Assael (2005) reported that although the demographic categories are not directly comparable, heavy users are younger than Internet users overall.

The Executive Report (TIA, 2008) also indicated that company websites and destination websites were still the most popular sites for all groups. Company websites seem to refer to the proprietary website that is operated by travel-related businesses including lodging and travel agents. Destination websites seem to refer to those websites operated by destination marketing organizations (DMOs). However, the report showed that Baby Boomers were the most apt to use company websites, such as lodging websites, while Generations X and Y were more apt than Baby Boomers in purchasing other travel-related activities, such as tickets for museums, sporting events, and amusement parks.

**The Internet in a lodging market**

The commercialization of the Internet emerged in the early 1990s due to the evolution of digital information technology that transmits information between two companies using the technology of the electronic data interchange (EDI). The electronic connectivity based on computer technology led to the emergence of the World Wide Web (Chu, Leung, Hui, & Cheung, 2007) that enabled electronic commerce in the market. Since then, lodging companies quickly adopted electronic commerce (e-commerce) for operations that have impacted the lodging industry enormously. Thus, e-commerce opened a new channel of distribution in the lodging market.
A lodging website as a distribution channel serves two major functions—providing customers with information for their purchase decision-making online and facilitating their purchase activities (Middleton & Clarke, 2001). The former provides useful information to help customers make purchase decisions efficiently, which may affect their satisfaction with online service and furthermore develop loyalty toward lodging companies; the latter facilitates customer purchase activities and focuses more on financial and marketing aspects. From customers’ perspectives, e-commerce provides convenience in collecting useful information easily at no cost. From the management’s perspective, the ultimate goal of operating the website would be to generate profits through online business. In this sense, creating buzz (i.e. positive customer comments or opinions exchanged online) and traffic online are beneficial for a lodging company to attract more customers to the website and generate more revenues via online transactions (Dye, 2001).

**Benefits of e-commerce on a lodging website**

The Internet-based transactions are mutually beneficial for customers and hoteliers, due to the direct connectivity between two parties. From the management perspective, e-commerce offers hoteliers a great opportunity to control operational costs. The lodging industry has long been dependent on its intermediaries using the global distribution systems (GDS), central reservation systems (CRS), and the universal switch that provides a translation service between hotel CRS and airline GDS (O’Connor & Frew, 2002). Due to the costs of developing and maintaining independently-owned CRS, many lodging companies have preferred to use outsourcing services. Still, lodging
organizations spend considerable money for commissions and fees to travel agencies, GDS, and switching services.

When a majority of customers uses a lodging website as their purchase channel, hotels save fees and commissions for using airline GDS, switch service to get connected to hotels’ CRS, and other travel intermediaries. Also, hoteliers today provide Internet customers with lower rates than other channels, such as offline travel agents, because there is no middleman involved in this kind of transaction. The direct distribution of guest rooms via hotels’ websites enables lodging companies to enjoy higher profits than from other distribution channels. Commissions and fees that a lodging company pays for each reservation taken via GDS are considerable. Adopting e-commerce by using hotels’ websites, however, enables hotels to bypass middlemen and reduce fees, up to US$1.3 billion from 2000 to 2003. This represents an annual savings equivalent to 1.7 percent of the total profits of the lodging industry in 2000 (O’Connor & Frew, 2002).

A lodging website also contributes to the hotel’s bottom line by saving labor costs. By searching hotel information online, customers can conveniently collect information about amenities, location, and tourist attractions nearby without calling hotels. Such services, available online, reduce incoming calls from customers, which lessen hotel employees’ workload of answering telephone calls. This enables employees to focus on servicing in-house guests or any other needed work, and hoteliers to assign labor power effectively and flexibly.

The lodging website can be used as a direct communication tool with customers. The hotel’s website provides customers with opportunities for interactivity with
management as well as with other customers, viewed as an important service component
to build customer trust (Jeong & Lambert, 2001). Management can glean customers’
opinions and comments on its hotel from customers’ inquiries, questions, or sometimes
complaints posted on a customer service email box on the website. By collecting and
listening to customers’ opinions and comments about their hotel services in general,
managers will have opportunities to review and reevaluate their operational strategies and
management goals (Jeong & Jeon, 2008). Marketing managers can collect customers’
information via online transaction records for future contact to build customer
relationships.

From the customers’ perspectives, Internet users save costs by less calling of
hotels for reservations. Instead, they can complete hotel reservations conveniently with
only several clicks on their computer. According to TIA (2008), most online leisure
travel planners claimed that since they began planning trips on the Internet, they used
phone calls or personal visits to travel agencies less often than they used to. In addition,
many online travel planners make less often direct calls to hospitality companies such as
airlines, hotels, and rental car companies. A hotel’s website is the place where Internet
customers can find the best available rates and where a lodging company can take
customers’ reservations directly without paying too much commissions and fees.

Customers can enjoy the automatically customized search function on the website,
due to the system’s capability to remember customers’ preferences, which is stored in the
database from the customer’s recent visit to the website. This assists returned customers
in searching information conveniently during their frequent visits to the website.
Consequences of e-commerce in the lodging market

There are a few consequences of adoption of e-commerce in the lodging market. First, it is the emergence of the third party intermediary (mainly online travel agencies, such as Hotels.com and Expedia.com). The number of travel-related websites has grown rapidly during the past decade, and competition has become more intensive than ever (Ho & Lee, 2007). These online travel sites sell multiple products (airplane tickets, hotel rooms, rental cars, etc.) from multiple vendors to offer customers a one-stop shopping convenience. Second, it has resulted in less brand-oriented purchase behavior and price sensitivity of customers. Through multiple alternatives available online, customers are able to compare hotel offerings and prices easily. This also has resulted in a transition of power shift in the lodging market from suppliers to customers or third party intermediaries (O’Connor, 2003). Hoteliers now experience both opportunities and risks in capturing customers’ attentions in the rapidly changing e-commerce environment, while customers enjoy the convenience and benefits of e-commerce.

Purposes and objectives of the study

In order to attain customer loyalty and sustain market share in these competitive online lodging markets, hotel management should strive to achieve competitive advantage on its website, and to maintain it. In addition to those elements that are provided in the offline market such as quality products and services, the online business environment extends its service offers further to quality service on a website. Achieving e-customer loyalty is viewed as difficult in comparison to the brick-and-mortar environment because Internet customers are easily accessible to competitors’ websites
with just a few clicks. Furthermore, customers can quit the procedure of transactions and exit from a website any moment.

Loyal customers are considered to be profitable because loyal customers provide more repeat business and are less price sensitive (Bowen & Chen, 2001; Bowen & Shoemaker, 1998). It is believed, in general, that loyal customers are a hotel’s intangible assets that influence its bottom line and are key constituents that can spread good things about the hotel.

Retaining e-customer loyalty is also crucial in the online business in order to keep customers returning to the same website. Two behavioral consequences of loyalty were identified as word-of-mouth and willingness to pay more (Srinivasan, Anderson, & Ponnavolu, 2002). E-loyal customers are profitable because e-loyalty will mitigate customers’ propensity to be price sensitive and recommend others to visit a certain website, which will lead to more online transactions.

It has been discussed in many studies that website service quality is crucial to enhance customers’ perceived satisfaction with a lodging website (Kim & Lee, 2004; Madu & Madu, 2002; Wolfinbarger & Gilly, 2003). Thus, hotel management needs to establish specific e-customer loyalty strategies by ensuring quality service on a website. Although customer loyalty is crucial for sustaining business in hospitality organizations, lack of loyalty research has been noted in the hospitality context. Moreover, no general agreement has been made yet on the determinants of loyalty to hospitality companies, or how to increase loyalty, or even how to define it (Mason, Tideswell, & Roberts, 2006). Therefore, this study investigates the determinants of customer-perceived service quality
of a lodging website and their impacts on customer-perceived service quality, customer satisfaction, customer return intention to the same lodging website, and, in turn, customer loyalty toward a lodging website.

In short, two main purposes of this study are: to determine impact of website service quality on customers’ perceived service quality of a lodging website; and to examine the relationships among customer-perceived website quality and its consequences. It has also been found that there were differences among major age groups in terms of their purchase behavior on websites (Kau, Tang, & Ghose, 2003). Hence, it will also be meaningful to investigate the different perspectives of determining website quality based upon the characteristics of different generation groups such as Generation X, Y and Baby boomers.

More specifically, the objectives of this study are:

1. To determine major dimensions of website quality that affect customers’ perception of service quality of a lodging website.

2. To examine the relationships among variables of determinants of website quality, perceived service quality, customer satisfaction, return intention, and ultimately customer loyalty toward a lodging website.

3. To investigate differences in perceptions of perceived website quality of a lodging website from generations’ perspectives.

4. To fill the gaps in the literature body of e-customer loyalty and to provide industry practitioners with insights of e-customer loyalty strategies.
Key concepts

E-commerce

E-commerce refers to all transactional activities occurring online. E-commerce opened a new channel of distribution in the lodging market. The electronic connectivity based on computer technology led to the emergence of the World Wide Web (Chu, et al., 2007) that enabled electronic commerce in the market. E-commerce refers to the ability to purchase goods and services on the Internet (Operitel Corp., 2004).

E-customer loyalty

E-loyalty is defined as “a customer’s favorable attitude toward the e-retailer that results in repeat buying behavior” (Srinivasan, et al., 2002, p42).

Generation X and Y, Baby Boomers, and Seniors

Categorization of generation slightly varies by researchers and studies. It is generally believed that Generation X, born between 1965 and 1976 (Taulane, 2008) or between 1968 and 1978 (US Census Bureau, 2003), values work-life balance, thinking globally, informality, flexibility, and independence while Generation Y, born between 1977 and 2000 (Taulane, 2008) or between 1979 and 2000 ((US Census Bureau, 2003), values confidence, technology and an extension of themselves, instant gratification, and diversity. To the contrary, Baby boomers, born between 1946 and 1964, who value optimism, teamwork, loyalty to company, and going the extra mile, are viewed as still playing a significant role with commitment to their jobs and organization’s needs. Seniors, born before 1946, are the group whose Internet usage is dramatically increased (Bank News, 2007).
**Website quality**

Based upon the review of literature and previous website service quality studies, this study concludes that functionality, customer experiential aspects, and reputation dimensions determine website quality. There are nine attributes underlying these three major areas: information usefulness, usability, accessibility, aesthetics/design, privacy/security, personalization/customization, past experience, social influence, and advertisement.
CHAPTER II. REVIEW OF LITERATURE

This chapter reviews the related research on website quality and discusses the determinants of website quality in relation to customer perceived service quality, customer satisfaction, customer return intention, and customer loyalty on a lodging website. Four dimensions of website service quality in a lodging website are identified as major components affecting website quality: information quality, system quality, customer service, and reputation. First, the relationships of four dimensions of website quality and perceived service quality on a lodging website will be reviewed. Then, the impact of website quality on consequential variables, such as customer perceived service quality, customer satisfaction, return intention, and customer loyalty toward a lodging website, will be discussed from the customer’s perspectives. In addition, different perspectives of determinants of website quality from four different age groups, Generation X, Generation Y, Baby Boomers, and Seniors will be examined.

Website quality

As more and more Internet users are bypassing travel intermediaries and turning their attention directly to lodging websites for their travel planning (Jeong, Oh, & Gregoire, 2003), service quality on a lodging website is becoming a more important issue than ever. With a fast growing Internet user population, a number of studies (Barnes & Hinton, 2007; Childers, Carr, Peck, & Carson, 2001; Wolfinbarger & Gilly, 2003) have focused on the unique capabilities of the online medium that provides interactivity, personalized experiences, community, content, increased product selection and information. Few studies have been conducted, however, to assess whether or not the
underlying dimensions of website quality will affect customers’ perceptions of service quality in the consequential relationships with customer satisfaction, return intention and customer loyalty toward a lodging website.

O’Connor (2003) prioritized evaluation factors on the Internet from the management perspective, mainly focusing on the operational and performance issues in the context of the distribution channel such as ease of use, transaction speed, update speed, traffic levels, integration and security, and so on. However, O’Connor (2003) observed that such operational and economic driven approaches to the evaluation of effectiveness of information technology are somewhat limited, although it is objective, theoretically well grounded, and commonly used. As an alternative, he suggested a non-economic approach. The drivers of success in the hospitality industry are intangible assets, such as intellectual capital and customer loyalty. While the economic approach focuses on performance in the balance sheet, the non-economic approach encompasses a wider range of factors (O’Connor & Frew, 2002) that ultimately affects the company’s bottom line in the long term, such as retaining loyal customers, who patronize the company by both repurchases and spreading word-of-mouth. Therefore, it is believed that customer perceived service quality of lodging websites is crucial to retain customers’ loyalty.

Unlike O’Connor’s (2003) approach, most researchers viewed the relationship dynamics of the e-commerce environment affected by website service quality with approaches more focused on customer satisfaction and loyalty orientation than on financial and operational aspects. For example, Kaynama and Black (2000) developed E-
QUAL, grounded on the well-known SERVQUAL (Parasuraman, Zeithaml, & Berry, 1985) instrument, to measure service quality dimensions of e-commerce from customers’ perspective using online travel agencies as a case study. E-QUAL consists of seven dimensions including content and purpose, accessibility, navigation, design and presentation, responsiveness, background, and personalization and customization. By comparing purely online travel service agencies to hybrid travel agencies that represent traditional travel agencies adopting an online medium, researchers emphasized that websites need to compete using better navigation and design. Kaynama and Black (2000) claimed that the online and hybrid travel agencies need to use new media efficiently and effectively. They also stressed that a prompt follow up with email questions was important to enhance responsiveness. Researchers (Kaynama & Black, 2000) urged that both types of travel agencies need to exploit the value-added control and convenience, based upon seven dimensions of e-quality that they suggested.

In an attempt to measure the overall perceived quality on Internet shopping sites, Yoo and Donthu (2001) developed SITEQUAL. Researchers (Yoo & Donthu, 2001) identified four major factors related to perceived quality, which are ease of use, aesthetic design, processing speed, and security. Ease of use concerns ability of easy navigation and aesthetic design involves quality photos and colors of the websites. Processing speed and security are important elements for the Internet customers. Using six major Internet retailing sites including Gap, Best Buy, eBay, Amazon, Buy, and Wal-Mart, researchers found that ease of use and security dimensions significantly affect overall site quality, site loyalty, site equity, attitude toward site, site revisit intention and purchase intention. All
four dimensions – ease of use, aesthetic design, processing speed, and security – appeared to be significantly correlated with overall site quality.

Meanwhile, Jeong and Lambert (2001) developed a conceptual framework for information quality on lodging websites by adapting three dimensions of information quality – perceived usefulness, perceived ease of use (Davis, 1989), and perceived accessibility (Culnan, 1985). The researchers also adapted the theory of planned behavior (Ajzen, 1993) to explain the construct of attitude that is the overall outcome of these three dimensions of information quality and an indicator of customers’ voluntary exposure to the web. The researchers posited in this study that the aforementioned three dimensions of information quality that were combined with the need of information and attitude would affect users’ intention to utilize a lodging website, which indicates the actual use of information.

Francis and White (2002a) developed a model that identified six dimensions of consumer perceived Internet retailing quality (PIRQUAL). A preliminary PIRQ model was grounded from the exploratory interviews with Internet shoppers who evaluated their previous online purchase experiences. An instrument was established through scale purification and exploratory factor analysis (EFA), which determined six dimensions of shoppers online purchase experiences including –web store functionality, product attribute description, ownership conditions, delivered products, customer service and security. Regression analysis was employed to examine the relationship between quality evaluation and the dependent variable – behavioral intention (BI). Despite not all factors conforming to the preliminary determinants, results revealed the overall statistical
significance of the PIRQ model. In their sequential study (Francis & White, 2002b), the researchers took an exploratory approach to testing PIRQ model empirically. By using two separate sample groups, researchers conducted an EFA to extract dimensions of perceived Internet retailing quality and test model fit. This resulted in a revised model with five dimensions including website, transaction system, delivery, customer service and security. Although the model displayed marginally acceptable fit statistics, it is viewed as an enhancement of the practicality of the PIRQ model (Francis & White, 2002b).

Similarly, Zeithaml, Parasuraman, and Malhotra (2002) developed the e-SERVQUAL to measure e-service quality, using three studies of focus groups and two phases of empirical data collection and analyses. Building on their previous study of service quality (SQ) using Gap model (Parasuramna et al., 1985), the researchers attempted to illustrate the importance of e-SQ by mentioning similar shortfalls in the business environment in the context of the Internet. Out of seven dimensions, finally four dimensions were determined as the core determinants of e-SERVQUAL that measure the customers’ perceptions of service quality delivered by online retailer. These four dimensions are efficiency (ease of website use), fulfillment (accuracy of service promises), privacy (assurance of confidentiality of customers data and credit card information), and reliability (technical functions).

By synthesizing major dimensions of website quality from the existing literature, Madu and Madu (2002) discussed unique distinctions of virtual operation in their study. They noted that virtual operation rarely offered direct interaction between the customers
and the human service component. Thus, they suggested 15 dimensions of e-quality for virtual operations including performance, features, structure, aesthetics, reliability, storage capability, serviceability, security and system integrity, trust, responsiveness, product/service differentiation and customization, Web store policies, reputation, assurance, and empathy. The researchers (Madu & Madu, 2002) argued that website features, which increase customers’ repeat visitation and factors influencing customers’ actual purchase, were key components of website quality such as usefulness of information and ease of use because these two elements made customers adopt a website as their information source.

WebQual™ was developed by Loiacono, Watson and Goodhue (2002) using 12 dimensions including informational fit-to-task, interactivity, trust, response time, ease of understanding, intuitive operations, visual appeal, innovativeness, flow/emotional appeal, consistent image, online completeness and better than alternative channels. The researchers employed an EFA to extract factors and a confirmatory factor analysis (CFA) to test the initial model. However, respondents to this study were not required to actually purchase products online. Therefore, several dimensions, such as interactivity, trust, response time, and online completeness, might not be reliable.

Building on the study of the SERVQUAL scale (Parasuraman, Zeithaml, & Berry, 1988), Wolfinbarger and Gilly (2003) developed the e-TailQ to establish a general model of e-tail quality. Using three studies of focus group discussions to select 40 measurement items, the researchers adopted a hierarchical cluster analysis with 8 dimensions and 40 items extracted by an EFA. Then, a CFA was conducted to configure the final set of 14
items. This resulted in four major e-quality dimensions determined including fulfillment/reliability, website design, privacy/security, and customer service. While consumer perceptions of employees played a central role in SERVQUAL, the company as an entity was the focus of eTail Q. That was when consumers interact with e-tailers, customers perceived that they were interacting with an organization through a technical interface, not an individual employee (Wolfinbarger & Gilly, 2003). This study, however, did not investigate how characteristics of various product categories might affect the importance of the four factors in predicting quality. For example, the website design was more important in predicting overall quality in the retailing business websites, such as books, CD, and video than in the other business categories.

Kim and Lee (2004) also attempted to identify the underlying dimensions of web service quality and compared the magnitude of web service quality dimensions between online travel agencies and online travel suppliers in explaining the overall level of customer satisfaction. Five dimensions of website quality were identified by online travel agencies as structure and ease of use, information content, responsiveness and personalization, reputation and security, and usefulness. Four dimensions were identified by online travel suppliers as dimensions affecting web service quality that were information content, structure and ease of use, reputation and security, and usefulness (Kim & Lee, 2004). It was found that information content was uniquely identified by online travel agencies and considered as the dimension that most significantly affected overall customer satisfaction. However, the dimension of structure and ease of use was identified as the most important dimension by online travel suppliers.
In an attempt to compare users’ web acceptance and usage between a goal-directed user group and an experiential user group, Sanchez-Franco and Roldan (2005) studied relationships among usefulness, ease of use and flow dimensions. Initially they used two major dimensions of usefulness and ease of use in the model. Researchers (Sanchez-Franco & Roldan, 2005) found that experiential and goal-directed behaviors moderate the key relationships in the model, in which they found experiential and goal-directed users weighed extrinsic and intrinsic motivation differently on the web. However, it was found that goal-directed users were more driven by instrumental factors and focused on their decision-making process while experiential users were more motivated by process. Later, they included the flow dimension, which was defined as enjoyment and concentration constructs, to investigate users’ acceptance and usage to see whether or not they were goal driven. However, operationalizing the flow construct might be questioned due to its vagueness in conceptualization and failure of including relevant variables (Sanchez-Franco & Roldan, 2005).

By using two conceptual foundations – information quality and system quality, Yang, Cai, Zhou, & Zhou, 2005) conceptualized quality dimensions of information presented on web portals. Six underlying dimensions of information quality and system quality were determined as usefulness of content, adequacy of information, usability, accessibility, privacy/security and interaction. Using a focus group, a pilot study, an EFA and a CFA, researchers developed an instrument consisting of a scale of 19 items to measure six dimensions of website quality affecting customers’ adoption of the portal as information and communication media. The empirical data analysis revealed that all five
dimensions significantly influenced users’ overall perceived service quality, which in turn significantly influenced on user satisfaction with web portals. Specifically, interaction and usability dimensions showed the strongest influences on overall perceived service quality.

In an exploratory study comparing the Internet purchaser group to the non-purchaser group, Yang and Jun (2002) discovered differences in dimensions of perceived website service quality between the two groups. The Internet purchaser group considered reliability the most important dimension of website service quality among five other dimensions; access, ease of use, personalization, security, and credibility. It was also found that the non-purchaser group perceived security as the most critical factor of website service quality among other six factors including responsiveness, ease of use, reliability, availability, personalization, and access. The researchers (Yang & Jun, 2002) investigated the key underlying dimensions to better understand customers’ assessment of online service quality from both Internet purchasers and non-purchasers’ perspectives. It was identified that both groups perceived that reliability, personalization, ease of use and access dimensions significantly affected website service quality. While credibility was considered as the significant dimension by Internet purchasers, availability was perceived as the unique dimension by non-purchasers.

Recently, Ho and Lee (2007) identified the dimensions of e-travel service quality and developed a reliable and valid measurement instrument on e-travel service websites. The empirical study revealed five dimensions of e-travel service quality, including information quality, security, website functionality, customer relationship, and
responsiveness. Initially, 44 scale items were generated to capture the dimensions of e-travel service quality. As a result of scale purification through pre-test, an EFA and a CFA, a total of 18 scale items remained to assess purchasers’ perceptions and expectations of e-travel service quality. Further, the researchers found that the e-travel quality service scale should have a strong predictive capability in relation to online customer satisfaction and loyalty intention. Table 2.1 summarized studies of website quality based upon dimensions used by researchers.

Table 2.1 Studies of dimensions of website quality

<table>
<thead>
<tr>
<th>Researcher(s)</th>
<th>Measurement criteria</th>
<th>Dimensions of website quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho &amp; Lee (2007)</td>
<td>8 dimensions of evaluation of travel service website quality</td>
<td>Information quality, security, ease of use, availability, customization, community, responsiveness, and delivery fulfillment.</td>
</tr>
<tr>
<td>Jeong &amp; Lambert (2001)</td>
<td>Information quality</td>
<td>Perceived usefulness, perceived ease of use and perceived accessibility.</td>
</tr>
<tr>
<td>Kaynama &amp; Black (2000)</td>
<td>WEBQUAL or E-QUAL measure service quality dimensions of online travel agencies</td>
<td>7 dimensions: content and purpose, accessibility, navigation, design and presentation, responsiveness, background, and personalization and customization.</td>
</tr>
<tr>
<td>Kim &amp; Lee (2004)</td>
<td>Web service quality dimensions affecting overall customer satisfaction comparing online travel agencies to online travel suppliers</td>
<td>Online travel agencies: structure and ease of use, information content, responsiveness and personalization, reputation and security, and usefulness. Online travel suppliers: information content, structure and ease of use, reputation and security, and usefulness.</td>
</tr>
<tr>
<td>Source</td>
<td>Measurement</td>
<td>Dimension(s)</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Loiacono et al., (2002)</td>
<td>WebQual™</td>
<td>12 dimensions: informational fit-to-task, interactivity, trust, response time, ease of understanding, intuitive operations, visual appeal, innovativeness, flow/emotional appeal, consistent image, online completeness and better than alternative channels.</td>
</tr>
<tr>
<td>Madu &amp; Madu (2002)</td>
<td>15 dimensions to measure e-quality</td>
<td>Performance, features, structure, aesthetics, reliability, storage capability, serviceability, security and system integrity, trust, responsiveness, product/service differentiation and customization, Web store policies, reputation, assurance, and empathy.</td>
</tr>
<tr>
<td>O’Connor (2003)</td>
<td>3 dimension to measure operational and performance issues</td>
<td>Ease of use, transaction speed, update speed, traffic levels, integration and security.</td>
</tr>
<tr>
<td>Sanchez-Franco &amp; Roldan (2005)</td>
<td>Web acceptance and usage</td>
<td>Usefulness, ease of use and flow.</td>
</tr>
<tr>
<td>Yang et al. (2005)</td>
<td>Information quality &amp; System quality</td>
<td>Usefulness of content, adequacy of information, usability, accessibility, privacy/security, interaction.</td>
</tr>
<tr>
<td>Yoo &amp; Donthu (2001)</td>
<td>SITEQUAL: overall user perceived quality of Internet shopping sites.</td>
<td>Perceived quality of site-related aspects, ease of use, aesthetic design, processing speed, security.</td>
</tr>
<tr>
<td>Wolfinbarger &amp; Gilly (2003)</td>
<td>eTailQ: established dimensions of etail experiences; developed a reliable and valid scale for the measurement of etail quality.</td>
<td>Fulfillment/reliability, Customer service, personalization, usability, Experiential/atmospheric, ease of use, informativeness, selection, security/privacy.</td>
</tr>
<tr>
<td>Zeithaml et al., (2002)</td>
<td>e-SQ delivery</td>
<td>Efficiency (ease of use), fulfillment, privacy and technical reliability.</td>
</tr>
</tbody>
</table>
Theoretical background of adaptation of technology as an information source

In order to understand a user’s behavioral intention and actual intention to use a lodging website, the theory of reasoned action (TRA) and the technology acceptance model (TAM) need to be discussed briefly. Research on adoption of the Internet as an information source has been conducted by many researchers using the framework of the TAM (Jeong & Lambert, 2001; Yang et al., 2006). TAM was introduced by Davis (1989) in his study of adoption of computer technology, which was based on the theory of reasoned action (TRA). Initially, Ajzen and Fishbein (1980) introduced TRA (see Figure 2.1) as a general model, but it was also considered as a well-suited framework for computer acceptance modeling that specifically explained users’ computer usage behavior (Davis, Bagozzi, & Warshaw, 1989).

Figure 2.1 Theory of Reasoned Action (TRA)


The framework of TRA (Figure 2.1) indicates that an individual’s performance of a certain behavior is determined by his or her behavioral intention (BI) to perform the behavior, and BI is determined by the person’s attitude (A) and subjective norm (SN) that
refers to the individual’s perception. In their previous work, Fishbein and Ajzen (1975) discussed that “most people who are important to him/her think he/she should or should not perform the behavior in question” (p. 302). In their later study (Ajzen & Fishbein, 1980), TRA theorized that an individual’s subjective norm (SN) was determined by his/her salient beliefs about consequences of performing the behavior multiplied by the evaluation of those consequences. For example, perceived expectations of specific referent individuals or groups and his/her motivation comply with these expectations.

Specifically, TAM is based upon a theoretical basis of TRA to specify the causal relationships between two main variables (perceived usefulness and perceived ease of use) and users’ attitudes, intentions, and, ultimately, users’ computer adoption behaviors (Davis, Bagozzi, & Warshaw, 1989) as seen in Figure 2.2.

Figure 2.2 Technology Acceptance Model (TAM)

![Diagram of TAM model]


Davis, et al. (1989) conducted a study comparing these two theoretical models to investigate user acceptance of computer technology. Findings of their study showed no significance of SN–BI effect. It was contrary to previous research related to information
systems, which stressed the importance of SN such as top management support and user involvement. According to the researchers’ (Davis, et al., 1989) interpretation, first, the scale of SN might have been comparably weak from a psychometric standpoint so as to recommend more sophisticated methods for assessing the specific types of social influence processes at work in a computer acceptance context. Second, the application of word processing in their study was considered rather personal and individual, and might have been driven less by social influences than by multi-person applications such as electronic mail. Therefore, the generalizability of their SN findings require caution to interpret (Davis, et al., 1989).

A lodging website, however, is a channel of e-commerce, where users rely on others’ references and recommendations in their decision making procedure of purchases. Thus, it is logical to expect social influence affecting an e-commerce environment, and to attempt investigating the impact of social influence on user behavior on a lodging website. Attitude is determined by external conditions according to the TAM. Since TAM omits the internal condition that reflects customers’ psychological reasons to accept the technology as a tool to complete tasks, this study attempts to encompass the concept of Subjective Norm (SN) as social influence.

**Dimensions of website service quality of a lodging website**

Numerous studies were dedicated to identifying the underlying dimensions of website service quality that directly affect customers’ perceived service quality of a website (Francis & White, 2002a; Ho & Lee, 2007; Jeong & Lambert, 2001; Kaynama & Black, 2000; Kim & Lee, 2004; Loiacono et al., 2002; Madu & Madu, 2002; Sanchez-
Based upon the previous studies of website quality dimensions, nine attributes of website service quality were identified in this study as major elements affecting website, including information usefulness, ease of use, accessibility, privacy/security, aesthetics/design, personalization/customization, past experience, social influence, and advertisements. These nine attributes were then aggregated under three major dimensions of website service quality, such as website functionality, customer experiential aspects, and reputation of a lodging company or a lodging website.

**Website Functionality**

The utilitarian perspectives determine the customer perception on the website service quality based on functionality of websites. If a customer can obtain information searching for from a lodging website in no time without having technical difficulties, a customer will perceive the service quality on a website based upon his/her experience related to website functionality. It is viewed in this study that there are four aspects determining the functionality of a lodging website: information usefulness, ease of use, accessibility, and privacy/security.

**Useful information**

Information quality has been repeatedly iterated by many researchers as one of the most important dimensions of website service quality (Ho & Lee, 2007; Kim & Lee, 2004; Jeong & Lambert, 2001; Yang et al., 2005; Zeithaml, et al., 2002). Several studies on information quality (Delone & McLen, 1992; Doll & Torkzadeh, 1988; Yang et al.,
highlight the importance of relevance and usefulness of the content, timeliness, adequacy, and accuracy of information. Information provided on websites should be kept current and adequate in order to be useful for customers. Content of information directly affects a customer’s perception and evaluation of the usefulness of a website (Hanna & Millar 1997; Spiliopoulou, 2000). It is also believed that adequate information is strongly influential on the online customers’ potential buying behaviors. A variety of information and the comprehensiveness of its coverage are considered to be primary indicators of information adequacy (Ho & Lee, 2007). Websites need to provide sufficient information to facilitate customers’ understanding of the products and assist customers’ decision making for purchases, such as detailed product description, transparent price information as well as supplemental services including company contact information, and hyperlinks to relevant websites (Yang et al., 2006). If online customers perceive a particular website to be useful, they would be more satisfied and have a positive attitude toward the particular website (Jeong & Lambert, 2001). Evaluation criteria to capture usefulness of information include completeness, diversity, clarity, accuracy (errorless), timeliness, and reliability of information (Jeong & Lambert, 2001; Madu & Madu, 2002, Yang et al., 2005).

**Ease of use**

Perceived ease of use is defined as the extent to which one believes that using a particular system would be free of effort (Davis, 1989). Also, numerous studies (Delone & McLen, 1992; Doll & Torkzadeh, 1988; Sanchez-Franco & Roldan, 2005; Shang, Chen, & Shen, 2004; Yang et al, 2005) have identified various factors of ease of use,
such as website structure, user interface, and ease of navigation. The degree of usability or ease of use is often evaluated by ease of navigation. The navigation function refers to how easily users search for information within the website. Due to this reason, navigation takes an important role in delivery of e-service quality. The performance of the website that involves ease of use is considered to be one of the important elements that make customers return to the website (Madu & Madu, 2002). Judgment criteria of the ease of use attribute are related to the efficiency of navigation on a lodging website, such as well organized hyperlinks, and easily accessible links from the homepage; clear and well-organized website structure; and easy information search facilities (Yang et al., 2005).

**Accessibility**

Website accessibility refers to the ability of users to access resources on the website. It also relates to ease in connectivity and download speed (Cox & Dale, 2001). Accessibility is the core feature of convenient benefits, which makes websites an information center. Accessibility relates to the ease of linking to other relevant websites, and the capability to facilitate customers’ purchase decisions (Jeong & Lambert, 2001; Madu & Madu, 2002). To accommodate impatient Internet customers’ expectations, usually the length of downloading time that the site has to grasp a consumer’s attention ranges from 5 to 30 seconds (Geissler, 2001). The technical adequacy is a crucial factor in determining website technical features, such as system capacity, networking, hardware and software system integrity, and accessibility. Customers expect the web-based services to be available at all times and they also want speedy log-on, access, search, and webpage download (Yang et al, 2005).
Privacy/security

A website often collects and stores a variety of sensitive, personal information about its customers in order to better serve them in their future visitations. Accordingly, privacy and security features have become sensitive and serious concerns to website customers. Privacy/Security involves transactional functions, which enable customers to feel the website is intuitive, simple, and user-friendly for completing transactions (Kim & Lee, 2004). Security is one of the key attributes of website service quality dimensions demonstrating trust for users to make transactions online (Zeithaml et al., 2002). Madu and Madu (2002) also suggested that online services should be delivered and operated in a reliable and dependable manner to build trust and confidence from customers. Since customers purchase products online without physical exchange of credit card or cash, it is critical to secure the safety of transactions on a website (Reichheld & Schefter, 2000; Ho & Lee, 2007; Liao, Palvia, & Lin, 2006; Liljander, Gillberg, Gummerus, & Van Riel, 2006; Yang et al., 2005). Prompt customer feedback on websites will reduce the burden of addressing customers’ concerns, such as transaction problem and security issue (Madu & Madu, 2002; Yang, et al., 2005). Evaluation criteria of privacy/security attribute are whether the safety of transaction is guaranteed such as using Verisign; whether customers’ credit card information is protected; and whether resolving customers’ problems is assured in regards to payments.

It is believed that efficiency and functionality affect customers’ perception on service quality and ultimately customer loyalty toward a lodging website. Therefore, it is hypothesized;
H1: Website functionality is positively associated with perceived service quality of a lodging website.

**Customer Experiential Aspects**

Internet users are looking for fun while they search for information on websites. Besides the efficiency and functionality of a website, a lodging website needs to provide its customers with pleasant surfing experiences. Studies of service environment (servicescape) discussed customer experience that raises three levels of reactions to the service environment —cognitive, physiological, and emotional (Bitner, 1992; Nguyen, 2006; Tombs & McColl-Kennedy, 2003). An emotional reaction is induced from the service environment and it affects customers’ attitudes and behavior (Mattila & Wirtz, 2001). As such, experiential aspects of a website may induce an emotional reaction of website users in the online shopping context, such as like or dislike of the website.

A study was conducted to examine the impacts of aesthetics and professionalism on customer feelings of pleasantness, satisfaction, and approach toward service interaction on a virtual business environment (Vilnai-Yavets & Rafaeli, 2006). Results showed that aesthetics & professionalism positively affected customer feeling. In addition, personalized and customized website services will enable customers to feel web surfing enjoyable. Further, having positive past experience of a website will enable customers to feel more comfortable using the same website rather than having negative past experience.
**Aesthetics/design**

Numerous studies showed that aesthetics/design attribute involves website appearance and visual design (Delone & McLen, 1992; Doll & Torkzadeh, 1988; Sanchez-Franco & Roldan, 2005; Shang, et al., 2004; Yang et al., 2005). It is believed that aesthetics/design attribute is one important element of perceived website service quality. Yoo & Donthu (2001) included aesthetics/design aspect in the scale of SITEQUAL to measure user perceived quality of Internet shopping sites. Kaynama & Black (2000) used the dimension of design and presentation to measure website appearance and aesthetics as well.

A study showed that overall website design also directly affected a customer’s perception of a website (Spiliopoulou, 2000). Studies found that customers expected to find aesthetic design in a service place and they were more satisfied when the service environment was aesthetic rather than unaesthetic, regardless of the physical setting or the online setting (Hall & Hanna, 2004; Vilnai-Yavets & Rafaeli, 2006). Evaluation criteria of aesthetic aspects are closely related to types and sizes of fonts, the clarity and readability of texts (Madu & Madu, 2002), as well as quality photos with high resolution, use of appropriate visual presentations on a website.

**Personalization/customization**

A lodging website can provide tailored services to meet an individual customer’s expectation (Ho & Lee, 2007). Personalization or customization saves a customer’s time and increases his/her perception of service quality of a website (Ho & Lee, 2007; Srinivasan et al., 2002) by maximizing customer conveniences (Madu & Madu, 2002).
The customer database stored in the system enables lodging companies to personalize or customize services available on their websites (Ho & Lee, 2007; Madu & Madu, 2002) because a returned customer will be recognized upon his/her log-in and provided with memorized search preferences by the customer database. A website that continuously tracks operations of past search activities (i.e. one needs to change only a few pieces of information when returning to the site for booking) can be considered personalized, storing the search preferences for each customer and customer navigation patterns (Kim & Lee, 2004). When a website can offer personalized service, based upon customer preferences and purchase history stored in the system database, a customer feels confident with the website and is willing to return to the same website for the next purchase (Yang et al., 2005). In order to measure personalization/customization attribute, questions involve whether a lodging website provides a customer with choices of preferences such as room types, proximity from the elevator, level of floor, crib, and wheelchair accessibility, and so on (i.e. Ho & Lee, 2007).

**Past experience**

It is generally believed that positive past experience with a website will lead customers to the positive impression toward the website. As such, positive experience of a lodging stay will lead customers to the positive impression toward the hotel. Once customers experienced a pleasant web surfing on a lodging website, they will feel more comfortable in using the same website than when they use a different website. Madu and Madu (2002) argued that the perception of website quality is affected by past experience, customer’s perception of the site’s performance, and other intangibles that may occur.
The goal of a website should be exceeding users’ expectation in terms of the performance and thereby fulfilling customer satisfaction that will bring customers to the site repeatedly (Madu & Madu, 2002). Evaluation criteria of the past experience attribute are; whether or not a customer had problem(s) with a room reservation on the website, and whether a customer previously had a great experience with the lodging website.

It is believed that customers’ experiential aspects affect their perception of the service quality and ultimately customer loyalty on a lodging website. Thus, it is posited;

H2: Websites’ experiential aspects are positively associated with perceived service quality of a lodging website.

Reputation of a lodging company or a website

Kim and Lee (2004) found the reputation dimension to be an important underlying factor affecting perceived website service quality in their empirical study. It is assumed in this study that reputation affects customer perception of the service quality on a lodging website. The reputation of a lodging company or a website can be established through social influence that involves positive word of mouth (WOM), as well as the brand recognition through advertisements. In many cases, advocacy of the service to others is influential when it happens among people in close relationship, such as family, relatives, friends, acquaintances, and/or previous customers of the lodging facility, who put comments about their previous stay(s) with the facility. The brand reputation that has been built via repeated advertisements may affect customers’ perception on the service quality on a lodging website. For instance, TV commercials of luxury hotel brands will
create a perception in customers mind that customers will experience more quality service on their lodging websites.

**Social influence (Subjective norm)**

According to the theory of reasoned action argued by Fishbein and Ajzen (1975), a customer’s subjective norm (SN) is determined by a multiplicative function of customer’s normative beliefs and the evaluation of those consequences. More specifically, SN is determined when perceived expectations of specific referent individuals (most likely family, relatives, friends, or online or offline social groups) and customer’s motivation comply with these expectations. It is viewed as social influence in this study. Word of mouth among social group or online communities is a good example of the social influence. As an informal communication channel among customers, word of mouth (WOM) is differentiated from advertisements (Liu, 2006). WOM is usually perceived as “more credible and trustworthy, and more readily accessible through social networks” (Liu, 2006, p.74).

Social networks, namely Web 2.0, where users can generate contents themselves, create community, and connect around the world with people they never met but can connect with for causes they collectively support (Hart, Greenfield, & Haji, 2007), provide prospective customers with previous customers’ experiences with products/services. Today, many travel-service websites, such as Tripadvisor.com, provide customers with peer customers’ reviews and evaluations of their previous experiences, which help prospective customers make informed decisions featuring real advice from real travelers (TripAdvisor.com, 2009). Website users tend to perceive peer users’
reviews and evaluations as being more reliable and trustworthy than other information sources (Folkes, 1984). Website users easily share and exchange their opinions via social network and they consider peer users’ comments on travel products/services reliable as they are based on users’ real experiences (Folkes, 1984). This social network or Web 2.0 functions as a communication channel among customers and creates a community of customers. Researchers (Srinivasan et al., 2002) found that this community factor influences customer loyalty in an online service context.

Advertisements

It is believed that advertisements can contribute to building a customer’s recognition of a lodging company (Aaker, 1991; Brown & Stayman, 1992). Today customers can easily see numerous advertisements of hotel chains on TV or other hospitality related magazines. Using high quality photos, chic design, and presentations of advertisements can create positive brand cognition of the lodging company and it is posited in this study that advertisements may positively influence customers’ perception of website service quality when the brand of a lodging website is well recognized. Brown and Stayman (1992) conducted a meta-analysis to investigate the effects of customers’ attitudes towards advertisement.

Findings suggested a substantial and significant association in the relationship between ad-attitudes and related factors, including ad-related cognitions, brand cognitions, brand attitude, and in turn purchase intention. It showed that ad-attitude directly affected brand attitude, and indirectly did so via brand cognition, which ultimately affected purchase intention. It is normally believed that advertisements
contribute to building brand cognition and this can positively affect customers’
expectation and perception of website quality of a certain brand. Criteria to assess the
advertisements attribute affecting perceived website service quality include items
measuring customers’ good impressions about the website due to the quality
advertisements, and expectation of a quality website.

It is believed that reputation of a lodging company or its website affects
customers’ perception of the service quality on a lodging website. Hence, it is
hypothesized;

H3: Reputation of a lodging company or its website is positively associated with
perceived service quality of a lodging website.

**Perceived service quality of a website and its consequences**

Perceived service quality is defined as “a global judgment of attitude relating to
the superiority of a service” (Parasuraman et al., 1988, p 16). Consequences of perceived
service quality can be identified from customers’ behavioral intentions such as
repurchase intentions, word of mouth, and customer loyalty (Zeithaml, Berry, Parasuraman, 1996). Numerous studies investigated customers repeated patronage in the
course of the evolution of customers’ commitment towards products/services (Baloglu,
2002; Bowen & Chen, 2001; Griffin, 2002, Pritchard & Howard, 1997). Specifically,
Oliver (1999) discussed four phases of loyalty framework (cognitive–affective–conative–
action loyalty), which became a ground framework of studies on customer loyalty.

Several empirical studies have confirmed the framework of evolution of
customers’ repeated patronage initiated by the cognitive recognition level of service
quality (i.e. Johnson, Herrmann, & Huber, 2006; Olson, 2002). Findings showed that these four loyalty phases were in positive relationships (Oliver, 1999; Johnson et al., 2006). Johnson, et al. (2006) conducted an empirical study using the framework of the cognitive (perceived value/quality) – affective (affective commitment and brand equity) – conative (intentions) pattern. In their longitudinal observations, it was noticed that loyalty evolved over time from the perceived value (cognitive) stage to the loyalty intention (conative) stage.

This study views that antecedents of website quality affect perceived service quality (cognitive), and perceived service quality affects customer satisfaction (affective), and customer satisfaction will affect customer return intention to a lodging website (conative), and in turn return intention affects customer loyalty toward the lodging website (action).

Perceived service quality (cognitive phase)

According to Oliver’s (1999) framework, in the cognitive phase–perceived service quality– satisfaction is not yet processed, so the depth of loyalty simply stays at the level of perception of performance. Online businesses require additional elements to attract and retain customers throughout their transactions on top of what the bricks and mortar commercial environment offer to customers.

The customer’s perceived service quality of websites is determined by several important elements. It is assumed in this study that three major factors of website quality directly affect customers’ perceived service quality: website functionality, customer experiential aspects, and reputation of the lodging company or its website. Perceived
service quality would be assessed by several items: whether customers perceived that the lodging website was overall excellent in quality; whether the website provided quality service that customers expected or wanted; and whether the website’s service offerings were superior to those of other competitors.

Users’ perceived service quality of the website is a predictor of user satisfaction (Yang et al., 2005). Researchers (Ho & Lee, 2007) identified that perceived website service quality significantly affected customers’ patronage intentions in their empirical study on e-travel service quality scale. It is normally believed that user’s perceived service quality of the website is a predictor of user satisfaction and customer return intention to a lodging website. Therefore, it is posited:

H4: Perceived service quality is positively associated with overall customer satisfaction with a lodging website.

H5: Perceived service quality is positively associated with customer return intention to a lodging website.

**Overall customer satisfaction (affective phase)**

In the affective phase–customer satisfaction–customers hold a favorable commitment toward a brand/product (Oliver, 1999). User satisfaction is an outcome of users’ perceived service quality of a lodging website. Yang et al. (2005) indicated in their empirical study that overall perceived service quality directly affected customers’ satisfaction with web portal sites. Rachjaibun (2007) found that three major aspects of website quality (communication, transactional, and relational functions) affected customer’s e-relationship that consisted of e-trust and e-satisfaction with lodging
websites. The researcher (Rachjaibun, 2007) also found that e-relationship quality significantly affected e-loyalty. Results revealed that website quality was a significant antecedent of information satisfaction.

Overall customer satisfaction with a lodging website would be assessed by the level of user satisfaction with the website’s services and the fulfillment of users’ needs. This will make customers stay with the visited lodging website longer instead of leaving for other websites to search for similar information. Hence, it is hypothesized:

H6: Overall customer satisfaction is positively associated with customer return intention to a lodging website.

H7: Overall customer satisfaction is positively associated with customer loyalty toward a lodging website

**Return intention (conative phase)**

In the *conative* phase–return intention–customers experience the willingness to repurchase (Oliver, 1999). It is believed that perceived service quality and user satisfaction are the key predictors of user return intention to a lodging website, which is a strong indicator of customer loyalty on websites. Many website quality studies were devoted to develop the frameworks indicating that antecedents of perceived service quality of websites ultimately affect customers’ repeated patronage on websites (i.e. Ho & Lee, 2007; Wolfinbarger & Gilly, 2003; Yang et al., 2005; Zeithaml et al., 2002). An empirical study using a web based field survey indicated that information satisfaction derived from website quality was identified as a powerful indicator of behavioral intentions (Jeong et al., 2003). In an approach to capturing relationships among
customers’ perception of service quality, customer satisfaction, and behavioral intention (particularly intention to reuse), Udo, Bagchi, and Kirs (2008) developed SERVPERF approach grounded from SERVQUAL instrument (Parasuraman et al., 1988).

Building on user satisfaction, return intention is the actual driver leading to user loyalty on a lodging website. To assess customers’ return intention to the lodging website, questions were asked whether customers want to reuse the website for bookings of their next trip, revisit the website for searching travel information, and check the website on a regular basis to check a good deal. It is believed that customers’ return intention to the website is a direct indicator of customers’ loyalty toward the website. Thus, it is proposed:

H8: Customer return intention is positively associated with customer loyalty toward a lodging website.

*Loyalty (action phase)*

Loyalty has been defined in various ways in numerous studies. Oliver (1999) defined loyalty as “a deeply held commitment to rebuy or repatronize toward a product/service…” (p. 34). This perspective embraces the customer’s emotional attachment toward a product/service as well as his/her behavioral actions. Bowen and Shoemaker (1998) defined loyalty as “the likelihood of a customer’s returning to a hotel and that person’s willingness to behave as a partner to the organization” (p. 14). Hunter (1998) also viewed loyalty as “the customer’s “product preferences, propensity of brand-switching, frequency of purchase, recency of purchase and total amount of purchase” (p. 18). These researchers’ views coincided in concluding that loyalty reflects customers’
emotional attachment and repeat purchases, which embraces both the attitudinal and behavioral aspects of loyalty. Griffin (2002) confirmed that an emotional attachment toward a brand/product and repeat purchases of that brand/product are two critical factors that determine loyalty.

Loyal customers are considered to be more profitable than non-loyal customers because loyal customers provide more repeat business and are less price sensitive (Bowen & Chen, 2001; Bowen & Shoemaker, 1998). Therefore, customer loyalty is crucial for business organizations. Moreover, loyal customers spread WOM for their preferred products/services to their social group. Specifically, hospitality organizations heavily depend on WOM due to the nature of the hospitality products – intangibility. The action (premium) loyalty phase identifies customers’ actual engagement in repurchasing (Oliver, 1999).

**Studies of loyalty**

In general, three distinctive approaches are iterated to measure loyalty: behavioral, attitudinal, and composite methods (Bowen & Chen, 2001, Day, 1969). The indicator of behavioral loyalty is mainly based on the frequency of purchases and volume of purchases. The behavioral measurement approach also includes cases where repeat purchases are made, which are not always the result of the emotional commitment toward a brand/product (Bowen & Chen, 2001). Therefore, this measurement fails to capture the underlying motivation of the purchase behavior (Riley, Niinine, Szivas, & Willis, 2001). When the behavioral measurement approach is used alone, it is difficult to capture the real reasons of repurchase behavior of spuriously loyal customers (Baloglu, 2002; Griffin,
2002). Shoemaker and Lewis (1999) argued that the current applications of loyalty programs were mainly focused on recency, frequency, and volume of purchases, which reflect behavioral aspect of loyalty rather than the capability of discerning the strength of attitudinal loyalty.

Meanwhile, the attitudinal measurement approach involves the emotional and psychological attachment of customers toward a brand/product. The attitudinal measurement does not always correspond to frequent purchases. It fails to capture behavioral outcomes (Riley et al, 2001). It has been debated that customer loyalty could not be measured by customer satisfaction (attitudinal or emotional) alone (Gould, 1995). For example, latently loyal customers are in high relative attitude mode, but they show low repeat patronage (Dick & Basu, 1994). On the contrary, spurious loyalty is demonstrated by repeat patronage without emotional attachment. Therefore, the customer’s emotional attachment toward a brand/product may not be explained clearly when the attitudinal measurement is used alone.

Since the composite measurement approach reflects both attitudinal and behavioral aspects in the loyalty construct (Day, 1969; Pritchard & Howard, 1997), it captures the loyalty aspects more comprehensively than a one-dimensional approach. By employing the attitudinal aspect in the framework of behavior based measurement, Dick and Basu (1994) identified four types of loyalty that are repeatedly cited in many loyalty studies: True (premium) loyalty, latent loyalty, spurious (inertia) loyalty, and low loyalty (Baloglu, 2002; Griffin, 2002, Pritchard & Howard, 1997). Although true loyalty can be
clearly captured by a one-dimensional approach, it is difficult to identify spurious and latent loyalties when either the attitudinal or the behavioral approach is used alone.

Several studies have been conducted using the framework of four different typologies of loyalty (Dick & Basu, 1994) as well as a composite approach to measure loyalty (Day, 1969) in the hospitality context. For example, Pritchard and Howard (1997) included the hotel industry in their study to determine whether a composite measurement approach of loyalty is supported in the travel service context. Their findings showed that four different typologies of loyalty measurement were supported. Also, the empirical study revealed that true and spurious loyalty was identified when using behavioral differences, while true and latent loyalty was recognized when using attitudinal differences.

It implies that a general loyalty concept is applicable in the hospitality context as a marketing strategy. The positive side of utilizing an attitude-behavior matrix may help hotel management establish effective hotel marketing strategies to target different types of customers according to their loyalty types and levels. It also helps management develop effective communication strategies with its customers. Appropriate communication strategies depending upon the types of customer loyalty will be time and cost-effective.

General loyalty concepts can be applied to the hospitality industry, specifically in the online environment. Due to the nature of products/services in the hospitality industry, however, caution is required in applying loyalty concepts to hospitality marketing strategies. They should be adjusted to fit the hospitality context, where WOM is
considered as extremely influential advertisement. However, it was noticed that a lack of loyalty research has been noted in the hospitality context, although customer loyalty is crucial due to the nature of the business (Mason et al., 2006).

Many hospitality loyalty studies have adapted the frameworks from the loyalty studies of retail marketing. The cognitive–affective–conation–action pattern (Oliver, 1999) has been often adopted in hospitality loyalty studies. The notion of cognition loyalty was used in a casino loyalty study framework: quality – trust – loyalty (McCain, Jang, & Hu, 2005). Baloglu (2002) employed Morgan and Hunt’s (1994) trust and commitment framework to measure attitudinal loyalty, while other researchers employed the trust and commitment framework to measure the behavioral outcome from the financial perspective of hotel companies (i.e. Bowen & Chen, 2001; Bowen & Shoemaker, 1998). Morgan and Hunt (1994) viewed loyal customers’ impact not only on the company’s bottom line, but also on intangible assets, such as recommendations to others.

Asatryan and Oh (2008) investigated loyalty intention in the context of relationship marketing. They identified significant relationships between psychological ownership of customers (emotional attachment) and customers’ behavioral outcomes. They noted that a sense of belonging positively affected customers’ feeling of mineness, which enhanced customers’ long-term attitude toward a restaurant, such as relationship intention, WOM, willingness to pay more, and resistance of competition. This implied that the management of the hospitality industry may consider strategies to evoke
customers’ emotions to enhance their attachment feelings toward hospitality organizations.

Barsky and Nash (2002) recommended hoteliers to detect the customer’s emotion evocation. They argued that by evoking loyalty emotions, the customers’ intention to return to a hotel would be strengthened as well as his/her willingness to recommend the hotel to others. Regression analysis of the study found that a hotel customer’s emotional reactions were different depending on the hotel brands.

However, measuring the customer’s emotion accurately is not an easy task since emotion is subjective, subtle, and sometimes varying. More objective measurement criteria need to be developed, which will not be affected by the customer’s mood or temperament upon responding to the questionnaire.

**E-Loyalty**

E-loyalty is defined as “a customer’s favorable attitude toward the e-retailer that results in repeat buying behavior” (Srinivasan et al., 2002, p42). Attaining the e-customer loyalty is difficult in comparison to the brick-and-mortar environment because websites are easily accessible for Internet users in just one click. Two behavioral consequences of loyalty were identified as word-of-mouth and willingness to pay more (Srinivasan, et al., 2002). E-loyal customers are profitable and contribute to the market share (Porter, 2001; Reichheld & Schefter, 2000; Srinivasan et al., 2002) because e-loyalty will mitigate the customer’s propensity to price sensitivity and result in recommendations to others to visit certain websites, which will then lead to more online transactions. In order to sustain the
competitive advantage and e-customer loyalty, companies need to establish appropriate and effective e-customer loyalty strategies.

In order to find the relationship between e-relationship quality and e-customer loyalty, a researcher (Rachjaibun, 2007) attempted to identify significant antecedents of e-relationship quality, where e-relationship was defined as e-customer satisfaction and e-trust. By examining the relationship between the antecedents of e-relationship quality and e-loyalty, the researcher found that communicational, transactional, and relational factors affected e-relationship quality between customers and online businesses. The researcher discussed that online trust or e-trust has become an important issue today because it has been associated with customers’ online purchasing behaviors (Rachjaibun, 2007). Reichehld and Schefter (2000) discussed major elements affecting e-loyalty as quality customer support, on-time delivery, compelling product presentation, convenient and reasonably priced shipping and handling, and a clear and trustworthy privacy policy.

A Conceptual Framework

Based upon the frameworks of previous studies of loyalty, the conceptual model of this study posits the direct influence of perceived service quality (cognitive) on customer satisfaction (affect) and return intention (conative), direct affect of customer satisfaction on return intention and customer loyalty, and eventually the direct association between customer satisfaction and customer loyalty (action). Perceived service quality will be determined by website functionality, customer experiential aspects, and reputation (see Figure 2.3).
Figure 2.3 A framework of website service quality affecting loyalty on a lodging website

<table>
<thead>
<tr>
<th>Antecedents of PSQ</th>
<th>Consequences of Perceived Service Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website Functionality</td>
<td></td>
</tr>
<tr>
<td>- Useful Information</td>
<td></td>
</tr>
<tr>
<td>- Ease of Use</td>
<td></td>
</tr>
<tr>
<td>- Accessibility</td>
<td></td>
</tr>
<tr>
<td>- Privacy/Security</td>
<td></td>
</tr>
<tr>
<td>Customer Experiential Aspects</td>
<td></td>
</tr>
<tr>
<td>- Aesthetics/Design</td>
<td></td>
</tr>
<tr>
<td>- Personalization</td>
<td></td>
</tr>
<tr>
<td>- Past Experience</td>
<td></td>
</tr>
<tr>
<td>Reputation</td>
<td></td>
</tr>
<tr>
<td>- Social Influence</td>
<td></td>
</tr>
<tr>
<td>- Advertisements</td>
<td></td>
</tr>
<tr>
<td>Perceived Service Quality</td>
<td></td>
</tr>
<tr>
<td>[cognitive]</td>
<td></td>
</tr>
<tr>
<td>Overall Customer Satisfaction</td>
<td></td>
</tr>
<tr>
<td>[affective]</td>
<td></td>
</tr>
<tr>
<td>Return Intention</td>
<td></td>
</tr>
<tr>
<td>[conative]</td>
<td></td>
</tr>
<tr>
<td>Customer E-loyalty</td>
<td></td>
</tr>
<tr>
<td>[action]</td>
<td></td>
</tr>
</tbody>
</table>

**Perspectives of website service quality by age groups**

Defining ages of Generation X, Y, Baby boomers, and Seniors vary by various studies. The age cohort group (born before 1946) is considered as Seniors. The Internet users of this group are not big but still growing (Computer shopper, 2004). Taulane (2008) defined Baby boomers as having been born between 1946 and 1964, and who value optimism, teamwork, loyalty to company, and going the extra mile. Generation Xers were born between 1965 and 1976 and value work-life balance, thinking globally, informality, flexibility, and independence (Taulane, 2008). A study entitled “The Census 2000 Ethnographic Study” (US Census Bureau, 2003) used the range of birth year of Generation X as those who were aged from 21 to 32 in 2003, that is, respondents born
between 1968 and 1979. This categorization is different from that used in other studies.

Generation X was defined as those who try to differentiate themselves from Baby Boomers in many ways (Craig & Bennett, 1997). Like most youth, they distrust the previous generation and harbor no strong loyalties towards political parties so that they showed the lowest turnout at the polls in 1992 and 1994, less than 60% and about 35%, respectively. Generation Yers were born between 1977 and 2000 and they value confidence, technology and an extension of themselves, instant gratification, and diversity (Taulane, 2008). Generations X and Y are the least likely to read a newspaper, watch TV news or listen to the news on the radio (Craig & Bennett, 1997). However, it is believed that Generations X and Y are Internet savvy since they grew up with Internet technology. Generations X and Y are more apt than the Baby boomers to purchase other travel related activity tickets such as those to museums, sporting events, and amusement parks.

It is not surprising to see reports that Internet users among Generations X and Y outnumber those among Baby Boomers. According to the Executive Report of TIA (2008), Generations X and Y are more experienced online than Baby Boomers in online travel planning. It found that these age groups were different in their usage and opinions of travel websites. Thus, this study attempts to analyze the different perceptions of determinants of website by examining whether customer perception of website quality influences on perceived service quality by the age group.
CHAPTER III. METHODOLOGY

In this study, the relationships among antecedents of perceived service quality (website functionality, customer experiential aspects, and reputation) and their consequences (customer satisfaction, return intention, and customer loyalty) were examined in the context of a lodging website. In addition, differences of perception of antecedents of perceived website service quality were compared by age groups.

This chapter mainly dealt with explanations of the instrument, sample, data collection procedure, and data analysis. The sample section described the details of sample characteristics. In the instrument section, the measurement scales and internal consistency among measurement items were described. In the data collection section, the procedures of data collection were illustrated. A brief procedure of data analysis was discussed in the last section of this chapter.

Instrument

Based upon the conceptual framework and an extensive review of the related literature, a total of 33 questions were included in the survey. In the process of developing the survey instrument in this study, service quality scales of websites were mainly reflected from previous empirical studies (Ho & Lee, 2007; Yang et al., 2005). The questions were scored on a seven-point Likert-type scale, ranging from 1 strongly disagree to 7 strongly agree.

The questionnaire was constructed with three sections (see Appendix A). First section contained two screening questions to distinguish respondents 1) whether they had experience of using a website to make room reservation(s) and 2) whether they had used
a lodging website past six months. Consequently, only those who answered they had purchased hotel room(s) via a lodging website in the past six months were eligible to complete the survey.

The second section contained three website quality dimensions consisting of nine attributes as well as consequences of customer perceived service quality. Nine sub-dimensions include information usefulness, ease of use, accessibility, privacy/security, aesthetics/design, personalization/customization, past experience, social influence, and advertisements. Consequences of perceived website service quality include overall satisfaction, return intention and customer loyalty toward a lodging website. Table 3.1 illustrates the measurement items used in the instrument and the internal consistencies among the measurement items.

Table 3.1 Measurement items for the survey instrument

Useful information ($a=.91$)
1. Information of the website was helpful to make my purchase decision.
2. The website described complete information about hotel services.
3. The website provided a wide range of information of the hotel and its services such as room amenities, facility information, location, area attractions, etc.

Ease of use ($a=.92$)
1. It was easy for me to navigate the website.
2. Information search functions on the website were easy to understand and use.

Accessibility ($a=.94$)
1. The website is pulled out in no time.
2. I can access to this website quickly every time whenever I try.

Privacy/security ($a=.92$)
1. This website has protection of my online transaction such as Verisign.
2. Payment was submitted in a safe mode.
3. I did not have any problem with online payment on this website before.
Aesthetics/design (a=.94)
1. This website used good color coordination.
2. The website showed quality pictures of the hotel.
3. The website is comfortable to look at.

Personalization/customization (a=.78)
1. I had choices of room types, view selection, or preferred payment method on website.
2. The website accommodated my special request such as quiet room, crib, cot, etc.
3. The website recognized me when returning and my search preferences were remembered.

Past experience (a=.89)
1. I had no problem with my room reservation on this website.
2. My experience with this website was always great.

Social influence (a=.68)
1. People I know recommended this website to me.
2. I read many good comments about the hotel on the customer evaluation site such as TripAdvisor.com.

Advertisements (a=.88)
1. I got a good impression about the website through the hotel advertisement on media (TV or magazine).
2. I expected a quality website due to the hotels’ impressive advertisement on media.

Perceived service quality (a=.96)
1. Overall, the services on this website were excellent in quality.
2. The website provided the exact service quality that I expected or wanted.
3. The lodging website’s service offerings matched the hotel’s rating.

Overall Satisfaction (a=.86)
1. All in all, I was very satisfied with the website’s services.
2. The website greatly fulfilled my needs at the time I used it.
3. I didn’t feel I need to visit other lodging websites to search more information to book a room.

Return Intention (a=.88)
1. I want to reuse this website for bookings of my next trip.
2. I want to revisit this website for searching hotel information.

Loyalty (a=.90)
1. I use this lodging website frequently.
2. I am committed to this lodging website.
3. I want to recommend this website to my family, friends and acquaintances.

* indicates internal consistency among questions using Cronbach’s alpha
In order to assess the information usefulness attribute, three questions were asked: whether a lodging website offered helpful, complete, wide range of information of the hotel and its services. The second sub-dimension, ease of use, was measured using two questions about ease of navigation and ease of information search function. Questions about quickness of accessibility to the website measured accessibility sub-dimension. Privacy/security attribute was assessed by questions whether the website provided protection of online transaction and safe payment methods. Aesthetics/design sub-dimension was examined by questions whether the website used good color combination, quality pictures, and comfortable looking. Questions were asked to measure personalization/customization sub-dimension: whether customers’ preferences were accommodated and whether the website recognized customers and their preferences when returning to the websites. Past experience sub-dimension was measured by scale items about whether customers had good experience with a particular lodging website.

Questions about recommendations of using a particular website by the Internet users and social groups assessed social influence aspects. Advertisements attribute was examined by questions involved the impression on the particular lodging website seen from advertisements.

Perceived service quality dimension was measured by measurement items asking about customers’ overall perception of particular websites in terms of excellence in quality and service quality that is matching to the hotel’s star rating. Overall satisfaction dimension was assessed by customers’ overall satisfaction with the lodging website’s services. To assess return intention dimension, questions were asked whether customers
wanted to reuse the website to book or search for information in the future. Lastly, customer loyalty dimension was measured asking questions whether customers used particular website frequently with commitment and attempted to recommend the website to people they know.

The survey instrument has been approved by the Iowa State University Institutional Review Board (IRB). A copy of the human subject approval for this project is attached (see Appendix C).

**Pilot Study**

Although the majority of the measurement items in this survey instrument have been developed based on pre-tested validity and reliability studies, a verification procedure for the internal consistency was conducted due to additional items included to measure social influence and advertisements. A pilot study was conducted with the sample of 32 respondents, who actually used lodging websites to make their room reservations. Since respondents in a pilot study were mainly graduate students, it was assumed that similar response patterns would be observed in a web based survey using a university’s alumni email list.

Cronbach’ coefficient alpha test was used to ensure internal consistency of the instrument (Creswell, 2005; Patten, 2005). Coefficient alpha of all items exceeded .70 except for one item, social influence (.68). Although the social influence item showed the alpha value .68, the item was not deleted since it was considered to be close enough to the threshold of alpha value .70 (Creswell, 2005).
The scales from previous studies have been purified to achieve reliability and validity through principal component factor analysis and pilot tests. Ho and Lee (2007) extracted 27 scale items explaining 71.8% of the variance from the initial 44 items. Yang et al. (2005) also conducted various examinations to achieve validity including convergent (using average variances extracted for each construct, with all meeting a minimum level of .5), discriminant (using a nested model confirmatory factor analysis approach), and criterion (regression analysis performed for the dependent variables) validity tests. Results supported convergent and criterion validity in their instruments.

Sample

The sample was drawn from the alumni e-mail list that was accessible via alumni center from Iowa State University. The email list contained more than 79,000 graduates who have lived all around the nation since they had graduated from the university. Although the population may be considered homogeneous compared to a random sample of Internet users, the respondents are dispersed nationwide after graduation and they can represent the population since they are part of the Internet users of the US lodging market.

Data Collection

An online field survey was conducted using a sample of Internet bookers. The Internet bookers were defined as those who have made the latest purchases with a lodging company within the past 6 months upon completing the survey. Because the number of parameters to measure in this survey was 33 including 22 parameters measuring website service quality, the minimum number of cases to collect required was estimated around
165 (Loehlin, 1992; Pedhazur & Schmelkin, 1991) to measure variables of determinants of perceived website quality, customer satisfaction, and return intention.

The reason that an online survey method was selected was that a web based survey was more convenient for both researchers and respondents over mail survey, telephone, and personal interviews due to its advantages in saving time and costs of conducting a survey, and avoiding the errors in data entries (Solomon, 2001). Although an online survey has a drawback of low response rate, due to proliferation of marketing emails or junk emails which are easily screened by recipients, it was cost effective, convenient, and quick in return (Crawford, Couper, & Lamias, 2001). Once respondents decide to respond the online survey, it can be completed with several clicks and returned to the researcher momentarily. Also, the online survey enabled researchers to design the survey process more convenient and quicker than other types of surveys by clicking simply the computer mouse. Computer literacy was not a critical issue in this survey, since the sample population was the Internet users to book their hotel rooms.

In order to secure enough number of cases of data, the researcher aimed at collecting at least 220 cases. Among the total of 79,000 alumni email list, 5,000 respondents were selected at random. The web-based survey was conducted for about three weeks. E-mail invitations containing the link of the web-based survey were sent out to 5,000 respondents from May 2nd till 17th, 2009 and the web-based survey link was remained open till May 25th, 2009. After the first email containing the link to the online survey questionnaire was sent out to prospective respondents, a reminder email was sent out a week later to improve the response rate because it was expected that online
response rate was comparatively low (Cole, 2005). A total of 725 respondents visited the web-based survey link but only 425 respondents answered that they had experience(s) to purchase hotel room(s) via Internet in the past 6 months. Among these 425 respondents, only 338 respondents met the qualification of study sample by answering that they had purchased hotel room(s) via lodging websites. Among them, a total of 292 respondents had completed the survey. Based upon the number of respondents who initially attempted to complete the survey (725), the response rate was yielded as 14.5%. No incentives were offered for those who completed the online survey.

The procedure of the web based survey provided respondents with complete anonymity. The potential participants, most likely the alumni of the Iowa State University, had received an e-mail invitation to participate in this survey hosted by the surveyguizmo.com. Respondents who wanted to participate in the survey were asked to click on the hyperlink of the survey site in the content of the email invitation. As it was indicated in the invitation message, the survey was completely voluntary and respondents were able to withdraw from the online survey at any time when they felt like quitting. After respondents finished the questionnaire, they were asked to submit their answers by clicking on submit button. The answers were sent directly to the surveyguizmo.com website, where the web based survey administrator in the College of Human Science of ISU has an access to retrieve the data. The researcher had received the complete data collected from the web administrator without records of respondents email address or personal information. The researcher had received only dates and time of the web survey completed and answers that respondents submitted.
Data Analysis

In order to test Hypothesis 1 through 8, correlations among the measurement variables were examined. A path analysis was adopted using a composite variable to examine the entire causal linkages among composite score of website service quality and consequent variables of perceived service quality.
CHAPTER IV. RESULTS AND DISCUSSION

Results of the data analyses were discussed in this chapter. Based upon the theoretical review of literature, nine sub-dimensions (useful information, ease of use, accessibility, privacy/security, aesthetic aspects, personalization/customization, past experience, social influence, and advertisements) were aggregated under a higher level of three dimensions of website quality: functionality (FUNC), customer experiential aspects (CE), and reputation of a lodging company or a lodging website (REP). First, the three aforementioned website service quality dimensions were investigated in the relationship with perceived service quality (PSQ). It was hypothesized that three dimensions of website service quality affected PSQ directly. It also was expected that PSQ would affect overall customer satisfaction (OCS) and return intention (RI), OCS would affect RI and CL, and RI would affect customer loyalty (CL) in the context of a lodging website.

Correlations among the measurement variables were examined to test hypotheses 1 through 8, which addressed the direct relationships among the variables. Descriptive statistics and normality analysis were conducted using the Statistical Package for the Social Sciences (SPSS 17.0 version). In addition, a path analysis was operated using Amos 17.0 version. Scales of the nine sub-dimensions of website service quality were composited to generate a single variable, representing overall website service quality. A path analysis was conducted in order to observe the direct influence of website service quality on perceived service quality as well as the indirect effects on the sequential customer behavior such as overall customer satisfaction, return intention, and customer
loyalty. This attempt to composite nine sub-dimensions was completed to avoid multicollinearity caused by high inter-item correlations among the nine sub-dimensions. The composite variable was named as WebSvcQual.

**Demographic characteristics of the sample**

The number of online users, who booked hotel rooms within the past 6 months, was 425 out of 725 respondents, which showed nearly 59%. Among them, the lodging website users to book hotel rooms were 338 out of 425 (nearly 80%), while those who used third party intermediaries were only 87 (20%). Tables 4.1 and 4.2 illustrate the summary of population of website users and hotel website.

**Table 4.1 Number of respondents purchased hotel products in past 6 months**

<table>
<thead>
<tr>
<th>Website user</th>
<th>n=725</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchased hotel products in past 6 months</td>
<td>425</td>
<td>58.6</td>
</tr>
<tr>
<td>Did not purchase within past 6 months</td>
<td>300</td>
<td>41.4</td>
</tr>
</tbody>
</table>

**Table 4.2 Number of respondents purchased hotel products on websites**

<table>
<thead>
<tr>
<th>Hotel website user</th>
<th>n=425</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchased from hotel websites</td>
<td>338</td>
<td>79.5</td>
</tr>
<tr>
<td>Purchased from third party intermediaries</td>
<td>87</td>
<td>20.5</td>
</tr>
</tbody>
</table>

Approximately, 57% of the respondents were male and 43% were female from a total of 292 respondents, who were considered qualified Internet bookers and completed the survey. The biggest age group was Baby Boomers, between 45 and 63 years old, nearly 54% of the sample population. The age group for Generation X, between 33 and 44 years old, was nearly 21%, while Generation Y, between 27 and 32 years old, was
around 17%. Seniors, those who were older than 63, were about 8%. Meanwhile, there was no one younger than 27 years old.

Because the major sample population was alumni of the university, most respondents had at least a college degree. More than one-half of the respondents (51%) held graduate degree (Master’s or Doctorate) and another one-half held the Bachelor’s degree (48%). Only 1% of the respondents had a high school education. Several alumni respondents volunteered to forward the web-based survey link to their friends, who travel frequently. They e-mailed the web-survey link to friends, who were not part of the university’s alumni, on behalf of the researcher. Because of this, snowball sampling was incorporated with the convenient sampling. It was unknown how many non-alumni respondents completed this survey. Those who had a high school diploma as the highest education must have come from the non-alumni group.

Approximately 60% of the respondents had an annual household income of US $100,000 or greater. Slightly higher than 16% of the respondents earned between US $80,001 and US $100,000, around 14% made between US $50,001 and US $80,000, nearly 7% earned between US $30,001 and US $50,000, and less than 4% made less than US $30,000. Approximately 34% of the respondents worked as Executive or Managers, 22% worked as Professionals, and nearly 14% worked as Teacher/Professor. Table 4.3 summarized the demographic profile of the respondents.
Table 4.3 Demographic profile of the respondents

<table>
<thead>
<tr>
<th>Demographic characteristics</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender (n=287)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>124</td>
<td>43.2</td>
</tr>
<tr>
<td>Male</td>
<td>163</td>
<td>56.8</td>
</tr>
<tr>
<td><strong>Age (n=287)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior</td>
<td>21</td>
<td>7.3</td>
</tr>
<tr>
<td>Baby Boomer</td>
<td>156</td>
<td>54.4</td>
</tr>
<tr>
<td>Generation X</td>
<td>60</td>
<td>20.9</td>
</tr>
<tr>
<td>Generation Y</td>
<td>50</td>
<td>17.4</td>
</tr>
<tr>
<td><strong>Highest Education (n=289)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School</td>
<td>3</td>
<td>1.0</td>
</tr>
<tr>
<td>College</td>
<td>139</td>
<td>48.1</td>
</tr>
<tr>
<td>Graduate (Master’s, Ph.D.)</td>
<td>147</td>
<td>50.9</td>
</tr>
<tr>
<td><strong>Annual Household Income (n=260)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $30,000</td>
<td>9</td>
<td>3.5</td>
</tr>
<tr>
<td>$30,001 - $50,000</td>
<td>17</td>
<td>6.5</td>
</tr>
<tr>
<td>$50,001 - $80,000</td>
<td>38</td>
<td>14.6</td>
</tr>
<tr>
<td>$80,001 - $100,000</td>
<td>41</td>
<td>15.8</td>
</tr>
<tr>
<td>Higher than $100,000</td>
<td>155</td>
<td>59.6</td>
</tr>
<tr>
<td><strong>Occupation (n=287)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Executive/Manager</td>
<td>100</td>
<td>33.5</td>
</tr>
<tr>
<td>Professional</td>
<td>58</td>
<td>21.6</td>
</tr>
<tr>
<td>Teacher/Professor</td>
<td>37</td>
<td>13.6</td>
</tr>
<tr>
<td>Self-employed</td>
<td>22</td>
<td>8.0</td>
</tr>
<tr>
<td>Government/Military</td>
<td>16</td>
<td>5.6</td>
</tr>
<tr>
<td>Salesman/Buyer</td>
<td>14</td>
<td>5.2</td>
</tr>
<tr>
<td>Secretary/Clerk</td>
<td>8</td>
<td>2.8</td>
</tr>
<tr>
<td>Others a</td>
<td>27</td>
<td>9.7</td>
</tr>
</tbody>
</table>

Others a include retires, homemakers, students, artists, and so on.

Respondents’ key reasons to use the hotel website were to check prices and availability (90.1%), collect information to make a room reservation (81.8%), intend to book a room (88%), seek for fun by browsing nice photos of hotel properties (9.9%) and other (4.1%). Other purposes included checking amenities, information of location and
region, looking for room floor plans, finding things to do in the area, and so on (see Table 4.4).

Table 4.4 Purposes for using hotel websites

<table>
<thead>
<tr>
<th>Reasons</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checking prices and availability</td>
<td>263</td>
<td>90.1</td>
</tr>
<tr>
<td>Collecting information to make a room reservation(s)</td>
<td>239</td>
<td>81.8</td>
</tr>
<tr>
<td>Intending to book a room(s)</td>
<td>256</td>
<td>87.7</td>
</tr>
<tr>
<td>For fun (browsing hotel photos)</td>
<td>29</td>
<td>9.9</td>
</tr>
<tr>
<td>Others</td>
<td>12</td>
<td>4.1</td>
</tr>
</tbody>
</table>

Note: Respondents were asked to select multiple purposes of using hotel websites. Percentage does not indicate accumulated percentage.

Those who traveled for business for last six months were only 3.2%, while those who took trips for leisure were 19.4%. Based upon the combination of percent between leisure vs. business, it is implied that respondents used the hotel website directly when they took leisure trips more than business trips. However, most respondents answered their travels were combined by business and leisure.

**Different perceptions of hotel website service quality by generations**

ANOVA was conducted to examine the differences of customers’ perceptions of the website service quality by generations: Senior, Baby Boomer, Generation X, and Generation Y. The results of ANOVA indicated no significant differences among age groups in the perception of website service quality affecting perceived website service quality in the context of a lodging website. Only the variable REP (reputation) showed marginal difference ($p<.06$) among groups, which does not mean a significant difference Table 4.5 summarized the results of ANOVA.
Table 4.5 Different perceptions of website service quality by generation groups

<table>
<thead>
<tr>
<th>Variables</th>
<th>Age Group</th>
<th>Mean</th>
<th>S/D</th>
<th>F value</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUNC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td>5.84</td>
<td>1.31</td>
<td>.32</td>
<td>.81</td>
</tr>
<tr>
<td></td>
<td>Baby boomer</td>
<td>5.85</td>
<td>1.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generation X</td>
<td>5.96</td>
<td>.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generation Y</td>
<td>5.92</td>
<td>.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CE</td>
<td></td>
<td></td>
<td></td>
<td>.24</td>
<td>.87</td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td>5.49</td>
<td>1.39</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Baby boomer</td>
<td>5.48</td>
<td>1.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generation X</td>
<td>5.70</td>
<td>1.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generation Y</td>
<td>5.68</td>
<td>.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REP</td>
<td></td>
<td></td>
<td></td>
<td>2.5</td>
<td>.06</td>
</tr>
<tr>
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<td>Senior</td>
<td>3.41</td>
<td>1.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Baby boomer*</td>
<td>3.52</td>
<td>1.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generation X</td>
<td>4.28</td>
<td>1.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generation Y*</td>
<td>4.42</td>
<td>1.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSQ</td>
<td></td>
<td></td>
<td></td>
<td>.78</td>
<td>.50</td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td>5.80</td>
<td>1.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Baby boomer</td>
<td>5.49</td>
<td>1.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generation X</td>
<td>5.80</td>
<td>1.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generation Y</td>
<td>5.71</td>
<td>1.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OS</td>
<td></td>
<td></td>
<td></td>
<td>.30</td>
<td>.83</td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td>5.84</td>
<td>1.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Baby boomer</td>
<td>5.60</td>
<td>1.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generation X</td>
<td>5.71</td>
<td>1.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generation Y</td>
<td>5.80</td>
<td>1.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RI</td>
<td></td>
<td></td>
<td></td>
<td>.18</td>
<td>.91</td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td>5.20</td>
<td>1.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Baby boomer</td>
<td>5.01</td>
<td>1.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generation X</td>
<td>4.94</td>
<td>1.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generation Y</td>
<td>5.01</td>
<td>1.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CL</td>
<td></td>
<td></td>
<td></td>
<td>.93</td>
<td>.43</td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td>4.87</td>
<td>1.62</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Baby boomer</td>
<td>4.09</td>
<td>1.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generation X</td>
<td>4.22</td>
<td>1.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generation Y</td>
<td>4.38</td>
<td>1.93</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Differences between Baby Boomer and Gen Y were detected significant at p<0.03*
Based upon Bonferroni’s post-hoc analysis, the different perception of REP between Generation Yers and Baby boomer was detected (p<.03). Overall, differences in perception of perceived website service quality among four age groups were not found significant. Results of ANOVA in Table 4.5 showed no differences among variables by generations, except for REP between Boomers and Gen Yers.

**Descriptive statistics and normality analysis**

The responses for each measurement items ranged from 1 (strongly disagree) to 7 (strongly agree). Nine sub-dimensions were aggregated under the three major website service quality (Table 4.6).

<table>
<thead>
<tr>
<th>Table 4.6 Descriptive statistics and normality analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Function of website (FUNC)</strong></td>
</tr>
<tr>
<td>Information usefulness</td>
</tr>
<tr>
<td>Ease of use</td>
</tr>
<tr>
<td>Accessibility</td>
</tr>
<tr>
<td>Privacy/Security</td>
</tr>
<tr>
<td><strong>Customer Experiences (CE)</strong></td>
</tr>
<tr>
<td>Aesthetics</td>
</tr>
<tr>
<td>Personalization/Customization</td>
</tr>
<tr>
<td>Past experience</td>
</tr>
<tr>
<td><strong>Reputation (REP)</strong></td>
</tr>
<tr>
<td>Social influence</td>
</tr>
<tr>
<td>Advertisement</td>
</tr>
<tr>
<td><strong>Perceived Service Quality (PSQ)</strong></td>
</tr>
<tr>
<td>PSQ1</td>
</tr>
<tr>
<td>PSQ2</td>
</tr>
<tr>
<td>PSQ3</td>
</tr>
<tr>
<td><strong>Overall Customer Satisfaction (OCS)</strong></td>
</tr>
<tr>
<td>OS1</td>
</tr>
<tr>
<td>OS2</td>
</tr>
</tbody>
</table>
As seen in Table 4.6, the first dimension of website quality was named as website functionality (FUNC), which consists of four attributes—*information usefulness, ease of use, accessibility,* and *privacy/security*. Mean and standard deviation of the FUNC variables were 5.88 and 1.11, respectively. The customer experiential aspects dimension (CE) consisted of aesthetics/design, personalization/customization, and past experience. Mean and standard deviation for CE were 5.56 and 1.23, respectively. The reputation dimension (REP) was comprised of social influence and advertisements. The overall mean and standard deviation for REP were 3.89 and 1.69, respectively.

The internal consistency (i.e., reliability) was examined to assess the cohesiveness of measurement items. Cronbach’s alphas for all variables were higher than .70, which indicated a reliable internal consistency of the measured items (Creswell, 2005). The mean value ranged from 3.56 to 6.15. The standard deviation ranged from 1.11 to 2.14, showing around 1.0 disperse range. The overall skewness was lower than ±2.0, except for a few measurement items. This was considered to be showing overall a normal distribution of the data (George & Mallery, 2001).
On one hand, the range of kurtosis was more widely dispersed than a normal distribution, between .01 and 6.31, which was larger than the ±2 range. This indicated the curves were stiffer than a normal distribution. On the other hand, the kurtosis values of some items were negative, which implied a slightly flatter than normal distribution. Yet, they were no smaller than in the -2 range. Overall, the data were considered to be in an acceptable distribution pattern.

**Correlations among variables**

Correlation analysis tested the hypotheses that configured the association between website service quality dimensions and the perceived service quality of a lodging website. The correlation between FUNC and CE was very high \((r=0.89)\), while the correlation between FUNC and REP was found as 0.10, and the correlation between CE and REP showed 0.27. A considerably high correlation was displayed between PSQ and OCS \((r=0.87)\), compared to the correlations between PSQ and RI \((r=0.66)\), and between PSQ and CL \((r=0.44)\). Table 4.7 summarized the correlations among variables.

Table 4.7 Correlations among website quality dimensions and other variables \(^{abc}\)

<table>
<thead>
<tr>
<th>Function of website (FUNC)</th>
<th>FUNC</th>
<th>CE</th>
<th>REP</th>
<th>PSQ</th>
<th>OCS</th>
<th>RI</th>
<th>CL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Experiences (CE)</td>
<td>.89</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reputation (REP)</td>
<td>.10</td>
<td>.27</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Service Quality (PSQ)</td>
<td>.85</td>
<td>.87</td>
<td>.26</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Customer Satisfaction (OCS)</td>
<td>.79</td>
<td>.80</td>
<td>.23</td>
<td>.87</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return Intention (RI)</td>
<td>.52</td>
<td>.67</td>
<td>.45</td>
<td>.66</td>
<td>.60</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Customer Loyalty (CL)</td>
<td>.31</td>
<td>.48</td>
<td>.46</td>
<td>.44</td>
<td>.40</td>
<td>.68</td>
<td>1.0</td>
</tr>
</tbody>
</table>

\(^a\) All correlations are significant at .01 - .001 level.
\(^b\) \(n\) varies from 160 to 290 by pair-wise deletion.
\(^c\)
It was believed that website functionality (FUNC) reflected the utilitarian perspectives of website service quality. The dimension of FUNC embraced information usefulness, ease of use, accessibility, and privacy/security attributes. The correlation between FUNC and customers’ perceived service quality (PSQ) appeared as .85 ($p < .001$), which indicated a significantly positive association between FUNC and PSQ of a lodging website. The correlation between FUNC and overall customer satisfaction (OCS) appeared as .79 ($p < .001$), which indicated a significantly positive association between FUNC and OCS with a lodging website. The correlation between FUNC and return intention (RI) appeared to be significant with correlation .53 ($p < .001$), as well as the correlation between FUNC and customer loyalty (CL) as .31 ($p < .001$). Therefore, Hypothesis 1 [Website functionality is positively associated with perceived service quality of a lodging website] was strongly supported.

It was considered that customer experiential aspects were important factors from the website user’s perspective. Website users not only looked for functional aspects, but also fun factors when they used websites. It was assumed that a pleasant website service environment would draw customers to the website and increased the perceived service quality of the website. CE variable included aesthetics/design, personalization/customization, and customers’ past experience. The association between CE and PSQ appeared to have the correlation .87 ($p < .001$), which indicates a significant association between customer experiential aspects and perceived service quality of a lodging website. The correlation between CE and OCS appeared to be .80 ($p < .001$), which indicated a significant association between customer experiential aspects and overall customer
satisfaction with a lodging website. The correlation between CE and return intention (RI) appeared to be significant with correlation .67 \((p<.001)\) as well as the correlation between CE and customer loyalty (CL) as correlation .48 \((p<.001)\). Hence, Hypothesis 2 [Customer experiential aspects on a website are positively associated with perceived service quality of a lodging website] was supported.

It was also believed that reputation of a website or a lodging company affected a customer’s perceived service quality of a website. Reputation was believed to be built through WOM and advertisements of the business entity. Recently, consumer-generated media has been used as a powerful tool in spreading WOM electronically. The correlation between REP and PSQ appeared as only .26 \((p<.001)\). However, this indicated significance at the .001 level. This would be considered as a significantly positive association between reputation of a lodging company or a lodging website and perceived service quality of a lodging website. The correlation between REP and OCS appeared as .23, indicating significance at the .001 level. Thus, an obvious positive association existed between reputation of a lodging company or a lodging website and overall customer satisfaction. Therefore, Hypothesis 3 [Reputation of a lodging company or its website is positively associated with perceived service quality of a lodging website] was supported.

When customers perceive service quality of a website, this may affect overall customer satisfaction. Oliver (1999) once defined in his study framework that perceived service quality was a cognitive phase where satisfaction was not yet processed. Therefore, it was hypothesized in this study that perceived service quality would affect overall
customer satisfaction. The correlation between PSQ and OCS showed .87 ($p<.001$), which indicated a strong positive association between these two items. Hence, Hypothesis 4 [Perceived service quality is positively associated with overall customer satisfaction with a lodging website] was strongly supported.

Customer perceived service quality is believed to affect customer satisfaction that reflected the affective phase. At the same time, it was believed that perceived service quality might affect customer return intention directly. In this case, the *cognitive* phase would be developed into the *conative* phase without passing the affective phase. The correlation between PSQ and RI showed .66 ($p<.001$), which indicated a strong positive association between these two items. Thus, Hypothesis 5 [Perceived service quality is positively associated with customer return intention toward a lodging website] was strongly supported.

In this study, customer satisfaction is viewed to be directly related to return intention to a lodging website. Customer satisfaction was considered as a precursor of customer return intention before it evolved to the *conative* phase. The zero order correlation between OCS and RI showed .60 ($p<.001$), which indicated a strong positive association between OCS and RI. Consequently, Hypothesis 6 [Overall customer satisfaction is positively associated with customer return intention toward a lodging website] was supported.

It also was assumed that *affective* phase of loyalty was directly associated to the *action* phase of loyalty. This means that OCS was directly linked to CL. The correlation between OCS and CL showed .40 ($p<.001$), which indicated a strong positive association
between OCS and CL. Consequently, Hypothesis 7 [Overall customer satisfaction is positively associated with customer loyalty toward a lodging website] was supported.

Finally, it was posited in this study that customer return intention had a direct association with customer loyalty. This meant the conative phase could evolve into the action phase of loyalty. It was believed that customer intention to reuse the website service would actually help customers take an action to return to the website. The correlation between RI and CL showed .68 ($p<.001$), which indicated a strong positive association between RI and CL. Consequently, Hypothesis 8 [Customer return intention is positively associated with customer loyalty on a lodging website] was supported. Table 4.8 summarized results of hypotheses tests.

Table 4.8 Hypotheses test results

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1</strong> Website functionality is positively associated with perceived service quality of a lodging website.</td>
<td>Supported</td>
</tr>
<tr>
<td><strong>H2</strong> Customer experiential aspects on a website are positively associated with perceived service quality of a lodging website.</td>
<td>Supported</td>
</tr>
<tr>
<td><strong>H3</strong> Reputation of a lodging company or its website is positively associated with perceived service quality of a lodging website.</td>
<td>Supported</td>
</tr>
<tr>
<td><strong>H4</strong> Perceived service quality is positively associated with overall customer satisfaction with a lodging website.</td>
<td>Supported</td>
</tr>
<tr>
<td><strong>H5</strong> Perceived service quality is positively associated with customer return intention toward a lodging website.</td>
<td>Supported</td>
</tr>
<tr>
<td>Overall customer satisfaction is positively associated with customer loyalty toward a lodging website.</td>
<td>Supported</td>
</tr>
</tbody>
</table>
H6 associated with customer return intention to a lodging website. Supported

H7 Overall customer satisfaction is positively associated with customer loyalty toward a lodging website. Supported

H8 Customer return intention is positively associated with customer loyalty toward a lodging website. Supported

A path analysis using composite score of WebSvcQual

In addition to test hypotheses of the study, a path analysis was conducted in an attempt to examine the causal linkages of website service quality and its consequences in the entire association dynamics. In the beginning phase of this study, an attempt was made to assess the causal links among variables using the structural equation modeling (SEM) (Hair, Anderson, Tatham, Black, 1995). The results of CFA showed distinctive 9 sub-dimensions and consequence variables by generating an acceptable model fit ($\chi^2=323.50$, d/f=139, p<.001, CMIN/DF=2.33, RMSEA=.068, NNFI=.95, CFI=.97) as attached in Appendix B.

Although the fit indices for the measurement model were acceptable, the SEM using 9 sub-dimensions did not run appropriately, which might have been caused by potential multi-collinearity among variables due to high inter-item correlations. To avoid such challenges, it was compelled to composite all nine attributes to make a single variable that represents the overall website service quality, named as WebSvcQual. Using
WebSvcQual as a predictor of the customer behavior on a lodging website, the dynamics of direct and indirect associations among variables were illustrated in Figure 4.1.

Figure 4.1 A path diagram using a composite variable – WebSvcQual

The fit indices of the aforementioned path diagram ($\chi^2=7.42$, $d/f=4$, $p<.12$, $\text{CMIN}/\text{DF}=1.86$, $\text{RMSEA}=.054$, $\text{NNFI}=.98$, $\text{CFI}=.99$) using a composite variable of WebSvcQual indicated a good model fit. It detected the significant positive associations among WebSvcQual, PSQ, RI, and CL. The chi-squared value was 7.42 at the significant level ($p>.05$), indicating no significant difference between the tested model and the full model that indicates a perfect model fit. Values of CFI (.99) and TLI/NNFI (.98) demonstrated an excellent fit of the model. Usually CFI and TLI/NNFI indicate the best overall performance of the fit (Chou & Bentler, 1995). If the model fitted perfectly, the fit indices should be 1. Usually, a value of at least .90 is required to accept the model, while a value of at least .95 is required to judge the model fit as good (Hox, 1995). CMIN/DF was smaller than 3.0, which indicated a good model fit as well as RMSEA smaller than .08 (Kline, 2005). The direct effect from WebSvcQual to PSQ was significant ($\beta =.67$, $p<.001$). Also, the direct effects from PSQ to OSC ($\beta =.87$, $p<.001$),
from PSQ to RI ($\beta = .56$, $p < .001$) and from RI to CL ($\beta = .70$, $p < .001$) were significant. The direct effects of paths from OCS to RI and from OCS to CL were not detected in the path model, however, indirect effects were noted among them (Table 4.9).

Table 4.9 Standardized direct effects among variables

<table>
<thead>
<tr>
<th>Path from</th>
<th>Path to</th>
<th>$\beta$</th>
<th>S/E</th>
<th>t-value</th>
<th>SMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>WebSvcQual</td>
<td>PSQ</td>
<td>.67</td>
<td>.06</td>
<td>11.91***</td>
<td>.44</td>
</tr>
<tr>
<td>PSQ</td>
<td>OS</td>
<td>.87</td>
<td>.03</td>
<td>28.96***</td>
<td></td>
</tr>
<tr>
<td>PSQ</td>
<td>RI</td>
<td>.56</td>
<td>.10</td>
<td>5.88***</td>
<td>.47</td>
</tr>
<tr>
<td>OCS</td>
<td>RI</td>
<td>.14</td>
<td>.10</td>
<td>1.43</td>
<td></td>
</tr>
<tr>
<td>OCS</td>
<td>CL</td>
<td>-.03</td>
<td>.08</td>
<td>-.52</td>
<td></td>
</tr>
<tr>
<td>RI</td>
<td>LYW</td>
<td>.70</td>
<td>.07</td>
<td>11.83***</td>
<td>.47</td>
</tr>
</tbody>
</table>

* $P < .05$, ** $P < .01$, *** $P < .001$

WebSvcQual explained 44% of variance of PSQ (SMC=.44). These three variables (WebSvcQual, PSQ and OCS) together explained 47% of the variance in RI (SMC=.47), while WebSvcQual, PSQ, OCS and RI together explained a total of 47% in the variance in CL (SMC=.47) in the path model as seen in Figure 4.1. Although the direct effects from WebSvcQual to OCS, RI, and CL were not found, correlation coefficients of indirect effects were detected as .58, .45, and .30, respectively. The correlation coefficients of indirect effects from PSQ to RI and CL were found as .12 and .45, respectively. In addition, the indirect effect from OCS to CL was configured as .10 (Table 4.10).

Table 4.10 Standardized indirect effects among variables

<table>
<thead>
<tr>
<th></th>
<th>WebSvcQual</th>
<th>PSQ</th>
<th>OCS</th>
<th>RI</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSQ</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>OCS</td>
<td>.58</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>RI</td>
<td>.45</td>
<td>.12</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>CL</td>
<td>.30</td>
<td>.45</td>
<td>.10</td>
<td>.00</td>
</tr>
</tbody>
</table>
As displayed in Table 4.10, indirect effects implied that the WebSvcQual variable affected PSQ directly, but linked indirectly to OCS, RI, and ultimately CL. In other words, PSQ indirectly affected RI through OCS, and linked to CL through OCS and RI. Interestingly, the direct effects from OCS to RI and CL were not found significant in the path model (see Figure 4.1). OCS was determined to influence CL indirectly. Consequently, the linkage between WebSvcQual and CL was connected through PSQ, OCS, and RI either directly or indirectly.

Discussion

Capturing customer loyalty in online environment is not an easy task for hospitality practitioners in today’s competitive online market. Customer loyalty on websites, e-loyalty, is reflected on customer behavior, regardless of online or offline business. Specifically, it is believed that customer loyalty on a website is strongly associated with website service quality. The multiple dimensions of website service quality determine customer perceived service quality of the website, which affect the customer’s behavior significantly. Website functionality, customer experiential aspects on a website, and reputation of the website or an institution were considered as antecedents of customer perceived service quality in this study. The consequences of customer perceived service quality are customer satisfaction, return intention to the website, and customer loyalty. This study rigorously reviewed previously reported research in the website service quality dimensions and attempted to integrate these dimensions under three major categories. Then, the associations between website service quality dimensions and their consequences were examined.
In an attempt to investigate the different perceptions of website service quality dimensions upon age groups, an ANOVA test was conducted. Results of ANOVA indicated no significant differences in the perception of website service quality dimensions existing among four age groups – Seniors, Baby Boomers, Gen Xers, and Yers. This implied that regardless of age differences, people perceived the dimensions of website service quality in the same way. Only the REP dimension showed marginally significant differences between Baby Boomers and Gen Yers. Based upon Bonferroni’s post-hoc analysis, the different perception of REP was detected as significant (p<.03) between Generation Y and Baby Boomers. This implied that the reputation aspect of a lodging company or a lodging website was viewed slightly different by Baby Boomers and Generation Yers. The elements of REP included social influence and advertisements. Providing quality service to customers on the Internet may be helpful to spread out WOM, which is based on social influence to potential customers. It can be concluded that positive WOM and advertisements that coincide with service quality may affect customers’ intention to return to a website to make repeat purchases. Overall, however, there were no significant differences in the perception of website service quality dimensions among all age groups.

Results of this study indicated that website service quality, identified as FUNC, CE and REP dimensions, was directly associated with customer perceived service quality in the context of a lodging website. Customer perceived service quality was directly associated with overall customer satisfaction and customer return intention to the website. Customer return intention demonstrated a strong association with customer loyalty on a
lodging website. Accordingly, eight hypotheses established in light of the direct associations among variables were strongly supported as results of correlation analysis. Associations among three website service quality dimensions with perceived service quality (H1 through H3), between perceived service quality and overall customer satisfaction (H4), between PSQ and return intention (H5), between OCS and RI (H6), between OCS and customer loyalty (H7), and between RI and CL (H8) were all supported.

Results of a path analysis in this study did not always show consistency with the results of several prior studies. Unlike previous studies (Ho & Lee, 2007; Kim & Lee, 2004; Rachjaibun, 2007; Yang et al., 2005), overall customer satisfaction (OCS) showed neither the direct effect to RI nor to CL. Although zero order correlations among OCS, RI, and CL showed significant associations on another, results of the path analysis did not demonstrate direct effects from OCS to RI and CL. This sort of instability might have caused by high inter-item correlations, specifically between PCS and OCS. Therefore, caution is required in interpreting the direct effect from OCS to RI and CL.

In summary, findings provided evidence that website service quality dimensions were influential on customer perceived service quality and ultimately they affected customer loyalty indirectly, according to a path analysis. Also, the findings have important implications to ensure quality services on a lodging website to retain repeat customers’ patronage that may evolve to customer loyalty.
CHAPTER V. CONCLUSIONS

Summary of the study

This study aimed at four folds: 1) to determine major dimensions of website quality that affect customers’ perception of service quality of a lodging website; 2) to examine the relationships among variables of determinants of website quality, perceived service quality, customer satisfaction, return intention, and ultimately customer loyalty toward a lodging website; 3) to investigate differences in perceptions of perceived website quality of a lodging website from generations’ perspectives; and 4) to fill the gaps in the literature body of e-customer loyalty and to provide industry practitioners with insights of e-customer loyalty strategies.

Website functionality, customer experiential aspects on a website, and reputation of the website or an institution were considered as antecedents of customer perceived service quality in this study. The consequences of customer perceived service quality are customer satisfaction, return intention to the website, and customer loyalty. This study rigorously reviewed previously reported research in the website service quality dimensions and attempted to integrate these dimensions under three major categories. Then, the associations between website service quality dimensions and their consequences were examined.

ANOVA was conducted to investigate the different perceptions of website service quality dimensions upon age groups. The results of the ANOVA indicated no significant differences in the perception of website service quality dimensions existing among four age groups – Seniors, Baby Boomers, Gen Xers and Yers.
This study identified three dimensions of website service quality – FUNC, CE and REP that were directly associated with customer perceived service quality in the context of a lodging website. It was found that perceived service quality was directly associated with overall customer satisfaction and customer return intention. Customer return intention turned out to be strongly associated with customer loyalty on a lodging website. Accordingly, eight hypotheses established the associations among website service quality dimensions and perceived service quality (PSQ), overall customer satisfaction (OCS), customer return intention (RI), and customer e-loyalty (CL). It was found that the three dimensions of website service quality were directly associated with customer perceived service quality directly (Hypotheses 1 through 3 were supported).

Results of this study were not always consistent with the results of several prior studies. Unlike previous studies (Ho & Lee, 2007; Kim & Lee, 2004; Rachjaibun, 2007; Yang et al., 2005), overall customer satisfaction (OCS) showed neither the direct effect to RI nor to CL. Although zero order correlations among OCS, RI, and CL showed significant associations on another, a path analysis did not demonstrate the direct effect from OCS to RI and CL. As mentioned in the previous chapter, the high inter-item correlations among OCS, RI and CL may have affected these results.

Implications

Hospitality management needs to view and think from a customer’s perspective so that it is helpful for management to meet or exceed its service quality to customers’ expectations. Law and Leung (2000) emphasized the importance of customer needs fulfilled for hospitality websites to succeed and argued the ultimate rewards of the
company by providing online customers with valuable services. Chung and Law (2003), however, addressed that many hospitality companies still did not have adequate knowledge to build a useful website to fulfill customer needs. Therefore, findings from this study may be helpful for hospitality practitioners to better understand the sources of customer perceived service quality, as well as customer behavior on their lodging websites. The hospitality management needs to view and think from customers’ perspectives so that the management understands customers’ expectations.

It was theorized in this study that website service quality was determined by three major dimensions. Website functionality was assumed to represent the utilitarian perspectives of the website, while customer experiential aspects reflected customer experience with the service environment of the website. In addition, the reputation dimension was considered to embrace the aspects of WOM and advertisements of a lodging company or a website.

Results of correlation analysis showed that when the website provides a customer with convenience of usage, pleasant experiential moments, and good reputation of the lodging institution or a website, customers perceive the service quality from a website. This implied that a customer may judge the service quality of a lodging website, based upon his/her perception of how the website functions relate to practical usages, the degree of pleasantness of the service environment that a website provides, and whether or not the lodging company or a website has a good reputation. Also, results from a path analysis indicated that overall website service quality not only directly affected customer perceived service quality, but also influenced indirectly return intention and customer
loyalty in the context of a lodging website. The perception of service quality affected overall customer satisfaction, customer’s intention to reuse the website and, in turn, his/her loyalty toward the website. It was determined that overall website service quality affected customer perceived service quality of a lodging website. Also, customer perceived service quality of a website strongly affected overall customer satisfaction and customer return intention. In addition, customer return intention showed a strong influence on customer loyalty.

These findings may assist the hospitality management to establish and implement customer-oriented marketing strategies to increase customer return intention that ultimately enhances customer loyalty. When a customer established return intention, it strongly affects customer loyalty on a lodging website. This means that return intention influences customer loyalty more strongly and significantly than the perceived service quality or overall satisfaction does. Therefore, it is important to evoke customer return intention in order to develop customer loyalty. Hospitality management should put extensive efforts to determine what practices will help a customer evolve his/her return intention to customer loyalty. Based upon these findings, it is believed that hospitality management can design its website to accommodate its customers’ expectations.

**Contributions of this study**

This study provided a different perspective from that of other studies. Unlike previous research (Kaynama & Black, 2000; Yoo & Donthu, 2001), which focused on identifying dimensions of website service quality dimensions, this study took an approach
to examining not only dimensions of website service quality, but also entire associations among website service quality and sequential customer behavior, such as customer satisfaction, return intention, and customer loyalty in the context of a lodging website.

Findings from this study enlightened several aspects of theoretical contributions to the body of literature in website service quality of a lodging website. First, theories of customer behavior discussed in previous studies were incorporated with the proposed conceptual framework of this study. Numerous studies attempted to identify the underlying dimensions of website service quality that directly affect customers’ perceived service quality of a website (Francis & White, 2002a; Ho & Lee, 2007; Kaynama & Black, 2000; Kim & Lee, 2004; Loiacono et al., 2002; Madu & Madu, 2002; Sanchez-Franco & Roldan, 2005; Yang et al., 2005; Yoo & Donthu, 2001; Wolfinbarger & Gilly, 2003). Based upon these previous studies of website quality dimensions, nine attributes were identified in this study as key elements affecting website service quality, and these nine attributes were aggregated under three major dimensions of website service quality. Unlike most previous studies, which focused on retail business websites, this study examined the associations between website service quality and customer behavior in the context of a lodging website.

Second, this study resulted in the similar outcomes from previous studies in light of the direct effects from three dimensions of website service quality to perceived service quality. Results of this study conformed the findings of several empirical studies, which showed that the evolvement of customers’ repeated patronage was initiated from the cognitive recognition level of service quality (i.e. Johnson, Herrmann, & Huber, 2006;
However, the direct relationship between overall customer satisfaction and return intention, which demonstrates the evolvement of return intention (conative phase) originated from overall customer satisfaction (affective phase) was not found. Unlike findings from previous studies showing these four loyalty phases were in positive relationships (Oliver, 1999; Johnson et al., 2006), it was determined that only three phases of the loyalty had significant relationships among each other—cognitive, conative, and action loyalty—according to results of a path analysis.

Third, it was an unprecedented attempt to integrate underlying website quality dimensions determined in previous studies into upper level of website service quality dimensions in this study. FUNC, CE, and REP were categorized as upper level of website service quality dimensions in this study. All three dimensions (FUNC, CE, REP) exhibited strong associations with PSQ. The FUNC dimension consisted of useful information, ease of use, accessibility, and privacy/security aspects. It is believed that a website providing useful information, secure, and easy to use can be perceived as the fundamental element determining website service quality. The CE dimension comprised customer experiential aspects, such as aesthetics/design, personalization/customization, and customers’ past experience. It was believed that customer experiential momentum on a lodging website would enhance customer perceived service quality, which associated to customer satisfaction, return intention and customer loyalty. The REP dimension embraced the effects of social influence and advertisements. The impact of WOM on Social Web 2.0 takes into account an important role today. With the proliferation and ubiquities of Internet access, social influence based upon social web network takes a
powerful role in the hospitality industry. It was believed that reputation of a lodging website or a lodging company would affect customers’ perceived service quality of a lodging website. For instance, a customer tends to perceive higher service quality when he/she used a well-known brand hotel’s website than when he/she used an unknown bed and breakfast website. Therefore, it is meaningful to identify FUNC, CE and REP aspects as major website service quality dimensions in this study.

**Limitations**

The findings and implications from this study should not overshadow the limitations. First, interpretation and generalization of the findings should be taken with caution because this study used a convenient sample, alumni of a university, which does not represent the entire population of lodging website users. It should be noted though, that similar response patterns were observed with the pilot test participants, who mainly were graduate students making hotel reservations online. This conveniently drawn sample may be viewed quite homogeneously because they are alumni from the same university with a high education level—most are higher than a high school degree, except for 1% of respondents who are from the snow-ball sampling. However, these participants have dispersed nationwide geographically, due to relocations for their occupations.

The sample was drawn randomly from the alumni list that holds more than 79,000 individuals. Although the normality of the data was not highly secured, the skewness and kurtosis values of most variables were smaller than ±2, which is reasonable to represent the normal distribution. There were still several items with a high kurtosis
value, which implied the curves were stiffer than a normal distribution. This might have originated from the homogeneity of characteristics of the sample group. Specifically, highest education and household income of the respondents were higher than the medium. This implied the distribution of education and household income was skewed higher than normal. This might cause a generalization problem, due to a lack of external validity by using convenient and somewhat homogenous sample.

Second, the instrument could have been more rigorously constructed using variables that can ensure convergent and discriminant validities to reduce the multicollinearity issues among variables. Although the nine attributes represented each area of website service quality, there were several attributes that eventually measured similar constructs from the respondents’ perspective according to results of CFA. To avoid this phenomenon, a more accurate and rigorously distinguished constructs would be required to design the questionnaire. Initially, it was planned to use the structural equation modeling (SEM) to assess the underlying dimensions of website service quality; thus, the instrument was designed to aim for a multi dimensional analysis. However, an analysis of the data was not able to implement approaches to the multi dimensional analysis, due to high correlations among variables. Only after compositing nine attributes of website service quality to make a single variable, WebSvcQual, a path model was adopted to assess the overall effects of the associations among variables. Therefore, the measurement items should be carefully constructed to assess each construct accurately in the future study.
Third, an option for “not applicable” as an answer choice was not provided in the web-based survey. This may contribute to reducing missing values as well. In the event of not providing the not applicable option, respondents might have been compelled to click on any option when they were not able to find the exact answer reflecting their opinions. To assess the answer scales accurately, it would be better to provide a “not applicable” option to avoid a biased data set.

Fourth, the sample size (n) varied in analysis, due to adopting the pair-wise deletion. List-wise deletion was avoided because it would have reduced the sample size severely. In this study, the missing value portion was almost 23 percent of the total responses. Missing values might have caused some biases in the data. To prevent the data from being biased, missing values were not imputed in the SPSS data set. However, those missing values might have caused hindrance to process the data analysis accurately. Specifically, there were a few measurement items (personalization/customization, past experience, and social influence) containing more missing values compared to other items. More caution and a closer examination would be needed to make an educated assumption as to why such an event occurred. If the measurement items were not addressed clearly and led the respondents to confusion, respondents might have skipped answering such questions. Therefore, a more rigorous examination of the questions would be needed and detailed modifications should be taken into consideration after the pilot test. An increase of the sample size of the pilot test could possibly be helpful to mitigate this problem as well.
Fifth, using cross-sectional data collection was not sufficient to advocate the direction of effects among variables, which required a caution when interpreting the results. The relationship between WebSvcQual and customer loyalty can affect a reverse direction in a path analysis in the context of the cross-sectional data. CL might affect RI, PSQ, or WebSvcQual, which showed the reverse direction of this study’s framework. In other words, loyal customers may perceive service quality of a lodging website due to their affection or loyalty to a hotel brand. It would be possible when a customer has a strong institutional loyalty and his/her loyalty may affect his/her return intention, overall satisfaction, and/or perceived service quality of a lodging website. Therefore, the attempt to investigate customer behavior using cross-sectional data might have been inappropriate in the interpretation of its findings.

Finally, a more extensive examination of website service quality dimensions might have been conducted to embrace more areas that the nine attributes. Although the measurement scales included nine key elements that represent website service quality attributes, more variables could have been added, such as responsiveness of the website. When a customer posted inquiries or questions, the web administrator would respond to the customer promptly, which would be another channel to enhance perceived website service quality. In addition, it could have been considered to include some additional paths among variables in a path analysis, such as a path from PSQ to CL and a path from WebSvcQual to RI.

Suggestions for future research
Based upon the results of a path analysis, the collective path model was suggested (Figure 5.1). Bold lines indicate added paths for suggestions in the future study.

Figure 5.1 A collective path diagram

The results of a path analysis indicated direct associations among $WebSvcQual$, RI and CL as well as between PSQ and CL. Therefore, it was suggested that three paths ($WebSvcQual$ to RI; $WebSvcQual$ to CL; and PSQ to CL) could be added to the initial path model to generate the complement model for a future study.

A future study should consider a careful and cautious design for the instrument, by including a non-applicable option for the questions to ensure accurate answers from the respondents. This would be helpful in avoiding incidents that respondents are compelled to answer those questions accurately when they do not have appropriate options to select. This should reduce bias of the data. It may increase the number of missing values; however, it will be helpful to ensure accuracy in respondents’ answers.

Caution is needed when constructing the questionnaire to avoid high correlations among measurement items. To secure discriminant validity, clear and distinct questions,
and response options should be provided for the respondents. Also, questions should be addressed in a simple and clear way. If multiple variables measure the same dimensions, it would be better to collapse these variables into one variable.

Non-convenience sampling will be more reliable to generalize the findings. Also, an increase of the sample size and the diversity in the sample are more desirable. The sample for the future study will be better if it is less homogeneous than using alumni database or any type of convenience sample.

Longitudinal data collection will be more reliable to interpret the findings from the study. Specifically, examining customer behavior, such as customer loyalty, is not easy to capture by analyzing the dataset collected at a specific time point. Because customer loyalty evolves over the course of time, a longitudinal data collection method will be more reasonable to investigate the causal relationship among website service quality and sequential customer behavior by collecting the dataset from more than one point of the time.

In addition, a future study will be beneficial if comparisons are conducted between online customer loyalty and customer loyalty of a lodging institution. It will be noteworthy to find whether online loyalty can be a predictor of a lodging institutional loyalty or vice versa. By examining the association between website loyalty and institutional loyalty using longitudinal study that allows investigate the causational relationship between two types of loyalty, findings will be significantly beneficial for both industry practitioners and filling a gap in the literature.
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Heinemann.


12-40.


APPENDIX A. THE WEB BASED SURVEY QUESTIONNAIRE

Pre-screening: Have you ever made a hotel room reservation on the Internet within the past 6 months?
   ___ Yes
   ___ No (if this is the case, a respondent is not eligible for the survey)

Have you ever made a hotel room reservation directly from a hotel owned website (i.e., Marriott.com; Hilton.com so forth) within the past 6 months?
   ___ Yes
   ___ No

If yes, Please write the hotel owned website and the name of the hotel you used within the past 6 months.
   Hotel website: ________________________________
   Name of Hotel: ______________________________

If no, what website did you use for reservation other than hotel owned websites?
   Name of website: ________________________________
   Name of Hotel: ______________________________

For what reason do you travel most? (indicate % below)
   ___ % of Business
   ___ % of Pleasure/Leisure

Please indicate how you agree with each of the following statements when using the lodging website. Using a 7-point scale with 1 being “Strongly disagree” and 7 being “Strongly agree,” please click the appropriate number for your rating based on your experience with the website that you mentioned above.

(1: Strongly disagree, 7: Strongly agree)

Useful information
1. Information of the website was helpful to make my purchase decision.  1 2 3 4 5 6 7
2. The website described complete information about hotel services.  1 2 3 4 5 6 7
3. The website provided a wide range of information of the hotel and its services such as room amenities, facility information, location, area attractions, etc.  1 2 3 4 5 6 7

Ease of use
1. It was easy for me to navigate the website.  1 2 3 4 5 6 7
2. Information search functions on the website were easy to use.  1 2 3 4 5 6 7

Accessibility
1. The website is pulled out in no time.  
2. I can access to this website quickly every time whenever I try.

Privacy/security
1. This website has security protection for my online transaction such as Verisign.  
2. Payment was submitted in a safe mode.  
3. I did not have any problem with online payment on this website before.

Aesthetics/design
1. This website used good color coordination.  
2. The website showed quality pictures of the hotel.  
3. The website is comfortable to look at.

Personalization/customization
1. I had choices of room types, view selection, or preferred payment method on the website.  
2. The website accommodated my special request such as quiet room, crib, cot, etc.  
3. The website recognized me when returning and my search preferences were remembered.

Past experience
1. I had no problem to make room reservations with this website.  
2. My experience with this website was always great.

Social influence
1. People I know recommended this website to me.  
2. I read many good comments about the hotel on the customer evaluation site such as TripAdvisor.com.

Advertisements
1. I got a good impression about the website through the hotel advertisement on media (TV or magazine).  
2. I expected a quality website due to the hotels’ impressive advertisement on media.

Perceived service quality
1. Overall, the services on this website were excellent in quality.  
2. The website provided the exact service quality that I expected or wanted.  
3. The lodging website’s service offerings matched the hotel’s rating.

Overall customer satisfaction
1. All in all, I was very satisfied with the website’s services.  
2. The website greatly fulfilled my needs at the time I used it.  
3. I didn’t feel I need to visit other lodging websites to search more information to book a room.
Return Intention
1. I want to reuse this website for bookings of my next trip. 1 2 3 4 5 6 7
2. I want to revisit this website for searching hotel information. 1 2 3 4 5 6 7

Loyalty to a website
1. I use this lodging website frequently. 1 2 3 4 5 6 7
2. I am committed to this lodging website. 1 2 3 4 5 6 7
3. I want to recommend this website to my family, friends and acquaintances. 1 2 3 4 5 6 7

About Yourself

1. Gender: ____ Male ____ Female

2. Age:
   ____ I was born before 1946.
   ____ I was born between 1946 and 1964.
   ____ I was born between 1965 and 1976.
   ____ I was born between 1977 and 1982.
   ____ I was born later than 1983.

3. I usually feel comfortable to use the Internet for searching information.
   ____ Yes
   ____ No

4. I use the Internet for purchasing some other retail products, such as books and clothing.
   ____ Yes
   ____ No

5. Annual household income:
   ____ Less than US$30,000
   ____ US$30,000 – US$50,000
   ____ US$50,001 – US$80,000
   ____ US$80,001 – US$100,000
   ____ Higher than US$100,000

6. Highest Education:
   ____ High school
   ____ Associate degree
   ____ College degree
   ____ Graduate degree (Master’s or Doctoral)

7. Occupation:
   ____ Executive/Manager
   ____ Government/Military
   ____ Teacher/Professor
_____ Salesman/Buyer
_____ Secretary/Clerk
_____ First-Line Supervisor
_____ Self-employed
_____ Other (Please specify: _____________________________ )

8. What are the purposes of using the lodging website(s)? (Please check all that applies)
   _____ Collecting information to make a room reservation
   _____ Checking prices and availability
   _____ Intending to book a room
   _____ For fun (by browsing hotel facility photos)
   _____ Other (Please specify _________________________________ )

9. Do you have any lodging website that you are committed to book with?
   _____ Yes (If yes, go to the question 10)
   _____ No

10. What feature(s) make(s) you feel committed to continuously using the same hotel website?

   __________________________________________________________________________

   Thank you for your cooperation!
APPENDIX B. MEASUREMENT MODEL FIT TEST

All path coefficients are significant at p<.001
(Model fit: $\chi^2=323.50$, d.f=139, p<.001, CMIN/DF=2.33, RMSEA=.068, NNFI=.95, CFI=.97)
APPENDIX C. IRB APPROVAL

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

DATE: 7 May 2009

TO: Myunghee Joon
7/e MacKay Hall

CC: Drs. Robert Bosselman & Myoung Joong
31 MacKay Hall

FROM: Jan Canny, IRB Administrator
Office of Research Assurances

TITLE: Impact of perceived quality on customer loyalty on a lodging website

IRB ID: 09-109

Approval Date: 7 May 2009
Date for Continuing Review: 16 March 2010

The Chair of the Institutional Review Board of Iowa State University has reviewed and approved
the modification of this project. Please refer to the IRB ID number shown above in all

correspondence regarding this study.

Your study has been approved according to the dates shown above. To ensure compliance with
federal regulations (45 CFR 46 & 21 CFR 56), please be sure to:

- Use the documents with the IRB approval stamp in your research.
- Obtain IRB approval prior to implementing any changes to the study by completing the
  “Continuing Review and/or Modification” form.
- Immediately inform the IRB of (1) all serious and/or unexpected adverse experiences
  involving risks to subjects or others; and (2) any other unanticipated problems involving
  risks to subjects or others.
- Stop all research activity if IRB approval lapses, unless continuation is necessary to
  prevent harm to research participants. Research activity can resume once IRB approval is
  reestablished.
- Complete a new continuing review form at least three to four weeks prior to the date for
  continuing review as noted above to provide sufficient time for the IRB to review and
  approve continuation of the study. We will send a courtesy reminder as the date approaches.

Research Investigators are expected to comply with the principles of the Belmont Report, and state
and federal regulations regarding the involvement of humans in research. These documents are
located on the Office of Research Assurances website [www.compliance.iaastate.edu] or available
by calling (515) 294-4566.

Upon completion of the project, please submit a Project Closure Form to the Office of Research
Assurances, 1138 Pearson Hall, to officially close the project.
ISU HUMAN SUBJECTS CONTINUING REVIEW AND/OR MODIFICATION FORM

TYPE OF SUBMISSION:  [ ] Continuing Review  [x] Modification  [ ] Continuing Review and Modification

Principal Investigator: Myunghee Jeon  Phone: 515 294 7105
Department: AESHM  Correspondence Address: 7E MacKay Hall, Ames, IA 50011
Project Title: Impact of perceived quality on customer e-loyalty on a lodging website
IRB ID: 09-108  Date of Last Continuing Review: N/A

IF STUDENT PROJECT
Name of Major Professor: Drs. Robert Brannigan & Myung Jeon  Phone: 515 294 7474
Department: AESHM  Campus Address: 31 MacKay Hall
E-mail Address: drbob@iastate.edu

FUNDING INFORMATION:

[ ] External Grant/Contract  [ ] Internal Support (no specific funding source) or Internal Grant (indicate name below)
Name of Funding Source:
[ ] Part of Training, Career, Program Project Grant - Director:
[ ] Student Project—No funding or funding provided by student:
Overall IRB ID #:

CONFLICT OF INTEREST

The proposed project correlation with the sponsor require the disclosure of significant financial interests that present an actual or potential conflict of interest for investigators involved with this project. By signing this form, all investigators certify that they have read and understand ISU's Conflict of Interest policy as addressed by the ISU Faculty Handbook and made all disclosures required by it. (http://www.extension.iastate.edu/faculty/)

Do you or any member of your research team have a conflict of interest?  [ ] Yes  [x] No
If yes, has the appropriate Disclosure form been completed?  [ ] Yes  [ ] No

ASSURANCE

I certify that the information provided in this application is complete and accurate and consistent with proposal[s] submitted to external funding agencies. I agree to provide proper surveillance of this project to ensure that the rights and welfare of the human subjects are protected. I will report any adverse reactions to the IRB for review. I agree that modifications to the originally approved project will not take place without prior review and approval by the Institutional Review Board, and that all activities will be performed in accordance with state and federal regulations and the Iowa State University Federal-wide Assurance.

Myunghee Jeon  April 3, 2009
Signature of Principal Investigator  Date

Student Projects: Faculty approval indicates that this application has been reviewed and is recommended for IRB review.

Kerry A. April 9, 2009  May 7, 2009
Signature of Student's Name Faculty  Date  IRB Approval Signature  Date

For IRB Use Only
EXPEDITED per 45 CFR 46.110(b)  Category 7, Letter
STUDY REMAINS EXEMPT per 45 CFR 46.101(b)
WAIVER of SIGNED CONSENT per 45 CFR 46.117(a)
WAIVER of ELIGIBILITY OF Consent per 45 CFR 46.110
VOLUNTARY POPULATION per 45 CFR 46.
Please answer each question. If the question does not pertain to this study, please type not applicable (N/A).

SECTION I: KEY PERSONNEL

☐ Yes  ☑ No  Have there been any personnel/staff changes since the last IRB approval was granted?
If yes, complete the following sections (Additions/Deletions) as appropriate.

Add | Delete | Last Name | First Name
---|---|---|---

Add New Row

List all current members and relevant experiences of the project personnel. This information is intended to inform the committee of the training and background of the investigators and key personnel.

<table>
<thead>
<tr>
<th>NAME &amp; DEGREE(S)</th>
<th>POSITION AT ISU &amp; ROLE ON PROJECT</th>
<th>TRAINING &amp; DATE OF TRAINING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robert Buczek, Ph.D.</td>
<td>Team Leader</td>
<td>Sep 2007 11/10/07</td>
</tr>
</tbody>
</table>

Add New Row

SECTION II: CONTINUING REVIEW

In addition to completing Section I: Key Personnel, please complete Section II if this is an application for Continuing Review. If this is an application for modifying your project in the future, please complete all sections of the form. If this application is only to request approval for a modification or change to your study, please complete Section I: Key Personnel and Section III: Proposed Modifications or Changes.

Part A: Enrollment Status

1. ☐ Yes  ☑ No  Is the research permanently closed to the enrollment of new participants?
2. ☐ Yes  ☑ No  Have all participants completed all research-related interventions?
3. ☑ Yes  ☐ No  Does research remain active only for long-term follow-up of participants?
4. ☑ Yes  ☐ No  Are the remaining research activities limited to data analysis? OR
5. ☑ Yes  ☐ No  Participant enrollment has not begun and no additional risks have been identified.

<table>
<thead>
<tr>
<th>Number of Participants Approved by IRB:</th>
<th>Number of Participants Consented to Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Participants Screened:</td>
<td>Number of Participants Lost to Follow-up:</td>
</tr>
<tr>
<td>Check if any enrolled participants are:</td>
<td>Check below if this project involves either:</td>
</tr>
<tr>
<td>☑ Minors (under 18):</td>
<td>☑ Existing Data/Records</td>
</tr>
<tr>
<td>☑ Pregnant Women/Infants:</td>
<td>☑ Secondary Analysis</td>
</tr>
<tr>
<td>☑ Cognitively Impaired:</td>
<td>☑ Pathology/Diagnostic Specimens</td>
</tr>
<tr>
<td>☑ Prisoners</td>
<td></td>
</tr>
</tbody>
</table>

List Estimated Percent of the Total Enrolled That Are Minorities Below

American Indian:  Alaskan Native:
Asian or Pacific Islander:  African American:
Black (Not of Hispanic Origin):  Hispanic:
1. □ Yes □ No  Have any participants withdrawn or have you asked any participants to withdraw from the study? List number for each and reason for withdrawal:

2. Please provide a concise summary of the purpose and main procedures of the study.

3. Please provide a summary of how the study is progressing (e.g., progress to date in terms of the overall study plan, success or problems encountered, reasons enrollment has not begun, etc.)

4. Is there any new information (positive or negative) from this study (e.g., interim analysis) or elsewhere (e.g., current literature) that might affect someone's willingness to enroll or continue in the study? It is especially important for the investigator to notify the IRB of literature or information that’s relevant to the risks to participants in the study.

4. Please provide a summary of amendments or modifications since last IRB review.

Part C: Adverse Events and Unforeseen Problems

1. □ Yes □ No  Have there been any adverse events or unanticipated problems involving risks to participants or other people? If yes, please give them numbers and describe.

   If yes, was it reported to the IRB? Date reported
   If report was not submitted, please explain why.

2. □ Yes □ No  Have there been any participant complaints? If yes, please describe.

   Attach any reports submitted to NIH or a Data and Safety Monitoring Board. □ Attached □ N/A

Part D: Informed Consent
1. □ Yes □ No  If a signed Informed Consent Form was required, was Informed Consent obtained from all participants?
   If no, please explain.

2. □ Yes □ No  Are all signed Informed Consent Forms on file with the PI?
   If no, please explain.

3. □ Attached □ N/A  Submit copy of the currently approved Informed Consent Form and an original unstamped copy (if stamped). If changes have been made, please submit the original, a copy with the changes highlighted, and a copy to be stamped with IRB approval.
   □ Attached □ N/A  Submit currently approved informational letter.
   □ Attached □ N/A  Submit an unstamped copy of all survey instruments, interview questions, recruitment materials, instructions, and all other material participants will see or hear during their participation so that a current IRB approval stamp can be added. If changes have been made, please submit the original, a copy with the changes highlighted, and a copy to be stamped with IRB approval.
SECTION III: PROPOSED MODIFICATIONS OR CHANGES

If this application is to request approval for modification or changes to your project, please complete Section I: Key Personnel and Section III.

The submission of a modification form is required whenever changes are made to an approved project. This includes but is not limited to a title change, changes in investigators, resubmission of a grant proposal involving changes to the original proposal, changes in the funding source, changes of an instrument, advertisements, reports from a data safety and monitoring board, addition of a test instrument, etc. **NOTE: All changes must be submitted and approved by the IRB prior to their implementation, unless the change is necessary to protect the safety of participants.**

1. Does your project require approval from another institution, please attach letters of approval?
   - [ ] Yes
   - [x] No

2. The following modification(s) are being made (check all that apply):
   - [ ] Change in protocol.
   - [x] Change in type or total number of participants. New anticipated total: 5,000
   - [ ] Change in informed consent document.
   - [ ] Change in co-investigator(s). New co-PI name: __________________________

   Signature of new Co-PI: __________________________

   - [ ] Change in funding source/sponsor. Please attach copy of grant proposal sent to new funding agency.
   - [ ] Other (e.g., change in project title, adding new materials, adding advertisement, etc.)

   **NOTE:** If the change involves a new Principal Investigator, a new Human Subjects Review Form must be submitted.

3. Describe the modification(s) indicated above in sufficient detail for evaluation independent of any other documents. When submitting revised documents please submit one clean copy of the new document and a copy with the changes highlighted.

In order to increase the number of usable data collected, I would like to contact more number of potential participants, including “big mail” list ISU other than using a professional consumer panel database service (SS). Wording is rearranged to enhance the clarity in the screening questions. Four questions were replaced with new ones (regarding Security and Loyalty aspects).