NOLAN J. TAYLOR
Corporate impressions from Web site interaction: An initial study
(Under the direction of RICHARD T. WATSON)

Consumer-based technologies such as the Web are becoming commonplace. The performance of these technologies is often equated with degree of satisfaction. Dissatisfaction with these technologies has generally been viewed as simply a lack of satisfaction. However, the separate examination of dissatisfaction may shed additional light on important determinants of critical outcomes, particularly for consumer-based systems. Identification of these dissatisfaction factors is particularly important since they tend to be communicated more often by consumers than are equivalent positive service incidents.

In addition, once lost, the expense of replacing dissatisfied customers far exceeds the cost of keeping existing ones. The identification of these dissatisfaction factors on the Web and consumer responses to these incidents is undertaken here in a broad-based sampling using the critical incident technique (CIT). A subsequent phase using survey methods assesses how these satisfaction and dissatisfaction differ with respect to repatronage intentions and consumer communications.

INDEX WORDS: Dissatisfaction, World Wide Web, Information Systems

CORPORATE IMPRESSIONS FROM WEB SITE INTERACTION: AN INITIAL STUDY

by

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DEDICATION

In memory of my father

Dr. Elmer A. Taylor

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CHAPTER 1 RESEARCH PROBLEM

Web sites play a growing role in shaping consumer opinions about the entire firm. Consequently, ensuring satisfaction with these sites is an issue larger than just the site itself. In information systems research in particular, the focus on "end-user" satisfaction has generated intense interest. This interest has been propelled by the view of satisfaction as a primary antecedent to IS success (DeLone and McLean, 1992) and has the ability to serve as a surrogate measure for more difficult to obtain objective measures of systems success (e.g., Goodhue and Thompson, 1995). The study of satisfaction in information systems research has a relatively short history in comparison to other disciplines such as marketing and human resources management, yielding opportunities to draw from other disciplines with more extensive histories in satisfaction research. This research points out the importance of dissatisfaction as a distinct entity with distict causal factors from satisfaction, a concept seldom explored in IS. This dissatisfaction, if not identified and properly addressed, is much more expensive than obtaining "replacement" customers (TARP, 1986).

While the customer may view the presence of certain information system characteristics as a necessity, not all of these factors contribute toward satisfaction. Herzberg (1957) noted the existence of certain factors correlated with employee satisfaction (motivators) while another set of factors (or lack thereof) contributes to employee dissatisfaction (hygiene factors). Also, the primacy of these factors has been shown to vary depending on whether "like" or "dislike" factors are being sought (Herzberg, et al., 1957, p6). Thus, attempts to increase satisfaction rather than

reduce dissatisfaction may actually ignore key problems and thus have negative consequences, resulting in “retention” problems noted in human resourece research.

1.1 Business-to-Consumer Interaction on the Web

Business-to-consumer interactions take place on a number of different planes. Firms are increasingly interested in creating synergism between the various pieces of the communications mix (Roman, 1988). Over the years, this mix has expanded from traditional one-way vehicles including print, radio, and television to two-way vehicles such as telemarketing (telephone) and the Web. Since the 1990s, the use of the Web as a consumer interface has increased dramatically. Because most Web sites are multifunctional, responses may include a range of behaviors from simply returning to a business (revisit) to actual exchanges of value (repurchase). A customer may even trade-in or dispose of a product (disposal) prior to purchasing a replacement product or service, as is the case with a number of Web auction sites. As a consequence, ensuring service quality is a primary goal of corporate Web sites (Loiacono, 2000; Lovelock, 1996; Zeithaml, et al., 1996).

Because most services are produced by people (employees and customers), they are subject to variability that results in unpredictable service quality (Watson, et al., 1996). Information technologies such as the Web substantially increase the consumer’s role in service delivery. Compared to other retail formats such as in-store and catalog environments, the Web consumer plays a much larger role in shaping the service received, potentially compounding the problem. Customers, in a sense, become partial employees of the service organization (Mills, et al., 1983; Mills and Morris, 1986). This higher level of consumer involvement makes the consumer’s own

actions even more integral in determining his or her own level of satisfaction and consequently, the eventual consumer response.

1.2 Consumer Responses

It is widely accepted that system satisfaction leads to individual acceptance of the system (adoption) (Galletta and Lederer, 1989). Conversely, dissatisfaction with a site may ultimately lead to discontinuance. In competitive environments, however, patronage behavior alone paints only part of the picture. Consideration must also be given to how customer dissatisfaction may affect consumer communications about the site. While good service may result in a referral, customers receiving inferior service may also engage in one or more consumer complaining behaviors (CCBs) in order to remedy the problem, thus multiplying the impact of each negative service encounter.

1.2.1 Patronage Behaviors

Patronage behaviors include a wide variety of business actions taken by a consumer after the initial customer-firm interaction. One of the more obvious signals of dissatisfaction would be a decrease in repeat patronage after a negative service encounter. Repurchase intentions are a frequently studied outcome of consumer satisfaction research because of their close relationship to actual purchases.

At lower levels of dissatisfaction, a consumer may opt to no longer use a particular site exclusively. In this case, dissatisfaction with a particular site may also be evidenced by a waning level of commitment. For example, a consumer may choose to use an alternative search engine for certain types of searches based on

deficiencies in his or her primary choice. At higher levels of dissatisfaction, the consumer may completely abandon the current option in favor of an alternative.

1.2.2 Consumer Communications

Firms must also consider less direct actions taken by consumers in response to positive and negative service encounters. These *consumer communications* include expressions of satisfaction or dissatisfaction with obtained service. Positive service enhances a firm's reputation through recommendations from satisfied customers. A negative encounter may lead the consumer to pursue remedies for substandard service. Such actions may serve to reinforce the impact of service encounters in the consumer's own mind and in the minds of those with whom he or she relates these encounters. The eventual impact of these actions may be to increase or reduce repatronage intentions and loyalty in existing customers as well as to dissuade potential customers.

The importance of consumer response research lies in its potential to affect business strategies for addressing consumer dissatisfaction (Broadbridge and Marshall, 1995). However, developing a base from which to implement such strategies proves difficult, since a large percentage of consumers choose the "do nothing" option, and may exit without voicing any complaints (Berry and Parasuraman, 1997). These "service recovery" strategies are particularly important in cases where switching brands or retailers is relatively easy**,** as is the case for Web-based services.

1.3 Consumer Satisfaction and Dissatisfaction

Consumer satisfaction has been defined in a number of ways, including the overall feelings or attitudes a person has about a product after it has been purchased (Solomon, 1996); the extent to which consumer needs and wants are met (Andreasen, 1977); and affective response to a specific consumptive experience (Gotlieb, et al., 1994). Common to these definitions is that satisfaction is an attitude formed after a direct experience with a given attitude object. A positive experience leads to high satisfaction, while a negative experience is associated with dissatisfaction.

An implicit assumption is that a factor that is a determinant of satisfaction in positive contexts will necessarily be a determinant of dissatisfaction in negative contexts. Attitude research streams in both marketing and organizational behavior have also noted a distinction between satisfaction and dissatisfaction. Herzberg and colleagues (1957) proposed two sets of factors related to job satisfaction. Satisfier (motivator) factors serve to bring about job satisfaction. Improvements in dissatisfiers (hygiene factors) serve to remove the impediments to positive job attitudes. Similarly, Swan and Combs (1976) suggested that products are evaluated on a limited set of attributes, some related to satisfaction, while others are more so related to dissatisfaction when performance on them is unsatisfactory. While not explicitly tested in an IS context, it is reasonable to assume that the "end-user," like the consumer and the employee, will make a similar distinction between those factors that satisfy and those that simply satisfice.

A second assumption is that a factor, if related to both satisfaction and dissatisfaction, will have a consistent affect on outcomes for both positive and

negative contexts. However, the link between attribute performance and key outcome variables may be asymmetric (Kahneman and Tversky, 1979; Mittal, et al., 1998). That is, a negative rating on an attribute (with respect to neutral) may have a more pronounced impact on outcomes then an equivalent positive rating (with respect the neutral). This difference in the strength of relationships suggests that satisfaction is not simply a linear continuum from very satisfied to very dissatisfied, but rather a non-linear or piecewise linear relationship whose strength varies with attribute level performance. Thus dissatisfaction may be evidenced in the causal factors or the relations of these factors to the outcomes.

1.4 Research Questions

In an effort to better understand customer relationships with Web sites, two research questions are explored:

RQ1a) How are the factors that lead to dissatisfying Web site service encounters different from those leading to satisfaction?

RQ1b) How are the factors that lead to dissatisfying Web site service encounters the same as those leading to satisfaction?

RQ2a) How are the factors associated with satisfactory and dissatisfactory encounters different in terms of their respective impact on consumer responses?

RQ2b) How are the factors associated with satisfactory and dissatisfactory encounters similar in terms of their respective impact on consumer responses?

1.5 Importance of This Research

The importance of this work lies in its fundamental challenge to basic assumption of technology acceptance research. In IS research, the traditional view of satisfaction has tended to focus only on the positives -- for example, ease of use, usefulness, and playfulness. In this approach, it is assumed that the absence of these qualities leads to dissatisfaction. Research focused on the dissatisfying aspects of service is widely accepted in other service-oriented fields. This research has uncovered factors that impact both satisfaction and dissatisfaction as well as factors that have clear and separate relationships to dissatisfaction only. This introduces the possibility that IS research, while focusing exclusively on satisfaction, may gain a more complete understanding by examining dissatisfaction as a separate concept.

For practice, a better understanding of customer dissatisfaction has significant financial benefits. On average, consumers with negative experiences tell nearly twice as many people as those with positive experiences (Jones and Sasser, 1995). Negative experiences also tend to be more salient, resulting in greater weight in the formation of service encounter evaluations (Mittal, et al., 1998). Furthermore, the relative cost of acquiring new customers to replace those lost to dissatisfaction far exceeds the cost of retaining current customers, making it prudent to directly address dissatisfaction by actually encouraging complaints from dissatisfied consumers (Blodgett, et al., 1995). Thus, a focus on reducing the negatives may prove more even more profitable than attention increasing the positives.

Finally, a firm's image is also integrally tied to all its interactions with its environment (Watson, et al., 2000). As electronic commerce grows in popularity, Web sites will play a more crucial role in establishing a customer's overall perception of

the firm. Because a company's customer service is sometimes as important as the quality of the product itself (Blodgett, et al., 1995), it is vital to ensure positive customer service encounters via corporate Web sites. This task is complicated by the fact that rather than seek redress, many dissatisfied customers will exit, and some might engage in negative word-of-mouth actions. Explanations of this discontinuance require not only traditional examinations of "adopt" or "not adopt" decisions, but examination of actions between consumers as well.

1.6 Research Method

This research addresses the dissatisfaction issue in two phases (Figure 1). In the first phase, the **identification phase**, the goal is to identify factors that are more strongly associated with dissatisfaction than satisfaction. The critical incident technique (CIT) was used to elicit factors related to Web satisfaction/dissatisfaction and associated consumer response behaviors. The critical incident technique (Flanagan, 1954) has a long history of use in investigating a variety of issues including service encounters, employee perspectives, and student-teacher relationships (Gilbert and Morris, 1995; Hoffman, et al., 1995). A critical incident is a simple description of a behavior or a set of behaviors observed in a focal person. These behaviors are centered on respondent-described satisfying or dissatisfying episodes to derive categories of incidents leading to satisfaction or dissatisfaction. These categories are further used to assess the separateness of satisfaction and dissatisfaction factors.

In the second phase, the **verification phase**, the objective is to explore differences in satisfaction and dissatisfaction factors and their respective

relationships with repatronage intentions and consumer communications. Factors identified in the identification phase were used to model the test scenarios. The relationship between these performance factors and the outcomes are examined using survey methods.

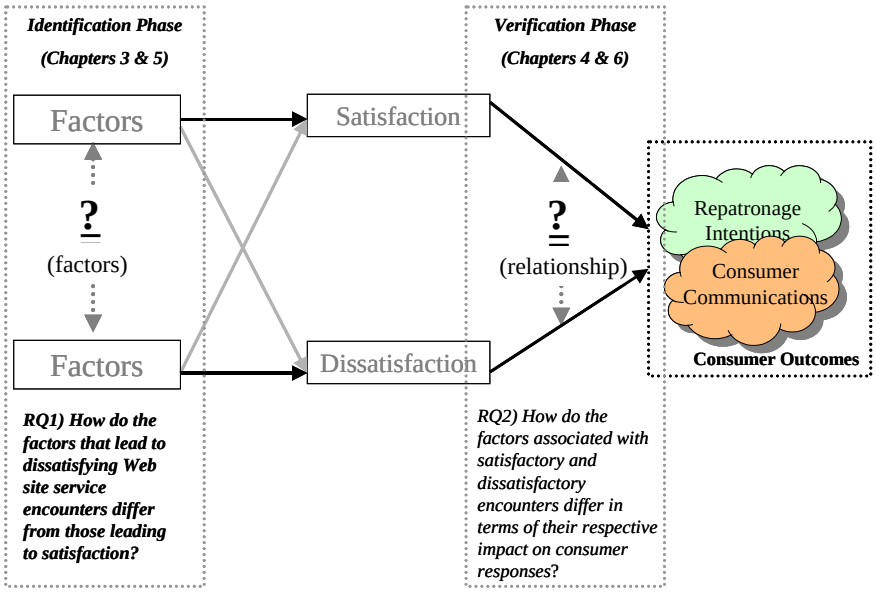

Figure 1 Organization of this research

1.7 Summary

Customer-focused strategies have become the norm in many industries. Firms not only need to be responsive to customer needs using the traditional focus on "key drivers" leading to high customer satisfaction, but also to address customer dissatisfaction factors. These factors, whether distinctly different for satisfaction and dissatisfaction or asymmetric responses to negative and positive versions of the same incident, are important in the building of long-term customer relationships.

Understanding dissatisfaction is also a key factor in developing service recovery strategies and fostering commitment in a growing sea of alternatives.

1.8 Organization of Dissertation

Chapter 2 details the previous literature pertaining to dissatisfaction, repatronage, and consumer response behaviors. This review draws from previous IS research as well as from services marketing literature. Chapters 3 and 5 detail the research design of the identification and verification phases respectively. The design chapters outline the research methods, sampling procedures, data collection, and data analysis procedures. In addition, considerations for maximizing reliability, validity, and generalizability are discussed. Chapters 4 and 6 review the results and findings of the identification and verification phases respectively. The document concludes with a discussion of conclusions and future research (chapter 7).

CHAPTER 2 LITERATURE REVIEW

This chapter reviews the relationship between dissatisfaction and information systems (IS) success. In this section, consumer information systems research is explored. The process of service evaluation using the disconfirmation of expectations perspective is reviewed. Finally, the literature on dissatisfaction and its theoretical links to repatronage intentions and consumer communications are examined. A summary of this chapter is then provided.

Customer Information Systems

Electronic commerce and the Internet have gained increasing levels of interest over the past decade. Though e-commerce sales account for only a small fraction of total U.S. retail sales, the Internet's contribution to retail sales is projected to rise dramatically, from less than $1 billion in 1995 to nearly $37.5 billion by 2002 (Achs, 1998). The Web, the fastest-growing "network" of the Internet, is a particularly important component in this rapidly expanding market. Because of the importance of both content and functionality, supporting marketing on the Internet requires that both marketing and technical issues must be addressed (Palmer and Griffith, 1998). Consequently, many customer-related issues are increasingly becoming the domain of information systems units.

Despite the best efforts of these firms, many positive attributes may go unnoticed by the customer. Similarly, many negative attributes outside of the control of the company may also be attributed to the firm. A company's value system should therefore include all product and service attributes that contribute to customer

satisfaction (Geissler, et al., 2001; Watson, et al., 1998). Ensuring successful customer systems therefore requires the firm to go beyond simply what was intended to include what was actually experienced (Geissler, et al., 2000).

2.1 Information Systems Success -- Quality Factors

Defining information systems success has been an ongoing concern of the IS field. In a comprehensive review of organizational context IS success measures from 1981 to 1988, DeLone and McLean (1992) examined 100 studies and found a wide variation of IS success measures but little consensus of what constitutes success. This review identified success measures associated with IS consequences (organizational and individual impact), and behavior (use) and attitude (user satisfaction). These measures not only include measures associated with effectiveness resulting from use but also perceptions of the information systems' output (information quality), the process (system quality), and the service provided by the supporting organization (service quality) form the basis of the effectiveness measures (DeLone and McLean, 1992; Pitt, et al., 1995). The system users make various attributions concerning these quality factors. The more of the desired quality factor received, the greater the level of satisfaction, use, and ultimately affect the organization as a whole (Figure 2).

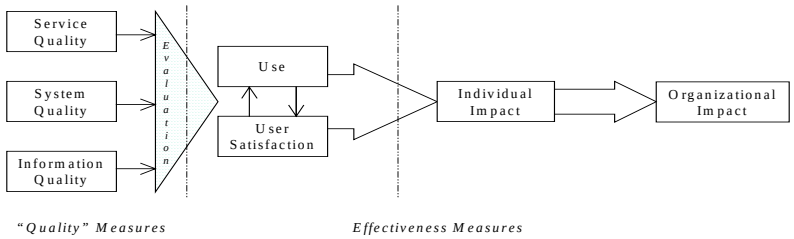

Figure 2 Information systems success measures (Pitt et al,1995)

2.1.1 Disconfirmation of Expectations --Quality Factor Evaluation

The disconfirmation of expectations perspective has gained widespread acceptance in marketing research but is readily applicable to information systems evaluation as well. Rather than simply a function of quality factor alone, the expectancy of disconfirmations model asserts that evaluations are based on internal comparisons of perceived performance and prior expectations of performance (Oliver, 1980). The "gap" between expected and perceived performance results in disconfirmation that further leads to satisfaction or dissatisfaction in the case of positive and negative disconfirmations respectively (Zeithaml, et al., 1993). That is, when perceived performance exceeds expectations, positive disconfirmation results and when perceived performance falls short of expectations, negative disconfirmation result (Figure 3).

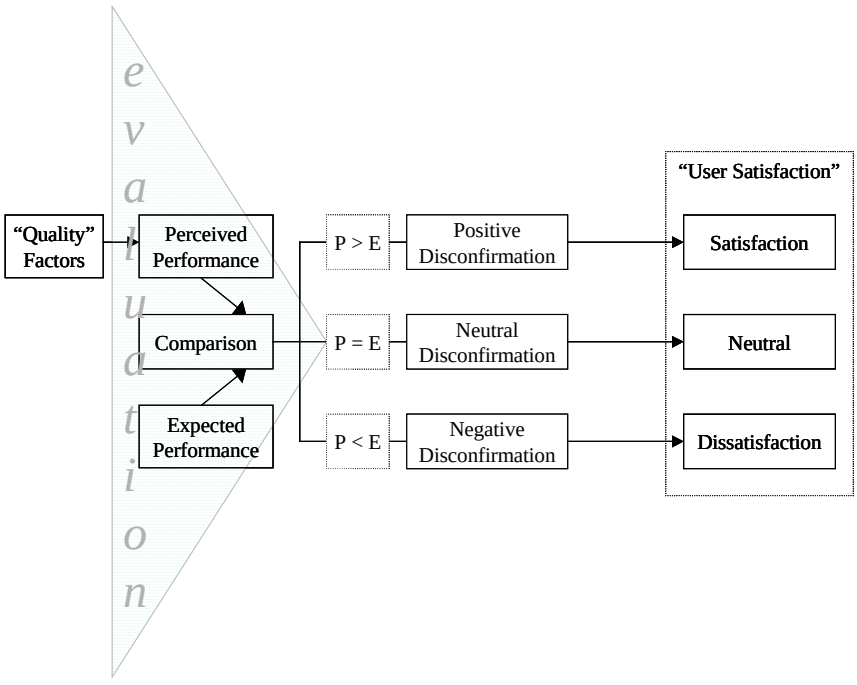

Figure 3 Attitude formation in information systems use (adapted Oliver, 1997)

Two problems, in particular, complicate the evaluation process. First, service quality is based on multiple interpretations of service quality many of which are subjective (Yi, 1993). Through a very complex process, attributes are weighted, combined, and summed to produce an overall evaluation. The complexity of this process often exceeds the evaluator's ability to explain after the fact. Second, expected performance is not a static property but may take on any one of arrange of values (Figure 4). At the lowest end is what "must be" and what "ought to be," and at the upper end what "could be" (Miller, 1977). Thus, a "zone of indifference" exists such that there exists a range of perceived performance levels that are evaluated as being acceptable (i.e., equal to expected performance) (Woodruff, et al., 1983).

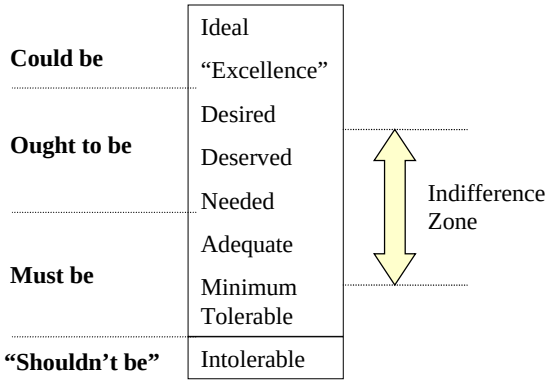

Figure 4 Thresholds for perceived and expected performance comparisons (adapted from Oliver, 1997)

2.2 Information Systems Success Outcomes -- Consumer Behaviors

Rather than limit the scope of behaviors to simply use, the marketing literature suggests a broader perspective for assessing consumer-based systems. These include

future intentions directed to the firm itself (patronage behaviors) as well less direct interactions of the customer (consumer communications).

2.2.1 Patronage Intentions

An innovations perspective may be used to explain patronage intentions. An innovation may be rejected at any stage in the adoption process (Rogers, 1983). A decision not to adopt can occur prior to adoption (rejection) or after the adoption phase (discontinuance). Discontinuance can be further subdivided into replacement and disenchantment (Rogers and Shoemaker, 1971). Replacement discontinuance involves a decision to cease a relationship in favor of a better one, while disenchantment discontinuance is a decision to cease a relationship because of dissatisfaction with performance (Figure 2). Furthermore, adoption or repatronage decisions are rarely done in a vacuum but result from the consideration of a set of alternatives.

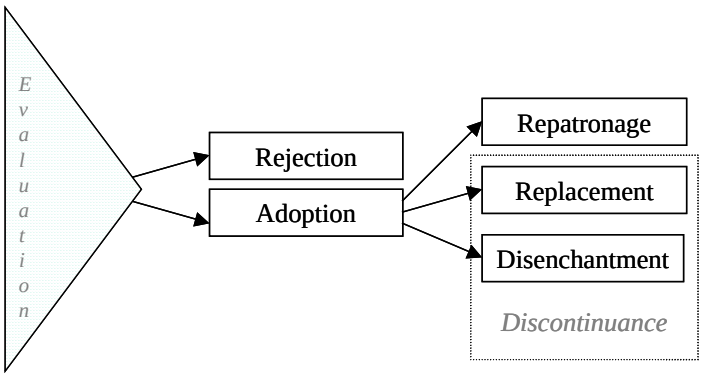

Figure 5 The repatronage process

It is important to note that because most Web sites are multifunctional, more intense customer-firm relationships may include not only repeat purchases but other phases of the customer service life cycle (Ives and Learmonth, 1984). A customer

may use the same Web site repeatedly to determine if a certain offering meets his specification (requirements), make the actual purchase (acquisition), receive updates and upgrades (maintenance), or trade in or dispose of a product prior to purchasing a replacement product or service (disposal).

These phases are just as applicable to online businesses as they are for brick-and-mortar firms. For example Amazon.com's Web site (http://www.amazon.com) allows customers to determine requirements (price, estimated shipping time, and quality of content as assessed by customers who have read the same book or books), purchase online, and sell books via online auctions. Microsoft's Web site (http://www.microsoft.com) allows customers to view product specifications (requirements) and download patches and updates (maintenance). Thus, repeat use of a particular Web site may be driven by repeat sales as well as other aspects of the customer service lifecycle.

2.2.2 Consumer Communications

In addition to changes in patronage intentions, customers may engage in consumer responses that further intensify the effect of the consumption experience. On the negative side, services research has noted three general groups of consumer responses or consumer complaining behaviors. These include private, voice, and public actions (Singh, 1990). However, these same channels may also be used as the result of positive service, and are generally referred to here as consumer communications (Figure 6).

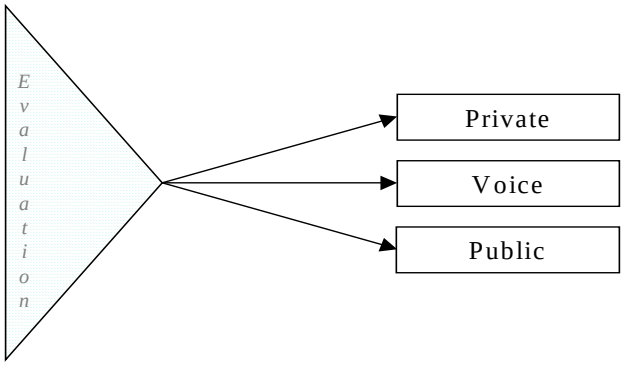

Figure 6 Consumer communications (adapted from Singh, 1988)

Private actions include action aimed directly at the firm. Voice includes positive word-of-mouth (WoM) recommendations and negative word-of-mouth warnings or criticisms to friends and family. Negative interpersonal influence is typically more persuasive than positive interpersonal influence and may trigger further discontinuance by other customers (Oliver, 1997). These word-of-mouth communications differ from other communications forms in that they are bi-directional and interactive, generally rated the most important and accessed more frequently because its assumed to be more objective (Keaveney, 1995). Customers may also resort to public action: endorsing or seeking redress or legal action through public forums such as news media or consumer organizations such as the Better Business Bureau (Singh, 1990).

While positive consumer communications are preferable, and (assuming favorable service recovery outcomes) negative communications (complaints) can provide an opportunity to produce even stronger customer relationships (and should be viewed as opportunities (Blodgett, et al., 1995). Unfortunately, only less than half of these consumers ever bother to make their dissatisfaction known (Dolinski,

19094). Thus, at the outcome level, differences exist between satisfaction and dissatisfaction.

2.3 Consumer Dissatisfaction

Whether satisfaction is actually distinct from dissatisfaction has been the subject of debate for over two decades (Andreasen, 1977; Babin and Griffin, 1998; Cadotte and Turgeon, 1988; Mittal, et al., 1998; Woodroof and Kasper, 1995). The separate consideration of dissatisfaction is warranted for several reasons. Consumers often render evaluations of experiences of satisfaction at the attribute level rather than at the total product level (e.g., Gardial, et al., 1994). The potential for "mixed emotions" therefore exists where a consumer may be satisfied with one attribute and dissatisfied with another. Furthermore, for a given set of attributes, negative performance on a single attribute could outweigh positive performance on many other attributes combined (Mittal, et al., 1998). This is a very likely scenario, since negative information also tends to be more salient than positively valenced information, and this greater accessibility results in greater weight in the formation of satisfaction judgments (Mittal, et al., 1998).

Two streams of research support the need to investigate satisfaction and dissatisfaction separately. First, dissatisfaction and satisfaction may represent separate attitudes rather than opposite ends of the same continuum. This is expressed in such "two-factor" work as motivation-hygiene (Herzberg, et al., 1957), the PANAS (positive and negative affect scale) instrument (Watson, et al., 1988), and extensions such as Kano's "delighters," "liner satisfiers," and "must haves" (Kano, 1984). Second, while a factor may be associated with both satisfaction and dissatisfaction, it may have asymmetric responses with respect to key outcome

variables. Prospect theory (Kahneman and Tversky, 1979) posits that resources are weighted differentially according to their utility. In either case, attention to dissatisfaction could highlight the importance of issues not addressed by guidelines focused strictly on optimizing satisfaction.

2.3.1 Separate Factors Literature

The human resources discipline represents one of the earliest explorations of this line of reasoning. First introduced by Herzberg (1957), motivation-hygiene theory proposes two sets of factors related to job satisfaction. Satisfier (motivator) factors serve to bring about job satisfaction. Improvements in dissatisfiers (hygiene factors) serve to remove the impediments to positive job attitudes. When these factors deteriorate to a level below that which the employee considers acceptable, then job dissatisfaction ensues (Herzberg, et al., 1957, p113). When hygiene factors (i.e., the "must haves") are optimal, the result is neither dissatisfaction nor satisfaction. Thus, while both satisfiers and dissatisfiers are important, satisfiers alone result in long-term increases in job satisfaction. Subsequent research has been mixed in its support of this contention (Babin and Griffin, 1998).

In marketing, this distinction was first proposed by Swan and Combs (1976). They reasoned that:

> Consumers judge products on a limited set of attributes, some of which are relatively important in determining satisfaction, while others are not critical to consumer satisfaction but are related to dissatisfaction when performance on them is unsatisfactory.

Previous research on the distinction between satisfaction and dissatisfaction factors has been mixed, showing support for the distinction (i.e., two groups), no support, and "marginal" support (i.e., distinct satisfaction and dissatisfaction factors as well as factors that seem to belong to both groups) (Johnston, 1995). This third group variously termed "criticals" (Cadotte and Turgeon, 1988) or "linear satisfiers" (Kano, 1984), represents factors where the presumed linear relationship applies. Cumulatively, this research suggests that certain factors may be more associated with dissatisfaction than with satisfaction.

Examples of consumer experiences resulting in dissatisfaction on the Web are numerous. Most notable are the service outages of such companies as eBay and E-Trade Securities (Sweat and Hibbard, 1999). The Council of Better Business Bureaus (CBBB), which now takes complaints online, has received a significant number of complaints concerning online merchants (The Better Business Bureau, 1999). While some of these complaints include online fraud, most involve disputes with legitimate online merchants.

In many ways, consumer responses to electronic are similar to traditional media. Web dissatisfaction has also prompted unique responses such as the creation of such Web sites as The Worst of the Web (http://www.worstoftheweb.com), which are dedicated to exploiting the worst sites on the Web. Although highly visible, such complaint methods may be the exception rather than the rule. Consumers of other services most often opt to do nothing but tend to relate dissatisfaction more often than satisfaction (Berry and Parasuraman, 1997). Because the Web is relatively new and itself offers a number of forums to express dissatisfaction, this difference may be even more pronounced. This suggests that

P1) The underlying factors that lead to satisfactory and dissatisfactory encounters are different.

2.3.2 Asymmetric Response Literature

Managers often target "key drivers" assuming a linear relationship between attribute-level performance and dependent constructs such purchase intention (Mittal, et al., 1998). However, the link between attribute level performance and repatronage intentions may be asymmetric (Colgate and Danaher, 2000; Kahneman and Tversky, 1979; Mittal, et al., 1998; Parasuraman, et al., 1994). This difference in the strength of relationships suggests that satisfaction is not simply a linear continuum from very satisfied to very dissatisfied, but either a non-linear property or two different constructs altogether (Neal, 1999). This distinction has also been noted in quality improvement literature. The Kano model suggests a factor can exhibit one of three different behaviors: highly related to the outcome variable in the case of satisfaction but not dissatisfaction (delighters), highly related to the outcome variable in the case of dissatisfaction but not satisfaction (must haves), and equally related to both satisfaction and dissatisfaction (linear satisfiers) (Figure 7).

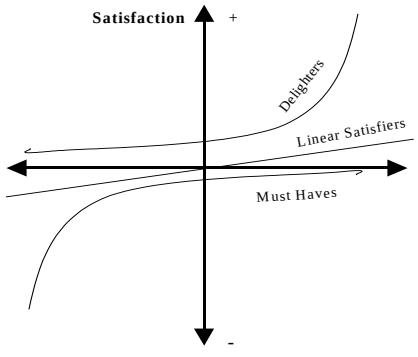

Figure 7 Separate factors model (adapted from Kano, 1984)

The zone of indifference has also been used to explain this asymmetric behavior. This concept was first proposed by Barnard (1938) as a means of explaining the relationship between why employees comply with organizational directives. This idea asserts that individuals have a set of values with varying importance. In cases where these values are of high importance, individuals are internally motivated to follow through with directives that tap these values and, in fact, require little if any external motivation for compliance. On the other hand, for actions that are in opposition to held values, a person will only comply when externally motivated or coerced to do so, if at all. Between these two extremes lies a region where neither internal values nor external influence is involved. In this zone of indifference, compliance evokes neither enthusiasm nor cost (i.e., the person is indifferent).

In marketing, the zone of indifference concept was first reapplied by Cadotte and colleagues (Cadotte, et al., 1987; Woodruff, et al., 1983) and has been applied to both product (Finkelman, 1993) and service quality evaluations (Siehl, et al., 1992; Zeithaml, et al., 1993). This zone of indifference lies between satisfaction and dissatisfaction and an experience outside the acceptable range is deemed unsatisfactory. Thus, the linearity of an attribute's relationships with satisfaction may depend on the "width" of this zone of indifference.

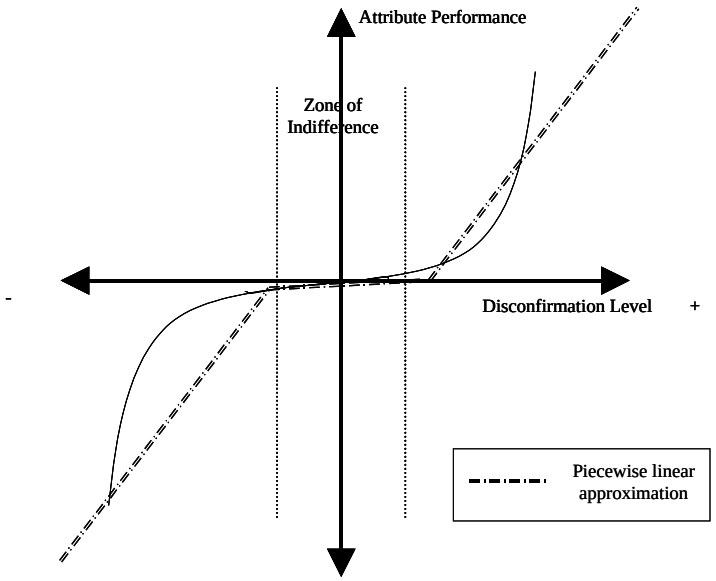

Figure 8 Zone of indifference

On the Web, download time is a frequently mentioned site attribute (e.g., Lightner, et al., 1996). Through frequent interactions with a number of Web sites, a consumer may become accustomed to a certain range of home page download times. A change in server performance reducing the time from 3 seconds to 2 seconds may be imperceptible and thus have negligible impact on satisfaction, while a similar increase in download time may have a noticeable negative impact on satisfaction. Thus, at increasingly higher levels of performance, increases in performance may have little impact on satisfaction while a similar decrease may noticeably increase dissatisfaction.

P2) The factors associated with satisfactory and dissatisfactory encounters differ in terms of their respective impact on repatronage intentions.

Positive and negative disconfirmation may also lead to different consumer communication consequences. Good service can lead to satisfaction. Exceptional service can lead to an emotional response that is thought to go beyond simple satisfaction and produce what is known as customer delight (Oliver, et al., 1997). Delighted customers are far more loyal and more likely to become "apostles" and spread the word of positive experiences (Jones and Sasser, 1995).

Similarly, service failures can result into one of two types of customer feelings: annoyed and victimized. Feelings of "annoyance" stem from minor irritation resulting from promise(s) not fully realized. "Victimization," however, is characterized by major feelings of "ire, frustration, and/or pain" (Bell and Zemke, 1987). The former case is associated with dissatisfaction, but the more extreme service failure in victimization has been associated with the more severe emotional state known as outrage (Schneider and Bowen, 1999). Outrage has been noted as being far more difficult to recover from than normal dissatisfaction (Schneider and Bowen, 1999). Outraged customers are also extremely likely to defect, and become "terrorists" -- spreading the word of negative experiences. Consequently,

P3) The factors associated with satisfactory and dissatisfactory encounters differ in terms of their respective impact on consumer communications.

2.4 Summary

Customer satisfaction and employee satisfaction research provides opportunities to increase understanding of Web consumer behavior. IS research can benefit by viewing satisfaction and dissatisfaction as separate entities. The separate factors

literature suggests that the set of factors that management should focus on varies depending on whether decreasing dissatisfaction or increasing satisfaction is the objective. The asymmetric response literature suggests that, even if the factor is related to both satisfaction and dissatisfaction, negative ratings may have magnified consequences with respect to positive ratings on the same attribute. Together, literature suggest that low scores or even marginal scores on dissatisfier-type attributes should be given special attention to prevent the high cost of “replacing” a customer and the potential damage of “terrorist” actions by irate customers.

CHAPTER 3 RESEARCH DESIGN – IDENTIFICATION PHASE

The objective of the research design phase is to ensure that the selection of a research method, sample, and data collection and data analyses procedures is consistent with the study objectives. In this section, rationale for the selected research design elements is discussed. Research approach, data collection, and data analyses procedures are also described. For clarity, details of the research design for the identification phase (this section) and verification phase (section 5) are reported separately (Table 1).

Table 1 Research objectives and relationship to overall study goals

Study Phase	Propositions	
Identification	P*1) The underlying factors that lead to satisfactory and dissatisfactory encounters are different.*	
Verification		*P2) The factors associated with satisfactory and dissatisfactory encounters differ in terms of their respective impact on repatronage intentions.* *P3) The factors associated with satisfactory and dissatisfactory encounters differ in terms of their respective impact on consumer communications.*

In the identification phase, the primary goal was to classify customer perceptions of experiences on Web. Data were gathered from actual consumer experiences to develop a list of satisfiers and dissatisfiers experienced while interacting with a Web site. Categories were produced by placing these data into groups of related items for

subsequent test to determine which categories were more likely to be mentioned in negative contexts. Associated consumer communications were also examined.

3.1 Research Approach

Several potential research strategies are available, each possessing certain strengths and weaknesses. Rather than attempting to find a single "best" strategy, the more realistic goal is to determine the "least flawed" strategy for a particular research question and to "face your methodological problems squarely" (McGrath, 1982, p70). Two requirements, in particular, dictate the approach taken in the identification research phase.

First, the need to obtain actual experiences using relatively unobtrusive means to ensure "natural" responses drove the need for unobtrusive observation. While secondary analysis via the examination of complaints directed to the Web site is an option, the self-selection process leads to problems in distinguishing nonrespondents from satisfied customers in these databases. The need to account for all consumer responses, including "no action" consumers, drives a more inclusive approach.

Second, defining the nebulous line between acceptable and unacceptable is a difficult task, in both research and practice. While some service expectations can be readily articulated prior to the service encounter, many are passive, only existing generally and probably are not processed unless disconfirmation occurs (Oliver and Winer, 1987). Expectations can also be ambiguous, such as when the quality of a service is difficult to evaluate because the judgment cannot be made based on objective measures (Yi, 1993).

One noteworthy example involves a Supreme Court ruling involving what constitutes obscenity. In his decision, Justice Potter Stewart wrote “I shall not today attempt further to define the kinds of material I understand to be embraced, and perhaps I could never succeed in intelligibly doing so, but I know it when I see it.” The difficulty lies in the subjective nature of the evaluation. Such situations suggests a “working backwards” approach – identifying instances of disconfirmation then attempting to evaluate expectations post hoc.

3.1.1 The CIT Method

The critical incident technique (CIT) (Flanagan, 1954) was selected as the research approach. CIT has a long history of use in investigating a variety of issues including service encounters, employee perspectives, and student-teacher relationships (Gilbert and Morris, 1995; Hoffman, et al., 1995). Reliability and validity of this technique have been examined in prior studies (Andersson and Nilsson, 1964; Ronan and Latham, 1974; White and Locke, 1982). Rather than a general impression, a critical incident is a simple description of a behavior or a set of behaviors observed in a focal person. These behaviors are centered on actual respondent-described satisfying or dissatisfying episodes to derive categories of incidents leading to satisfaction (or dissatisfaction). The importance of eliciting the specific factors related to the attitude under study rather than using predefined lists is also echoed by Ajzen and Fisbein (1980).

3.2 Data Collection

An analysis of critical incidents related to customer dissatisfaction includes events, combinations of events, or series of events between the customer and one or

more service firms that resulted in dissatisfaction on the part of the customer. It should be noted that the respondents are not asked to identify the underlying causes of satisfaction or dissatisfaction, but rather to describe a specific instance in which good or poor service was received. The researcher bears the responsibility of abstraction and inference (Bitner, et al., 1990).

3.2.1 Unit of Analysis

As noted by Keaveney (1995), the term "critical incident" can refer to either the overall story or to discrete behaviors contained within the story. In this research, the unit of analysis is discrete behaviors. Thus, a consumer reporting being unable to find information via the home page index as well as being unable to find that same information using the site's search function would be coded as two critical actions.

3.2.2 Task

One method of defining consumer tasks is by degree of goal specificity. At the lowest end, exploratory search behavior includes environmental scanning activities without problems to solve or questions to answer (Vandenbosch and Higgins, 1996). Such searches are frequently undertaken to determine what information or alternatives are available. At the higher goal specificity, a consumer may engage in goal-directed search, organizing the search process in order to affect a certain predefined outcome (Janiszewski, 1998). Managing conversion "surfers" (consumers engaged in exploratory search tasks) into goal-directed customers is a major concern of Web site owners (Berthon, et al., 1996), hence the focus of this study.

Two goal-directed behaviors are particularly relevant in the use of commercial Web sites, and thus were the focus of this research. **Purchase tasks** represent the

Web's importance as a commerce vehicle, with Internet sales projected at nearly $37.5 billion by 2002 (Achs, 1998). As the world's largest information network, the Internet is frequently used for fact-finding or **information search tasks**. Respondents' major tasks were to recall specific incidents related to either purchase or information search on the Web. In this research, information search and purchase tasks are defined by the *initial* intentions of the consumer. For example, a session resulting in an impulse purchase would be coded as information search if that were the original goal.

3.2.3 Procedures

Data were collected via questionnaires. Respondents were asked to identify a time when they felt particularly (dis)pleased with the Web site and to describe the situation. Respondents were also asked to state when the incident occurred. These respondents were also asked to state what actions they took in response. In order to ensure accurate responses, only incidents that occurred within a year of the interview were included. Finally, the questionnaire included demographic information questions and several measures to assess the impact of these incidents on consumer intentions.

3.2.4 Participants

Because of the ease with which customers can switch between sites, it is important to gain the perceptions from a wide variety of customers. Following the suggestions of Jones and Sasser (1995), sample breadth was selected to ensure that perceptions of both existing customers and former customers (that is, customers who discontinued their relationship with the Web site) were examined. The participant

group was in large part drawn from upper-level undergraduates enrolled in business computer classes at three large state universities.

3.2.5 Sample Size

Sample size was determined in accordance to Flanagan's recommendations (Flanagan, 1954, p343): "Adequate coverage has been achieved when the addition of 100 critical incidents to the sample adds only two or three critical behaviors." Thus collection requires an initial wave of 100 or more participants (classification sample), followed by a successive waves of 100 or more participants (confirmation sample) until a stable set of categories is produced.

3.3 Data Analysis and Interpretation

Incidents were classified into groups of similar behaviors. Following Weber (1985), interrater reliability was assessed. Two different judges sorted the incidents into the categories and created new categories if appropriate. When interjudge reliability exceeds .80, their classification decisions will be compared against the benchmark and a final topology produced. Each category was identified as a satisfier or dissatisfier by testing for significant differences between expected and observed frequencies of mention. Significantly higher than expected differences between observed and expected occurrences identify a factor as a dissatisfier while significantly higher than expected differences between observed and expected occurrences indicate the category is a satisfier. Consumer communications were classified in accordance to Singh's (1990) classification system. These categories include communications strictly between the customer and the firm (private),

personal communications between the customer and associates (voice), and communications through public forums (public).

3.4 Summary

The CIT method was selected because it provides a means to unobtrusively explore actual consumer experiences in their natural context. The approach provides a framework to develop specific categories from the respondent data. A test of the Singh's (1990) consumer complaining behavior framework to classify both positive and negative consumer communications. Methods for ensuring reliability and validity are included in the process.

CHAPTER 4 RESULTS – IDENTIFICATION PHASE

This section describes the results of the identification phase of this research. The sampled incidents attributed to Web sites include not only IS factors, but non-IS factors such as site names, product delivery, and product quality. The evidence suggests that many factors were considered more frequently in the context of dissatisfactory rather than satisfactory interchanges. These results also hint to asymmetric behavior for several of these factors.

4.1 The Sample

The first step was to develop mutually exclusive and exhaustive categories for a subset of the incidents. In accordance with the CIT, "adequate coverage has been achieved when the addition of 100 critical incidents to the sample adds only two or three critical behaviors" (Flanagan, 1954, p 343). This necessitated collection and analysis of data in two iterations -- a classification sample to develop the categories and a confirmation sample to ensure that the developed categories provide adequate coverage. This method of a "holdout" or validation sample is similar to the approach used in quantitative analysis methods such as discriminant analysis (Hair, et al., 1998). For the confirmation sample, consumer response behaviors were also examined. Consumer response behaviors were classified in accordance to the topology of Singh (1990): private, voice, and public action. This topology has been verified in previous studies (Davidow and Dacin, 1997; Morel, et al., 1997; Ping, 1997; Singh, 1990; Singh, 1991).

A classification sample of 311 respondents was surveyed for initial category development. For validation purposes, a confirmation sample of surveys from 196 additional participants was collected, resulting in 507 total surveys. In the classification sample, each returned survey contained one or more reports. Each report describes the respondent's interactions with one identifiable Web site. The confirmation sample also included a number of additional measures not included in the classification sample. Unlike the classification sample, confirmation surveys were limited to a single report. In both cases, reports not meeting the minimum requirements of 1) occurring within the past year and 2) involving either information search or purchases, or 3) having sufficient details and referring to a specific incident were omitted from further consideration, yielding 374 usable surveys (73.8% of the sample). Sample breakdowns are presented in Table 2.

Table 2 Study population

Phase	Classification Sample	Confirmation Sample	Total Sample
Total	311	169	480
Usable surveys	215	159	374
Consumer communications examined?	N	Y	

4.1.1 Classification Sample

The classification sample was assembled in two iterations. The respondents in the first iteration were asked to identify incidents that caused them to become more (or less) bonded with a particular Web site of their choosing. Consistent with traditional CIT studies, respondents in the second iteration were asked to identify Web sites visits in which they were particularly satisfied or particularly dissatisfied. In the second classification sample, demographics including age and self-assessed

Web experience level were also obtained. In both iterations, participants were not asked to identify the underlying causes of satisfaction (dissatisfaction) but rather to describe a specific instance in which a good or bad experience occurred (Table 3).

Table 3 Classification sample summary

	Classification Sample (1)		Classification Sample (2)		Total Sample	
Total	265		87		352	
Usable Surveys	161	61%	54	62%	215	61%
Usable Reports	203		64		267	
Dissatisfaction reports in sample	98	47%	23	43%	121	45%
Question posed	*Identify incidents that caused you to become more or become less bonded with a particular Web site*		*Identify Web sites visits in which you were particularly satisfied or particularly dissatisfied*			

The mean (standard deviation) age was 22.4 (4.9) years; 67% were male. Web experience level was assessed on a seven-point scale, with seven representing the highest level. The mean (standard deviation) for this sample was 6.2 (0.96). (It should be noted that because both iterations were drawn from the same population (i.e., a large section business class), the demographics of the first iteration can be reasonably inferred from the second.

Each report was then decomposed into component thought expressions. A thought expression is defined as a discrete attribution to either satisfaction or dissatisfaction. For example, a report describing a site as both “visually pleasing” and “easy to navigate” would be coded as two separate thought expressions. Reports with insufficient detail to generate any thought expressions (e.g., “This site was great”) were excluded from analysis. Thus, the ratio of thought expressions to

reports is at least one but in many cases exceeds unity (Table 4). In some cases, the same respondent provided examples of both a positive and negative incident.

Table 4 Thought expressions per report reported by sample

Expressions per report	Number of Respondents per Iteration: Classification Sample (1)	Classification Sample (2)	Total expressions	
1	111	30	141	53%
2	80	16	96	36%
3	19	7	26	10%
4	3	1	4	1%
Total	213	54	267	100%
Average/report	1.6	1.6	1.6	

Because frequency counts are involved, nonparametric analyses are required. Similar to its t test analog, the Mann-Whitney tests for differences in the means of two groups. No significant differences in the percent of incidents detailing dissatisfaction ($U=5555$; $p=.635$) nor differences in average number of thought expressions between classification sample iterations ($U=5696$; $p=.094$) were found. Thus, the approach of focusing on events that affected loyalty (without requiring demographics) did not provide substantially different results than concentrating incidents associated with either satisfaction or dissatisfaction and thus can be treated as a single group for analysis purposes.

4.1.2 Confirmation Sample

The confirmation sample respondents were asked to identify Web sites incidents in which they were particularly satisfied or particularly dissatisfied. In comparison to the classification sample, instructions were also modified to require a minimum level of detail as well as several additional measures. The mean (std dev) age was 20.8 (4.2); 61% were male. Web familiarity was generally high (Table 5).

Respondents generally considered site choice and results to be important (Table 6).

Reported sites covered a wide range of industries (Table 7).

Table 5 Confirmation sample demographics (N=159)

		Frequency	Percent
Gender	Female	61	38.0
	Male	98	62.0
Age	18	4	2.5
	19	39	24.5
	20	77	48.4
	21	22	13.8
	22	6	3.8
	23	2	1.3
	24	2	1.3
	25	2	1.3
	26	1	.6
	27	1	.6
	40	1	.6
	44	1	.6
	49	1	.6
Web Familiarity	2	1	.6
	3	3	1.9
	4	17	10.7
	5	55	34.6
	6	46	28.9
	7	37	23.3

Table 6 Incident context: Perceptual measures

Perceptual Measures	Mean	Std Dev	Min	Max
All Web sites are all alike.	6.08	1.13	2	7
Choosing the particular Web site was an important decision for me.	3.28	1.46	1	7
Getting the results I wanted was critical for me.	2.35	1.40	1	7

1=Strongly agree, 7=Strongly Disagree

Table 7 Incident context: Web site type

Web Site Type	Frequency	Percent	Dissatisfaction incidents	
Airlines	1	.6%	0	-----
Auction	8	5.0%	1	12.5%
Auto	6	3.8%	1	16.7%
Books/Media	22	13.8%	5	22.7%
Clothing	13	8.2%	3	23.1%
Computers	7	4.4%	1	14.3%
Food/Drug	1	.6%	0	-----
Home/Garden	1	.6%	1	100.0%
Info/Search	38	23.9%	10	26.3%
Insurance	1	.6%	1	100.0%
News	22	13.8%	2	9.1%
Novelty/Hobby	10	6.3%	2	20.0%
Pets	2	1.3%	1	50.0%
Reservations	12	7.5%	6	50.0%
Shopping agent	5	3.1%	0	-----
Sporting/outdoors	10	6.3%	1	10.0%
Total	159	100.0%	35	100.0%

The confirmation sample added 273 thought expressions. Nonparametric tests were used to assess differences in the average number of expressions per report and the percentage of dissatisfaction incidents between the classification and confirmation samples. In terms of thoughts per report, the confirmation sample was not significantly different than the classification sample (Mann-Whitney U=19,345; p=.091). The confirmation sample did however contain significantly lower percentage of dissatisfaction reports (U=16,280; p<.001) than did the confirmation sample (22% vs. 45%).

The confirmation reports' descriptions were also examined to determine the contexts in which these incidents occurred. The reports were assessed to determine if the incident described was associated with the respondent's first visit to the site (e.g., adoption vs. reuse). Phrases such as "a friend suggested that I try …" and "I read about this site called …" were used to determine initial visit. Fifty-nine (37%) of

the reported incidents were initial visits, while the rest were either non-initial or could not be determined from the report. The number of initial visits for satisfaction (46 or 37% of satisfaction incidents) did not differ significantly from the number initial visit s for dissatisfaction incidents (12 or 36% of dissatisfaction incidents) (U = 5942, p=.671).

4.2 Dissatisfaction Incident Categories

As a starting point to category development, the three-factor classification system (information, system, and service quality) suggested by Pitt, Watson, and Kavan (1995) was employed. This framework extends the IS success model (DeLone and McLean, 1992), which itself has been successfully used to group quality factors studied in previous IS research. Categories used by Web site rating services were also used to help further define these categories (www.2ask.com, 2000; www.Gomez.com, 2000; www.ratingWonders.com, 2000; www.webbyawards.com, 2000; www.webratings.net, 2000). Analysis of the classification sample suggested a number of additional categories. The final categories include pre-session, during session, and after-session factors.

4.2.1 Pre-session

Several descriptions contained evaluations based on impressions generated prior to site use. For example, a Web site's name generates certain impressions about the site's overall content, whether it is a descriptive noun or phrase or a proper noun such as the name of the physical store. In some cases, impressions are generated by virtue of being a Web site or a retail format. Examples within this category include:

URL/site Name Purpose Alignment – URL/site Name Purpose Alignment denotes evaluations of the site based purely on the impressions given by either the spelling of the URL or the name of the site. For example, well-known cases such as www.whitehouse.com and the now defunct www.nasa.com give the unwitting user the impression that the site contains material related to and sanctioned by the these government institutions (Pelline and Macavinta, 1997).

Tie-in with other media formats – Tie-in with other media formats reflects emotions evoked by a site's ability to serve as an extension to another media (newspaper, television, and radio) or format (catalog and store).

Format comparison – Format comparison refers to cases where the site is evaluated on characteristics typically associated with other retail formats but not actually characteristics of the site such as product price. It also includes statements that are made relative to another site or group of sites – for example, "Able to do the same functions as Site X."

4.2.2 Session

This group contains the more traditional characteristics of information systems related to its information quality, system quality, or service quality. Although pre-use expectations are possible, final judgments in this group are formed on the basis of actual interaction with the Web site.

Information: Online Content – Content is the information provided on the site. Good content exhibits such characteristics as be engaging, relevant, accurate, useful, and appropriate for the audience.

Information: Visual Design – Visual design is the appearance of the site. Good visual design includes effective use of graphics, colors, and fonts to render a pleasing appearance.

System: Structure and Navigation – Structure and navigation refers to the organization of information on the site and the method in which you move through sections. Sites with good structure and navigation are consistent and effective.

System: Functionality – Functionality is the use of technology on the site. Good functionality means the site loads quickly, has live links, and any new technology used is functional and relevant for the intended audience. The site should work cross-platform and be browser independent.

System: Information Policy – Information policy is the way a site allows the user to do something. Friend information policy allows the user to give and receive. It's input/ouput (as in searches), chat rooms, as well as restrictions placed on certain information.

4.2.3 After Session

This group contains incidents associated with events that either occur after a Web session and involve the Web site's primary purpose(s) or features outside but supportive of the Web site's primary purpose(s).

After session/customer service – After session/customer service includes such aspects as return policy, dispute resolution processes, and service recovery. It also captures the ability of the customer to interact with customer service features built into the Web site such as FAQs, email links to customer service, etc. Finally, this category includes evaluations based on the characteristics of the delivered product (clothing, music, etc.) or service (cruise, flight, etc.), delivery promptness, etc.

Email/system contact – Email/system contact refers to system aspects tangentially related to the actual Web site such as email updates and order tracking.

The addition of the confirmation sample however, did not result in any additional categories indicating the completeness of the previously derived categories. Because of the low frequency counts for the tie-in with other media formats and the URL purpose-content alignment categories, these two groups were combined into a single group labeled pre-session resulting in 9 distinct groups. Sample incidents are provided in Table 8 through Table 11.

Table 8 Pre-session category sample incidents

	Incident	
	Satisfactory	Unsatisfactory
	"I liked the site because I don't like being hassled by sales people."	"I thought it would save time. I realized that finding a map in my home and doing the calculations by hand (would be faster)"
	"A few weeks ago I was looking for a specific project that Martha (Stewart) had done on one of her shows."	"When I started clicking on related subjects, some obscene pictures came onto the screen. I exited the Web site and have not gone back to it since."

Table 9 Session (system) category sample incidents

	Incident	
	Satisfactory	Unsatisfactory
Functionality (technology)	"As soon as I put in a search for the book, I got immediate answers."	"But during the whole time I was on OASIS, the system stalled a numerous amount of times. I had to hit keys a couple of times for the screen to go where I wanted."
Information policy	"I came onto the CNN Web site, wich (sic) enables you to customize the news you are interested in, find out about related stories, and read previous stories …"	"I came to find out that you had to give them your credit card # first in order for them to give you a price and also once you've booked it that's it … "
Structure and navigation	"As soon as I signed on I was immediately impressed by the layout of the site. Links were clearly marked with bold text, while some even matched pictures of the item."	"I had to go through the UGA homepage to connect, whereas before I had the specific page I was looking for bookmarked. Now it wouldn't connect."

Table 10 Session (information) category sample incidents

	Incident	
	Satisfactory	Unsatisfactory
Online content	"The Web site offered a comprehensive music video database as well as music database."	"I found absolutely no information other than a definition."
Visual	"… and the Web site was colorful and interesting."	"I don't like the way the Web site is designed. It looks bland and drab …"

Table 11 Post-session category sample incidents

	Incident	
	Satisfactory	Unsatisfactory
After session/customer service	"They didn't stock a particular CD I was looking for, so I emailed the help manager with the name and title of the CD. He contacted me within the week and quoted me a reasonable price for the CD."	"Unfortunately though, I need to return the tickets and found it extremely frustrating. I am still not sure whether or not I own them or they were refunded."
Email/system contact	"I received a confirmation email invoice and a follow-up email. The purpose of the email was to assure me that my order was coming but was taking some extra time."	"… and since then I have gotten at least one email per week from them, which is annoying."

4.3 Consumer Communication Categories

The confirmation sample was also used to classify consumer communications in accordance with Singh (1990) and to see how the distribution of these responses compares with other media. These are public, voice, and private. Voice includes positive word of mouth recommendations and negative word of mouth warnings or criticisms to friends and family. Public actions include seeking redress or legal action through public forums such as news media or consumer organizations such as the Better Business Bureau. Private actions include the remaining consumer actions that are less visible in nature (Singh, 1990).

After developing a hierarchy for each category, multiple responses were still obtained for the private category. To solve this problem, the private category as divided into two sets: one reflecting changes in patronage intentions (patronage) while the other expresses willingness to endorse or warn others (friends). The result

is four mutually exclusive categories (Table 12). Because of the overlap with repatronage intentions, only three of these categories are considered further. Surprisingly, examples of public action (correspondence with public media, consumer bureaus, or legal authorities) were virtually nonexistent in this sample.

Table 12 Consumer responses by category

	Frequency	Percent
Public		
Nothing	158	99.4
Advertised Support	1	.6
Total	159	100.0
Private (repatronage)		
Revisited/Purchased	21	13.2
Bookmarked/Homepaged	20	12.6
Nothing	107	67.3
Discontinued/Switched	11	6.9
Total	159	100.0
Private (friends)		
Nothing	103	64.8
Told Friend(s)	55	34.6
Advertised Support	1	.6
Total	159	100.0
Voice		
Nothing	150	94.3
Contacted/Registered with Firm	9	5.7
Total	159	100.0

Telling a friend was the most frequently suggested response (34.6%). This includes traditional communication paths as well as email. Among Web-unique responses are bookmarking (setting up an association with the site within the Web browser that eliminates the need to retype the URL) and “homepaging” (setting up a browser so the page is the first to appear after logging on), which together

constituted 20 (12.6%) of the sample. In all three categories, doing nothing represented the largest of consumer response behavior

4.4 Reliability and Validity

As suggested by Hunt (1983), rigorous classification systems should also be "intersubjectively unambiguous," as measured by interjudge reliability, which assesses whether different judges classify the same phenomena into the same categories. After developing a category scheme, two judges sorted the incidents into the developed categories and created new categories if appropriate. Interjudge reliabilities above .80 are considered satisfactory (Bitner, et al., 1990). Interrater reliability was .84, demonstrating adequate reliability. Consumer response behaviors made use of an existing topology (e.g., Singh (1990)) with previously assessed reliability.

Multiple reports of the same incident (by different respondents) also lend credence to the validity of the report. These were observed in both the incidents and consumer communications. At the category level, the use of a validation (confirmation) sample allowed for a test of the adequacy of the derived categories. For both the incident and response behaviors, the confirmation sample did not generate any new categories.

4.5 Analysis

Two viewpoints on analysis have been advanced. Landman and Petty (2000) argue that because the first statement listed represents the most available thought in the minds of the participants, that only the first statement should be included for analysis. Thus, in this technique, there is a one-to-one correspondence between

reports and thoughts. Conversely, Keaveney (1995) defines critical incidents as the sum consumer experience and thus composed of one or more unique behaviors. Therefore, each relationship involving frequency data was tested twice – once using initial thought only (referred to here as "initial incidents") and by all listed thought (referred to here as "all incidents").

Because an evaluation is the result of interaction between individual, task, and technology (the Web) (Goodhue and Thompson, 1995), a primary concern is whether technology evaluations are simply the result of certain individual or task traits rather than incidents related to the technology itself. The following sections address individual (4.5.1), task (4.5.2), and then finally Web site traits (4.5.3) impacts on dissatisfaction.

4.5.1 Individual characteristics: Are they just whiners?

The possibility exists that dissatisfaction may simply be the result of some hypersensitivity on the individual's part. Individuals may differ in their attitude toward complaining and thus for similar situations, some may voice frustrations that others find insignificant. A reasonable question might be whether dissatisfaction incidents are a function of propensity to complain. Seven measures taken from previous marketing research (Singh, 1989) were used to assess complaining attitudes. t tests were performed to determine if the satisfaction and dissatisfaction groups differed in term of group means. Significant differences indicate that the particular individual differences in the group means (Table 13). Overall, both the satisfaction and dissatisfaction groups were quite similar. Of these individual differences variables, only the individual's sense of responsibility to report problems differed significantly between the two groups.

Table 13 Predictor variables means as a function of satisfaction level

Predictor variable	Dissatisfaction (N=35)		Satisfaction (N=124)			
	Mean	Std Dev	Mean	Std Dev	t	p
Age	20.9	3.0	20.8	4.9	.58	n.s.
Q02 By complaining about defective products, I may prevent other consumers from experiencing the same problem.	3.0	1.3	2.9	1.3	.52	n.s.
Q03 By making complaints about unsatisfactory products, in the long run, the quality of product will improve.	3.2	1.4	3.0	1.3	1.00	n.s.
QO9 I don't like people who complain in stores, because usually their complaints are unreasonable.	4.7	1.5	4.6	1.5	.25	n.s.
Q11 I often complain when I'm dissatisfied with businesses or products because I feel it is my duty to do so.	4.0	1.7	4.0	1.4	.03	n.s.
Q22 It bothers me quite a bit if I don't complain about an unsatisfactory product	4.5	1.7	4.4	1.4	.52	n.s.
Q23 It sometimes feels good to get my dissatisfaction and frustration with a product off my chest by complaining.	3.5	1.6	3.7	1.5	.62	n.s.
Q28 People are bound to end up with unsatisfactory products once in a while, so they should not complain.	4.7	1.3	4.8	1.4	.11	n.s.
Q29 People have a responsibility to tell stores when a product they purchase is defective.	2.3	1.2	2.9	1.6	2.5	.04

4.5.2 Task characteristics: Is it what they do or how they do it?

This study examined satisfaction and dissatisfaction factors in two consumer contexts: information search and purchase tasks. The distribution of the incidents is reported in (Table 14). Of particular interest is whether dissatisfaction is associated to one task more than the other. Chi square tests of independence were performed to see if there is a relationship between satisfaction level (satisfaction vs. dissatisfaction) and task type (purchase vs. information search). A significant test statistic indicates that row and column variable are not independent. That is, knowledge of the level of one variable in part predicts the level of the second variable. Comparisons of satisfaction level and visit intention) using both the first incident ($\chi^2(1) = .066$; p=0.798) and the entire report ($\chi^2(1) = .484$; p=0.487) were nonsignificant, indicating no relationship between satisfaction level and task type. This suggests that dissatisfaction is no more (less) likely to occur when examining purchase tasks than information search tasks.

Table 14 Incident breakdown by task

	Information Search	Purchase	Total
After Session	10	43	53
Email/system contact	0	15	15
Functionality (technology)	87	29	116
Information policy	54	23	77
Online content	147	51	198
Presession	11	26	37
Structure and navigation	110	80	190
Visual	9	5	14
Total	428	272	700

Table 15 Satisfaction level as a function of visit intentions (initial incidents)

	Information Search	Purchase	Total
Dissatisfaction	67	44	111
Satisfaction	166	108	263
Total	222	152	374

$\chi^2(1) = .484$; p=0.487

Table 16 Satisfaction level as a function of visit intentions (all incidents)

	Information Search	Purchase	Total
Dissatisfaction	151	89	240
Satisfaction	277	183	460
Total	428	272	700

$\chi^2(1) = .066$; p=0.798

4.5.3 Technology characteristics: What's wrong with the Web?

Proposition 1 suggests that the events that lead to dissatisfying Web site service encounters differ from those leading to satisfaction. A chi square test for independence between satisfaction level and coded incident category was also performed. Again, significant results indicate that knowledge of one category in part explains results in the second. In our case, these tests specifically assess whether certain coded incident categories are more (less) likely to be recalled in a dissatisfaction context. Support was found for both the initial incident level ($\chi^2(7) =$ 54.8l; p<. 001) (Table 17) and the total report levels ($\chi^2(7) = 87.5$; p<.001) (Table 18).

Significance levels for individual cells can be obtained via examination of standardized or adjusted standardized residuals (Sheskin, 1997). These values are assumed to be normally distributed and thus can be interpreted using the z statistic (i.e., $z_{.10}$=1.67, $z_{.05}$=1.96, $z_{.01}$=2.58, etc.). Positive standardized residuals indicate observations in excess of expected values, negative standardized residuals the opposite. Thus, the higher than expected frequencies for dissatisfaction suggest that functionality/technology and after-session customer service may act as dissatisfiers, while lower than expected frequencies for dissatisfaction structure and navigation and online information are satisfiers. The remaining category differences were

nonsignificant. Note that the satisfier categories closely match the ease of use and usefulness (respectively) frequently cited in the literature.

Table 17 Incident categories as a function of satisfaction level (initial incident)

Incident subtype	Dissatisfaction	Satisfaction	Total	Adjusted standardized residual	
After Session	13	13	26	2.4	**
Email/system contact	3	2	5	1.5	
Functionality (technology)	38	21	59	6.4	***
Information policy	10	30	40	-0.7	
Online content	20	78	98	-2.3	**
Pre-session	4	16	20	-1.0	
Structure and navigation	22	96	118	-3.2	***
Visual	1	7	8	-1.1	
Total	111	263	374		

** p< .05; *** p< .01
$\chi^2(7) = 54.8l$; p<. 001

Table 18 Incident categories as a function of satisfaction level (all incidents)

Incident subtype	Dissatisfaction	Satisfaction	Total	Adjusted standardized residual	
After Session	28	25	53	3.0	***
Email/system contact	7	8	15	1.0	
Functionality (technology)	77	39	116	8.0	***
Information policy	26	51	77	-0.1	
Online content	49	149	198	-3.3	***
Pre-session	11	26	37	-0.6	
Structure and navigation	39	151	190	-4.7	***
Visual	3	11	14	-1.0	
Total	240	460	700		

** p< .05; *** p< .01
$\chi^2(7) = 87.5$; p<.001

4.6 Discussion

The results of this phase suggest that a separate examination of dissatisfaction may be warranted. The salience of factors appears to differ depending on whether satisfaction or dissatisfaction is being recalled. Figure 1 lists the incidents in descending order of percentage of dissatisfaction incidents. Functionality/technology and after-session customer service bear a strong relationship with dissatisfaction, while structure and navigation and online information adhere to the traditional satisfaction notion.

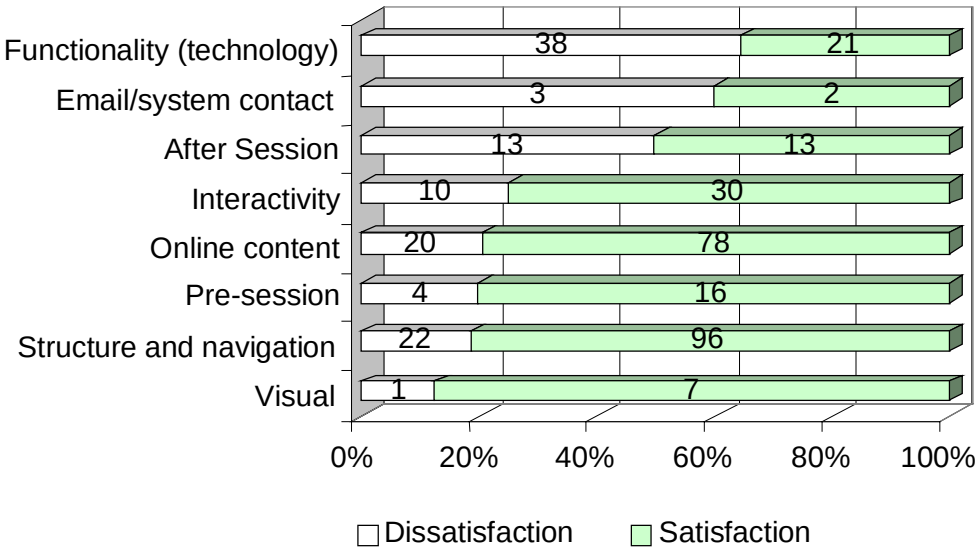

Figure 9 Response distributions by incident category

These factors also appear to have somewhat different effects on outcome variables of interest. In this initial test, incidents were grouped by satisfaction level (either satisfaction or dissatisfaction). Rather than pooling responses by similar levels of affect only, a truer test of symmetry necessitates that respondent data also

be grouped by similar incident categories. The verification phase reports the results of a more systematic examination of this symmetry.

CHAPTER 5 RESEARCH DESIGN – VERIFICATION PHASE

In the identification phase, data were gathered from actual consumer experiences to develop a list of satisfiers and dissatisfies experienced while interacting with an actual Web site. These incidents formed the basis for the creation of realistic scenarios that could be tested under more controlled conditions. The objective of this phase is to address propositions 2 and 3 two by examining the specific relationships between dissatisfaction and the outcome variables under study (repatronage intentions and consumer communications). Scenarios describing specific incidents were used to examine these differences.

Research Approach

This phase of the research addresses propositions 2 and 3 by seeking to quantify the impact of dissatisfaction incidents on repatronage intentions and consumer communications. Data collected in the identification phase yielded evidence of which factors are associated with dissatisfaction in terms of consumer recall, that is, *retrospective* evaluations. To further examine whether these same factors also bear unique relationships with the outcome variables in *perspective* evaluations, additional tests are required.

Two potential approaches for examining the links between types of problems and dissatisfaction responses are studies involving recall of past experiences and those that make use of hypothetical problems to examine reactions (Levesque and McDougall, 1996). While the former preserves context to some degree, the latter approach affords the manipulation of specific dissatisfying experiences. In order to

ensure that the outcome variables can be examined with respect to both positive and negative disconfirmations, manipulation is necessary thus favoring the hypothetical problems approach.

5.1.1 Experimental Design and Scenarios

Within the experimental paradigm, three potential methods are available for testing expectancy disconfirmation based on whether expectations, perceived performance, or both are central (Shefferstein, et al., 1999). In **blind tests**, the focus is on perceived performance. Judgments are formed by having the participant evaluate unidentified attitude objects. In this way, expectations based on past experience are removed. **Branded tests** use pictures, packages, or other representations along with physical descriptions of these attitude objects. Thus, judgments are formed by expectations based on the brand descriptions and indirectly through any past experience (perceived performance) with each item. **Expectation tests** include no physical representations of the items but instead only written descriptions. In this way, these tests can be constructed to remove the influence of perceived performance (based on past experience) as well as expectations based on visual impressions. As a result, the focus is mainly on expectations, particularly when the attributes are primarily active (e.g., are forecast in advance) in nature (Oliver and Winer, 1987).

In this design, expectation tests using Web scenarios modeled from incidents from the identification phase are used. Scenarios have been extensively used in similar research in the marketing domain (e.g., Gail and Lucey, 1995; Sirgy, et al., 1997; Smith, et al., 1999; Webster and Sundaram, 1998) and to a much lesser extent IS research (Gattiker and Kelley, 1999; Satzinger, 1993-94; Satzinger and Olfman,

1995). The advantage of the scenario method is that it eliminates difficulties associated with observation or enactment of incidents in the field (Smith, et al., 1999). Furthermore, the use of scenarios reduces biases from memory lapses, rationalization tendencies, and consistency factors, which are common in results based on retrospective self-reports (Smith, et al., 1999, p362).

5.1.2 Scenario Development

The objective in designing scenarios was to capture representative problems that Web consumers might encounter. To this end, the descriptions were based on specific statements collected in the exploratory and identification phases. Four major problem categories were identified in the identification phase: functionality/technology and after-session customer service (dissatisfiers) and structure and navigation and online information (satisfiers).

A total of 18 scenarios (including the aforementioned) were selected. Each of these incidents was further described at two levels: favorable level (positive disconfirmation) and unfavorable level (negative disconfirmation). Positive disconfirmations suggest situations in which the respondent does not have any reason to be dissatisfied concerned the dimension, while negative confirmations imply cases where the category performance falls short of expectations.

After writing, the scenarios were pilot tested to ensure the clarity of the wording and the reliability of the disconfirmation. That is, negative disconfirmations are associated with dissatisfaction and positive disconfirmations with satisfaction (described in the Appendix). Eight pairs were selected for the final design to ensure that the instrument could be completed in a reasonable amount of time (Table 19).

Table 19 Experimental design

Incident type	ID	Positive Disconfirmation	Negative disconfirmation
Technology	T_A	Consistently problem-free	Faulty server
	T_C	Quick response by server	No response after a link is selected
After-session customer service	A_A	Clear pricing information	Unexplained charges
	A_B	Reasonable delivery time	Extended and unspecified delivery time
Online information	O_A	Extremely informative content	Many information omissions
	O_C	Clear and frequent content updates	Unclear and infrequent content updates
Navigation and Structure	N_B	Well laid-out	Poorly laid-out
	N_D	Site is mainly complete	Site mainly "under construction"

5.2 Data Collection

Participants were presented with scenarios via surveys.

5.2.1 Unit of Analysis

The unit of analysis for this phase is the individual, each analyzed on the responses to the 8 incidents pairs.

5.2.2 Task

The main task of the respondents was to evaluate several scenarios that described Web site incidents (see Table 19).

5.2.3 Procedures

Each participant read 8 randomly ordered incident pair descriptions of a Web-based incident. Following each scenario, respondents were asked to indicate the extent to which this incident would affect: 1) repatronage intentions and 2) consumer communications. Finally, data on various demographics and other measures were collected.

5.2.4 Participants

Both phases draw from the same population (see section 3.2.4).

5.2.5 Sample Size

Gardner (2001) reviews several recommendations for multiple regressions sample size (N). In each case, the required sample size is a function of the number of predictor variables (p). With increasing ratios of N/p, statistical results become more stable. Adequate sample size ranges from 15 to 30 times the number of predictors. Thus, with the five main variables (see 5.2.6), a minimum sample size between 75 (5*15) and 150 (5*30) is required.

5.2.6 Measures

Independent and dependent, measures are taken from existing research. Both independent and dependent variables are single-item measures. The single-item measure was made in order to keep the survey length at an acceptable size but admittedly, could have validity impacts. The use of single-item measures, however, has considerable precedent in large-scale satisfaction studies (Hoffman and Novak,

1996; Kekre, et al., 1995) and has also been shown to demonstrate acceptable test/retest reliability (.55 to .84) (Yi, 1990).

The principle independent measure is disconfirmation, the degree to which an experience agrees with expectations disconfirmation (Oliver, et al., 1994). Scale anchors for disconfirmation are from “much worse than expected” (1) to “much better than expected” (7). To distinguish positive and negative disconfirmation incidents, a dummy variable representing positive and negative disconfirmation (values 1 and 0 respectively) was also included.

Two variables, stability and controllability, were used to quantify incident attribution. Incidents perceived as accidents are interpreted differently than those that result from intentional design or service features (Blodgett, et al., 1993). The stability item assessed whether the respondent thought this type of incident happened all of the time at the described Web site. The controllability item asked whether the incident was believed to be within the site’s control, using anchors “strongly agree” (1) to “strongly agree” (7). Finally, two measures, gender and Web experience levels, were also included as covariates to account for individual differences Gender was coded as either a 0 (male) or 1 (female), Web experience level was measured on a seven-point scale using anchors “not familiar” (1) to “very familiar” (7).

Outcome measures were derived from context specific modifications of existing measures. Consumer communications were derived from Singh (1990), except for two major differences. First, switching and repatronage intentions were removed because of their obvious overlap with repatronage intentions. Second, rather than scales, these were conceptualized as dichotomous choices similar to Levesque (1996). The first level consists of 1) some form of consumer communication and 2) no

consumer communication; the second level (assuming action was taken) consists of 1) voice (contacting the company) and 2) non-voice (contacting friends or a third party). In each case, action and no action were modeled as 1 and 0 respectively. Repatronage intentions were assessed on a probability scale ranging from 0 (definitely not return) to 100 (definitely return).

5.3 Data Analysis and Interpretation

Data for each incident pair were analyzed using multiple regression analyses. Dummy variable coding will be used to identify negative and positive incidents data points in order to verify asymmetric behavior with respect to repatronage intentions. Repatronage intentions were regressed on disconfirmation level and using the dummy coded incident type representing positive or negative incidents. Incident categories where positive and negative incidents behave as mirror images with respect to neutral evaluations should lead to insignificant results for incident type coefficients and interaction terms. For consumer communications, incidents were analyzed using logistic regression with the same independent variables included in estimating repatronage intentions.

5.4 Summary

An experimental approach has been outlined using scenarios. This approach allows for more careful control over disconfirmations as well precise balance between the number of dissatisfaction and satisfaction incidents.

CHAPTER 6 RESULTS – VERIFICATION PHASE

The following section reports the results of the first and second rounds of data collection. Results of the first round (n=18) are detailed in APPENDIX D: Pilot study. Based on the success of these results, another 178 surveys were distributed. Results of the combined sample are reported here. Propositions 2 and 3 are concerned with the relationship between (dis)satisfaction factors and two outcomes – repatronage intentions and consumer communications. Multivariate analysis of covariance (MANCOVA) and logistic regression were used to analyze repatronage intentions and consumer communications respectively. Many of the tested factors displayed asymmetric behavior with respect to the tested outcomes. Furthermore, negative disconfirmations generated more instances of consumer communications than similar positive disconfirmations for all of the tested incidents in dissatisfier group.

Sample

In this phase, 196 surveys were completed as extra credit assignments at three major universities. Of these surveys, 2 (1.0%) were excluded due to missing data. Demographics for the remaining 194 participants are given in Table 20, Table 21, and Table 22. The mean (std dev) age was 23.3 (5.1) years and 112 (60.8%) were male. All were at least college-level juniors. Experience levels were generally high: 6.3 for familiarity with the Web and 6.5 for frequency of use. Both items were measured on a seven-point scale, with familiarity ranging from not familiar (low) to

very familiar (high) and frequency of use ranging from never (low) to very often (high).

Table 20 Sample demographics (gender and age)

Age			Gender		
20-24	161	83.0%	Female	77	39.7%
25-29	19	9.8%	Male	117	60.3%
30-34	7	3.6%			
35-39	1	0.5%			
40-44	2	1.0%			
45-49	1	0.5%			
50-54	3	1.5%			
Mean (std dev)	23.3 (5.1)				

Table 21 Sample demographics (Web use and education level)

Time spent on the Web daily (minutes)			Highest level of education completed		
Less than 60	56	28.9%	Some college	132	68.0%
60 to 119	74	38.1%	College	56	28.9%
120 to 179	36	18.6%	Graduate degree	6	3.1%
180 to 239	17	8.8%			
240 or greater	11	5.7%			
Mean (std dev)	96.9 (88.0)				

Table 22 Sample demographics (Self-assessed Web experience level)

	Min	Max	Mean	Std. Dev
Self-assessed familiarity	4	7	6.3	0.8
Self-assessed frequency of use	1	7	6.5	0.9

6.1 Manipulation Check

Comparisons were conducted to ensure the adequacy of the disconfirmation manipulation. That is, for each of the incident pairs, participants understood and rated the positive incident as being more favorable than expected and the

corresponding negative incident as being less favorable than expected. Several incidents that were assessed as being service failures in the previous phase were selected and corresponding service "non-failures" were created. In this phase, a disconfirmation question was included to assess the relative ratings of the pairs.

The disconfirmation item asked respondents to evaluate the described incident on a seven-point scale anchored with better than expected (1) and worse than expected (7). Paired samples t-tests were conducted to compare the mean positive incident and negative incident disconfirmation scores. Table 23 reports the mean difference in scores for each of these incident pairs. All eight pairs were significant at the $p < .001$ level, confirming that the manipulations had both the intended effect and direction.

Table 23 Manipulation checks for disconfirmation

Incident	Mean difference (s.d)	df	t	
Charges	4.7 (1.4)	191	46.4	***
Delivery time	3.3 (1.5)	193	30.6	***
Server reliability	4.3 (1.4)	193	44.3	***
Response time	4.4 (1.3)	193	47.0	***
Layout	3.9 (1.3)	193	40.9	***
Completeness	3.0 (1.6)	191	25.7	***
Informativeness	4.0 (1.5)	193	37.4	***
Updates	3.0 (1.4)	192	30.6	***

*** Significant at the $p < 0.001$ level

6.2 Repatronage Intentions

Proposition 2 asserts that there are asymmetric differences in repatronage intentions associated with satisfaction and dissatisfaction. As noted earlier, the identification phase suggested two categories as being associated chiefly with dissatisfaction (functionality/technology and after-session support/customer service) and two with satisfaction (structure and navigation and online information). In this

phase, positive and negative incidents are examined for their symmetry. Incident means (standard deviation) are reported in Table 24. While repatronage means varied little across incidents for positive disconfirmation, negative disconfirmation resulted in a substantial range of repatronage intention probabilities.

Table 24 Repatronage intention means (standard deviations)

Incident	Negative Disconfirmation	Positive Disconfirmation
Charges	9.69 (15.45)	87.78 (16.28)
Delivery Time	42.94 (25.17)	86.44 (15.21)
Server Reliability	27.37 (20.76)	87.11 (17.27)
Response Time	25.49 (21.33)	87.27 (15.38)
Layout	21.24 (18.51)	83.92 (16.92)
Completeness	40.62 (24.61)	84.58 (17.06)
Informativeness	27.78 (22.02)	88.71 (16.51)
Updates	35.75 (22.58)	83.47 (17.67)

Proposition 2 is tested by analyzing the incident pairs as single continuum. Two potential models are tested. The symmetric model (model 1), assumes a linear relationship between repatronage disconfirmation level (DISC), stability (STAB), controllability (CONT), gender (GENDER), and self-assessed Web experience level (FAM). In the asymmetry model (model 2), model 1 is augmented by a dummy variable used to distinguish negative and positive incident data points (herein referred to as TYPE) as well as an interaction term TYPExDISC. Thus,

Model 1 (symmetric incidents):

$$\text{Repatronage intentions} = b_0 + b_1*\text{STAB} + b_2*\text{CONT} + b_3*\text{FAM} + b_4*\text{GENDER} + b_5*\text{DISC}$$

Model 2 (asymmetric incidents):

$$\text{Repatronage intentions} = b_0 + b_1 * \text{STAB} + b_2 * \text{CONT} + b_3 * \text{FAM} + b_4 * \text{GENDER} + b_5 * \text{DISC} + b_6 * \text{TYPE} + b_7 * \text{TYPE}_x \text{DISC}$$

where:

STAB	Stability
CONT	Controllability
FAM	Self-assessed Web familiarity
GENDER	Gender
DISC	Disconfirmation
TYPE	Disconfirmation type (positive or negative)

Asymmetry may be evidenced in one of two ways. A significant TYPE coefficient (b_6) is indicative of differences in intercepts (i.e., a parallel two line solution) while a significant TYPExDISC interaction term coefficient (b_7) indicates differing slopes in between negative disconfirmation-repatronage relationship and the positive disconfirmation-repatronage intention relationship (i.e., a two intersecting line solution assuming both lines are projected to the point with the y-axis). Graphically, this would appear as a plot similarly to Figure 10.

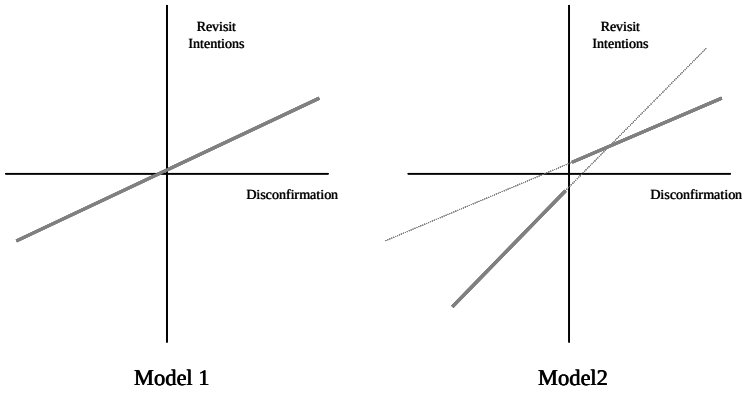

Figure 10 Hypothetical examples of models 1 and 2 for repatronage intentions

A multivariate analysis of covariance (MANCOVA) was conducted with repatronage intentions as the dependent variable and Web experience level (FAM) and gender covariates. Based on significant MANCOVA results (Table 25), univariate tests were conducted (Table 26 and Table 27). The test results, in part, support proposition 2. All four of the dissatisfiers exhibitied some form of asymmetry indicating that the two line solution provided a better fit than the single line solution (Table 26). Furthermore, 3 of the four dissatisfiers had significant and negative interactions coefficients consistent with Figure 10 suggesting that the negative disconfirmation portion of the curve has a steeper slope than the positive disconfirmation portion. Interestingly, two of these factors (deliver time and response time) are both related to various forms of waiting time.

A two-line solution also proved appropriate for the 2 satisfiers related to appearance - layout and completeness (Table 27). Both incidents had an interaction term with the the same sign of the dissatisfier interaction terms suggestive of a stronger relationship (slope) between repatronage intentions and negative disconfirmation than between repatronage intentions and positive disconfirmation.

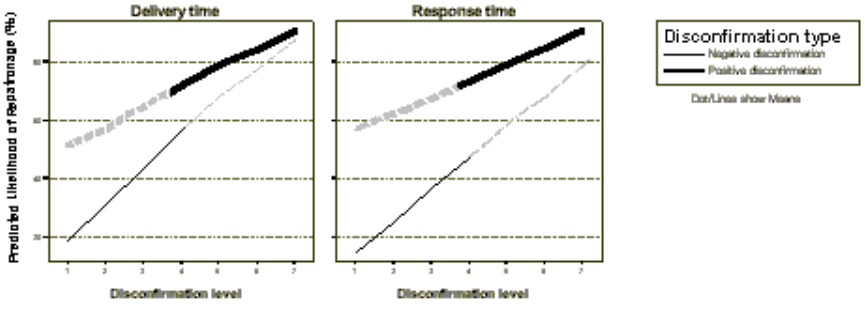

Figure 11 Time-related asymmetric dissatisfiers

Table 25 Multivariate test results

Effect	Test Statistic	Value	F	Hyp. df	Error df	Sig.
INTENTIONS	Pillai's Trace	0.0082	4.5058	7	3794	0.00005
	Wilks' Lambda	0.9918	4.5058	7	3794	0.00005
	Hotelling's Trace	0.0083	4.5058	7	3794	0.00005
INTENTIONS * TYPE	Pillai's Trace	0.0356	20.0286	7	3794	0.00000
	Wilks' Lambda	0.9644	20.0286	7	3794	0.00000
	Hotelling's Trace	0.0370	20.0286	7	3794	0.00000
INTENTIONS * GENDER	Pillai's Trace	0.0120	6.6081	7	3794	0.00000
	Wilks' Lambda	0.9880	6.6081	7	3794	0.00000
	Hotelling's Trace	0.0122	6.6081	7	3794	0.00000
INTENTIONS * DISC	Pillai's Trace	0.0095	5.2219	7	3794	0.00001
	Wilks' Lambda	0.9905	5.2219	7	3794	0.00001
	Hotelling's Trace	0.0096	5.2219	7	3794	0.00001
INTENTIONS * STAB	Pillai's Trace	0.0080	4.3763	7	3794	0.00008
	Wilks' Lambda	0.9920	4.3763	7	3794	0.00008
	Hotelling's Trace	0.0081	4.3763	7	3794	0.00008
INTENTIONS * CONT	Pillai's Trace	0.0031	1.6698	7	3794	0.11164
	Wilks' Lambda	0.9969	1.6698	7	3794	0.11164
	Hotelling's Trace	0.0031	1.6698	7	3794	0.11164
INTENTIONS * FAMI	Pillai's Trace	0.0106	5.7989	7	3794	0.00000
	Wilks' Lambda	0.9894	5.7989	7	3794	0.00000
	Hotelling's Trace	0.0107	5.7989	7	3794	0.00000
INTENTIONS * TYPE * DISC	Pillai's Trace	0.0056	3.0368	7	3794	0.00347
	Wilks' Lambda	0.9944	3.0368	7	3794	0.00347
	Hotelling's Trace	0.0056	3.0368	7	3794	0.00347

Table 26 Coefficient estimates for repatronage intentions (dissatisfiers)

Dependent Variable	Parameter	B	Std. Error	t	Sig.
Server Reliability	**Intercept**	**20.551**	**3.657**	**5.619**	**0.0000**
	GENDER	0.389	0.649	0.599	0.5491
	DISC	**1.366**	**0.389**	**3.511**	**0.0005**
	STAB	-0.058	0.260	-0.225	0.8222
	CONT	0.423	0.279	1.513	0.1303
	FAMI	-0.574	0.388	-1.477	0.1399
	TYPE	**68.599**	**2.548**	**26.924**	**0.0000**
	TYPE * DISC	**-1.745**	**0.552**	**-3.161**	**0.0016**
Response Time	**Intercept**	**17.043**	**3.490**	**4.883**	**0.0000**
	GENDER	-0.050	0.620	-0.081	0.9354
	DISC	**1.104**	**0.371**	**2.975**	**0.0029**
	STAB	0.029	0.248	0.115	0.9085
	CONT	0.086	0.266	0.323	0.7470
	FAMI	0.093	0.371	0.252	0.8012
	TYPE	**68.968**	**2.432**	**28.364**	**0.0000**
	TYPE * DISC	**-1.168**	**0.527**	**-2.218**	**0.0266**
Charges	Intercept	-1.074	3.035	-0.354	0.7236
	GENDER	0.381	0.539	0.707	0.4794
	DISC	0.467	0.323	1.446	0.1483
	STAB	0.071	0.216	0.327	0.7437
	CONT	**0.461**	**0.232**	**1.991**	**0.0465**
	FAMI	0.719	0.322	2.231	0.0258
	TYPE	**80.998**	**2.115**	**38.305**	**0.0000**
	TYPE * DISC	-0.408	0.458	-0.890	0.3734
Delivery Time	**Intercept**	**18.898**	**3.964**	**4.767**	**0.0000**
	GENDER	0.899	0.704	1.277	0.2016
	DISC	**1.550**	**0.422**	**3.677**	**0.0002**
	STAB	0.217	0.282	0.771	0.4406
	CONT	0.252	0.303	0.834	0.4044
	FAMI	**1.877**	**0.421**	**4.459**	**0.0000**
	TYPE	**52.907**	**2.762**	**19.158**	**0.0000**
	TYPE * DISC	**-1.642**	**0.598**	**-2.743**	**0.0061**

Reference categories: gender=female, type=dissatisfaction

Table 27 Coefficient estimates for repatronage intentions (satisfiers)

Dependent Variable	Parameter	B	Std. Error	t	Sig.
Informativeness	**Intercept**	**16.044**	**3.701**	**4.335**	**0.0000**
	GENDER	1.057	0.657	1.608	0.1079
	DISC	**0.893**	**0.394**	**2.269**	**0.0233**
	STAB	**0.692**	**0.263**	**2.632**	**0.0085**
	CONT	0.302	0.283	1.069	0.2853
	FAMI	-0.087	0.393	-0.221	0.8253
	TYPE	**66.686**	**2.578**	**25.863**	**0.0000**
	TYPE * DISC	-0.559	0.559	-1.001	0.3170
Update	**Intercept**	**21.366**	**3.858**	**5.538**	**0.0000**
	GENDER	**3.598**	**0.685**	**5.254**	**0.0000**
	DISC	**0.814**	**0.410**	**1.984**	**0.0474**
	STAB	**0.993**	**0.274**	**3.622**	**0.0003**
	CONT	-0.021	0.295	-0.070	0.9443
	FAMI	0.360	0.410	0.879	0.3792
	TYPE	**53.124**	**2.688**	**19.765**	**0.0000**
	TYPE * DISC	-0.712	0.582	-1.222	0.2217
Layout	**Intercept**	**17.539**	**3.405**	**5.151**	**0.0000**
	GENDER	-0.584	0.604	-0.967	0.3337
	DISC	**0.893**	**0.362**	**2.465**	**0.0138**
	STAB	-0.196	0.242	-0.810	0.4180
	CONT	0.406	0.260	1.563	0.1182
	FAMI	-0.418	0.362	-1.154	0.2484
	TYPE	**68.622**	**2.372**	**28.928**	**0.0000**
	TYPE * DISC	**-1.274**	**0.514**	**-2.480**	**0.0132**
Completeness	**Intercept**	**11.919**	**4.009**	**2.973**	**0.0030**
	GENDER	0.723	0.712	1.016	0.3096
	DISC	**3.361**	**0.426**	**7.885**	**0.0000**
	STAB	0.427	0.285	1.499	0.1339
	CONT	**0.994**	**0.306**	**3.249**	**0.0012**
	FAMI	-0.133	0.426	-0.312	0.7552
	TYPE	**64.135**	**2.793**	**22.965**	**0.0000**
	TYPE * DISC	**-2.871**	**0.605**	**-4.744**	**0.0000**

Reference categories: gender=female, type=dissatisfaction

6.3 Consumer Communications

Consumer communication resulting from negative disconfirmation and positive disconfirmation were both examined. As a group, dissatisfiers were mentioned most often in the case of negative disconfirmation (Table 28). Table 29 gives the breakdown of respondents who reported that they would talk about the incident. By far, the most frequently suggested means of expression was communication with friends. Because of this, the results are nearly identical to those obtained when examining all communication means combined. The less personal avenues (consumer agencies and the Web sites themselves) show somewhat different patterns. As expected, respondents most frequently considered consumer agencies for more serious Web site problems. Finally, Web sites are far more likely to receive negative comments than positive comments regardless of whether a satisfier or dissatisfier is considered.

Table 28 Percentage of reports positively inclined toward any communications form

	Negative Incident		Positive Incident		Relative
	Freq	Percent	Freq	Percent	Frequency
Charges	187	97%	79	41%	+
Delivery time	132	68%	104	54%	+
Server reliability	138	71%	47	24%	+
Response time	110	57%	55	28%	+
Layout	98	51%	50	26%	+
Completeness	51	26%	76	34%	-
Informativeness	68	35%	104	56%	-
Updates	45	23%	56	29%	-

+ positive exceeds negative
- negative exceeds positive

Table 29 Percentage of reports positively inclined toward action by subcategory

	Friends				Consumer Agency				Web site			
	Negative Incident		Positive Incident		Negative Incident		Positive Incident		Negative Incident		Positive Incident	
Charges	184	90%	95	47%	154	79%	10	4%	79	42%	5	2%
Delivery time	114	92%	12	8%	52	27%	6	2%	104	55%	2	1%
Server reliability	130	94%	11	6%	45	22%	6	3%	46	25%	4	2%
Response time	100	91%	7	4%	35	20%	7	8%	55	36%	5	4%
Layout	91	93%	8	3%	31	17%	6	2%	50	38%	3	1%
Completeness	50	98%	6	3%	11	5%	6	2%	76	49%	4	2%
Informativeness	58	85%	7	2%	23	8%	13	5%	107	63%	5	3%
Updates	41	91%	5	3%	16	9%	6	2%	54	47%	3	1%

Proposition 3 asserts that the factors associated with satisfactory and unsatisfactory encounters differ in terms of their respective impact on consumer communications. Unlike repatronage intentions, which increase with increasing *values* of disconfirmation, consumer communications likelihood increases with increasing *magnitudes* of disconfirmation. That is, while typically only positive disconfirmations are positively related to repatronage intentions, both positive and negative disconfirmations are positively related to consumer communications (compliments and complaints respectively). To correct for this difference, the 7-point disconfirmation level scale was converted into a 4-point disconfirmation magnitude level scale (about the neutral value of 4) as shown in Table 30.

Table 30 Disconfirmation magnitudes relationship to disconfirmation level

Disconfirmation Level (DISC)	Disconfirmation Magnitude (DISCMAG)
Much worse than ① 2 3 4 5 6 ⑦ Much better than expected	3
Much worse than 1 ② 3 4 5 ⑥ 7 Much better than expected	2
Much worse than 1 2 ③ 4 ⑤ 6 7 Much better than expected	1
Much worse than 1 2 3 ④ 5 6 7 Much better than expected	0

Logit analysis was selected for analyzing the data. This form of analyis is appropriate for modeling dichotomous dependent variables and can be thought of as a linear model with respect to a logarithmic transformation of the dependent variable such that it expresses probability of occurrence rather than actual values (Liao, 1994). Logistic regression estimates the probability of each categorical response of the dependent variable response (i.e., between 0 and 100%) as a function of the explanatory variables. In logit models, exponentiating the explanatory variable coefficients B_i (i.e., $Exp(B_i)$) gives the expected change in the odds of having an event occurring versus not occurring, per unit change of the explanatory variable, other things being equal (Liao, 1994). Using this "odds ratio", the impact of the different states of each explanatory variable can be independently assessed in a manner similar to the standardized coefficients in linear regression. Thus, the two models are nearly synonymous to those used to model the linear repatronage intentions relationships. That is,

Model 1 (symmetric incidents):

$$\text{Logit(consumer communications)} = B_0 + B_1*\text{STAB} + B_2*\text{CONT} + B_3*\text{FAM} + B_4*\text{GENDER} + B_5*\text{DISC} + B_6*\text{TYPE} + B_7*\text{TYPE}_x\text{DISC}$$

Model 2 (asymmetric incidents):

$$\text{Logit(consumer communications)} = B_0 + B_1*\text{STAB} + B_2*\text{CONT} + B_3*\text{FAM} + B_4*\text{GENDER} + B_5*\text{DISC} + B_6*\text{TYPE} + B_7*\text{TYPE}_x\text{DISC}$$

Similarly, symmetry can be assessed in a manner consistent to that used with the linear repatronage intentions models. A significant TYPE coefficient (B_6) or

TYPExDISCMAG coefficient (B_7) are indicative of that, rather than two superimposed lines (model 1), the positive disconfirmation and negative disconfirmation curves are distinct (model 2). That is, even though they both cover the same range of independent variable (DISCMAG) values, the two functions are better modeled using two lines rather than a single line (see Figure 10).

The interpretation of the interaction terms is also similar to linear regression models. A significant coefficient for TYPE would indicate that odds of consumer communication for the two disconfirmation types (positive and negative) differ across the full range of disconfirmation magnitudes (i.e., parallel lines). That is, the odds of engaging in consumer communications as a result of negative disconfirmation is either consistently higher of lower than that resulting from positive negative disconfirmation. A significant TYPExDISCMAG coefficient indicates differences in the odds of consumer communication for the positive and negative disconfirmation vary at different rates with respect to disconfirmation magnitude (i.e., different slopes). In other words, a significant interaction term indicates positive and negative disconfirmation have differing levels of sensitivity with respect to disconfirmation level.

The type of disconfirmation (TYPE) was a significant predictor 3 of the 4 dissatisfiers (Table 31) indicating the appropriateness of the two-line solution but true for only one of the satisfiers (Table 32). For these cases, a unit change in the variable TYPE from 0 to 1 indicates switching for negative disconfirmation (0) to positive disconfirmation (1). Furthermore, cases where Exp(B) > 0 indicate increasing change in odds per unit change of the independent variable; Exp(B) < 0 indicate decreasing odds for the same unit change.

Table 31 Coefficient estimates for consumer communications

Incident	Model χ^2	Coefficient	B	S.E.	Wald	df	Sig.	Exp(B)
Charges	162.9 **	**Constant**	**3.976**	**1.711**	**5.400**	**1.000**	**0.020**	
		DISCMAG	**-3.535**	**1.100**	**10.332**	**1.000**	**0.001**	**0.029**
		STAB	0.013	0.215	0.004	1.000	0.951	1.013
		CONT	0.133	0.224	0.350	1.000	0.554	1.142
		GENDER	-0.103	0.350	0.086	1.000	0.770	0.903
		FAM	-0.492	0.219	5.043	1.000	0.025	0.612
		TYPE	**-2.816**	**0.790**	**12.703**	**1.000**	**0.000**	**0.060**
		DISCMAG*TYPE	**4.138**	**1.213**	**11.636**	**1.000**	**0.001**	**62.652**
Delivery Time	46.4 **	Constant	-1.766	1.255	1.982	1.000	0.159	
		DISCMAG	**-1.671**	**0.486**	**11.822**	**1.000**	**0.001**	**0.188**
		STAB	0.022	0.131	0.027	1.000	0.869	1.022
		CONT	**0.320**	**0.109**	**8.664**	**1.000**	**0.003**	**1.377**
		GENDER	0.404	0.268	2.281	1.000	0.131	1.498
		FAM	0.065	0.171	0.144	1.000	0.705	1.067
		TYPE	**-0.944**	**0.462**	**4.184**	**1.000**	**0.041**	**0.389**
		DISCMAG*TYPE	**1.764**	**0.615**	**8.226**	**1.000**	**0.004**	**5.838**
Server Reliability	91.9 **	Constant	-0.161	1.266	0.016	1.000	0.899	
		DISCMAG	**-0.876**	**0.367**	**5.715**	**1.000**	**0.017**	**0.416**
		STAB	0.018	0.126	0.020	1.000	0.888	1.018
		CONT	**0.334**	**0.117**	**8.084**	**1.000**	**0.004**	**1.396**
		GENDER	0.379	0.285	1.760	1.000	0.185	1.460
		FAM	-0.202	0.182	1.234	1.000	0.267	0.817
		TYPE	**-3.782**	**1.077**	**12.325**	**1.000**	**0.000**	**0.023**
		DISCMAG*TYPE	**2.893**	**1.111**	**6.780**	**1.000**	**0.009**	**18.043**
Response Time	42.8 **	Constant	0.357	1.243	0.082	1.000	0.774	
		DISCMAG	**-1.303**	**0.440**	**8.760**	**1.000**	**0.003**	**0.272**
		STAB	-0.014	0.114	0.015	1.000	0.901	0.986
		CONT	0.065	0.116	0.316	1.000	0.574	1.067
		GENDER	**0.538**	**0.267**	**4.061**	**1.000**	**0.044**	**1.713**
		FAM	-0.274	0.166	2.738	1.000	0.098	0.760
		TYPE	-0.221	0.597	0.136	1.000	0.712	0.802
		DISCMAG*TYPE	**1.346**	**0.651**	**4.272**	**1.000**	**0.039**	**3.842**

Table 32 Coefficient estimates for consumer communications

Incident	Model χ^2	Coefficient	B	S.E.	Wald	df	Sig.	Exp(B)
Layout	29.6 **	Constant	-0.124	1.260	0.010	1.000	0.922	
		DISCMAG	-0.553	0.388	2.031	1.000	0.154	0.575
		STAB	-0.040	0.105	0.149	1.000	0.700	0.960
		CONT	-0.016	0.124	0.017	1.000	0.896	0.984
		GENDER	0.082	0.265	0.096	1.000	0.757	1.085
		FAM	-0.007	0.167	0.002	1.000	0.964	0.993
		TYPE	**-1.549**	**0.582**	**7.082**	**1.000**	**0.008**	**0.213**
		DISCMAG*TYPE	**1.649**	**0.659**	**6.252**	**1.000**	**0.012**	**5.201**
Completeness	28.4 **	Constant	-0.986	1.261	0.611	1.000	0.434	
		DISCMAG	**-0.789**	**0.385**	**4.206**	**1.000**	**0.040**	**0.454**
		STAB	0.147	0.110	1.790	1.000	0.181	1.159
		CONT	0.152	0.130	1.371	1.000	0.242	1.164
		GENDER	-0.232	0.279	0.692	1.000	0.405	0.793
		FAM	-0.303	0.171	3.125	1.000	0.077	0.739
		TYPE	-0.173	0.454	0.146	1.000	0.703	0.841
		DISCMAG*TYPE	**1.896**	**0.552**	**11.808**	**1.000**	**0.001**	**6.661**
Informativeness	40.3 **	Constant	-1.217	1.223	0.991	1.000	0.320	
		DISCMAG	**-1.161**	**0.376**	**9.537**	**1.000**	**0.002**	**0.313**
		STAB	-0.022	0.137	0.027	1.000	0.870	0.978
		CONT	**0.292**	**0.144**	**4.116**	**1.000**	**0.042**	**1.340**
		GENDER	0.124	0.262	0.222	1.000	0.637	1.132
		FAM	-0.294	0.168	3.046	1.000	0.081	0.745
		TYPE	0.125	0.637	0.038	1.000	0.845	1.133
		DISCMAG*TYPE	**2.711**	**0.710**	**14.568**	**1.000**	**0.000**	**15.040**
Updates	16.2 **	Constant	0.570	1.437	0.157	1.000	0.692	
		DISCMAG	**-1.195**	**0.428**	**7.805**	**1.000**	**0.005**	**0.303**
		STAB	0.120	0.138	0.758	1.000	0.384	1.128
		CONT	-0.058	0.163	0.126	1.000	0.723	0.944
		GENDER	-0.203	0.297	0.467	1.000	0.494	0.817
		FAM	**-0.370**	**0.180**	**4.225**	**1.000**	**0.040**	**0.691**
		TYPE	-0.473	0.679	0.485	1.000	0.486	0.623
		DISCMAG*TYPE	**2.248**	**0.814**	**7.633**	**1.000**	**0.006**	**9.467**

For the scenario concerning unexpected changes, the odds of engaging in consumer communication after positive disconfirmations are .060 times the odds of engaging in consumer communication after negative disconfirmation, *regardless of disconfirmation level*. Or equivalently, the odds of engaging in consumer communication after negative disconfirmation is approximately 17 (i.e., 1/.060) times the odds of engaging in consumer communications after positive disconfirmation. Similar results were obtained for Delivery time and Response Time. That is, there is a higher likelihood of engaging in some form consumer communications when negative disconfirmations are contrasts with its positive counterpart – Delivery time (1/.389 or 3 times as likely), and Response time (1/.023 or 43 times as likely). As with repatronage intentions, Layout showed a similar negative bias similar to those of the predicted dissatisfiers, being 1/.213 or 5 times as likely to occur with negative disconfirmation than positive disconfirmation.

All eight incident pairs showed a significant positive interaction term. This suggests that the likelihood of consumer communications increases more rapidly for positive disconfirmation than negative disconfirmation as the magnitude of disconfirmation (DISCMAG) increases. That is, relative to positive disconfirmation, the *magnitude* of negative disconfirmation has a much weaker effect on the odds of consumer communication.

6.4 Discussion

Two sets of tests were performed to examine symmetry in the relationship between dissatisfiers: 1) disconfirmation level and repatronage intentions and 2) disconfirmation level and consumer communications. In both cases, some level of asymmetry was found in all 4 dissatisfiers examined.

For repatronage intentions, a strong and positive relationship between disconfirmation level was three of the dissatisfiers as expected in a symmetric relationship, however additional asymmetric components were present in all four cases. The observed asymmetry was most evident in the incident pairs related to time - delivery time and response time. This may indicate that waiting time, whether during the Web interaction (response time) or after the Web interaction (delivery time), pose a special case in the customer-firm relationship. The exception to the positive disconfirmation level-repatronage intentions relation, Charges, points to a special case where disconfirmation type is a more important driver than disconfirmation level. In other words, negative disconfirmation, regardless of user rating, is a serious issue for when it comes to charges.

In terms of consumer communications, the relationship between dissatisfiers and consumer communications was consistently asymmetric across incidents. Furthermore, the *magnitude* of negative disconfirmation has a much weaker effect on the odds of consumer communication than for the case for positive disconfirmation. This suggests that whether a factor meets an expectation may be more important than by how much. While previous research has noted the tendency of consumers to report negative experiences more frequently than positive experiences (TARP, 1986), the present research notes that this is not true across all factors (e.g., Informativeness and Updates). Such factors offer the opportunity for a multiplier effect in that even if customers are evenly split as to whether their expectations were met or exceeded, as a group, more people are likely to convey positive comments than negative ones.

6.5 Summary

One of the major focuses of this research is to analyze behavioral intentions at the incident level. Technology evaluation often uses broad categories that not only ask respondents to match specific incidents to general categories, but to integrate several separate but related incidents in forming these evaluations. In the present research, the focus was at the incident level. The results point to the need to react quickly to certain negative incidents because of their disproportionate impact in terms of both repatronage intentions and consumer communications.

CHAPTER 7 CONCLUSIONS

In this study, dissatisfaction was examined in two separate stages. In the first phase (identification), qualitative techniques were used to examine both satisfaction incidents against dissatisfaction incidents in order to uncover possible associations between dissatisfaction and a classification system derived by grouping incidents similar in nature. In the second phase (verification), selected incidents from the identification phase were used to examine the relationship between dissatisfaction and repatronage intentions as well as dissatisfaction and consumer communications.

7.1 Summary of Findings

Three propositions were posed in this research. The following is a summary of findings related to each research question.

P1) The underlying factors that lead to satisfactory and dissatisfactory encounters are different.

Analysis using critical incident technique (CIT) data obtained from 374 respondents identified two incident classes chiefly associated with dissatisfaction (dissatisfiers) and two incident classes being chiefly associated with satisfaction (satisfiers) (Table 33). These results are invariant of whether multiple incidents from a single respondent are used or only one (the first) incident is used for each respondent. **Significant in these results is how incidents not directly controllable by the site management (e.g., after session service) were associated with site satisfaction.**

Table 33 Incident categories as a function of satisfaction level

Incident Type	Dissatisfaction	Satisfaction
After Session	*	
Functionality (technology)	*	
Online content		*
Structure and navigation		*

P2) The factors associated with satisfactory and dissatisfactory encounters differ in terms of their respective impact on repatronage intentions.

P3) The factors associated with satisfactory and dissatisfactory encounters differ in terms of their respective impact on consumer communications.

Tests were conducted on eight incident pairs (four satisfiers and four dissatisfiers) to examine the differences in their respective relationship to repatronage intentions and consumer communications. Under the assumption of symmetry, the positive and negative disconfirmation lines predicting repatronage intention, when combined, should form a continuous line. In the case of symmetry, the magnitude of positive and negative disconfirmation lines predicting consumer communication should result in a single line.

In each case, positive and negative disconfirmation symmetry can be further classified by whether they differ in terms of their “offset” (the y axis intercept) or their slope (interaction). A significant offset indicates that the outcome variable is a function type of incident (positive or negative) independent of stated rating (disconfirmation level or disconfirmation magnitude). The interaction asymmetry

suggests the opportunity for a multiplier effect. That is, on average, a unit change the positive (negative) direction outweighs an equal change in the opposite direction.

Support was found for both propositions. For the dissatisfiers all four incident pairs showed some degree of asymmetry in predicting both repatronage intentions and consumer communications (Table 34). **These results illustrate the dangers of relying solely on scale averages since dissatisfaction is weighted more heavily than satisfaction. The results also point to the dangers of using scales in general since in some cases, the incident type is more closely related to outcomes than the rating provided by the respondent.**

Table 34 Summary of asymmetry results

	Repatronage Intentions		Consumer Communications	
	Offset	Interaction	Offset	Interaction
Charges	*		*	*
Delivery time	*	* (time)	*	*
Server reliability	*	*	*	*
Response time	*	* (time)		*
Layout	*	*	*	*
Completeness	*	*		*
Informativeness	*			*
Updates	*			*

7.2 Implications For Practice

Repatronage intentions results suggest that the affect of dissatisfaction varies greatly across incidents when compared to affect of satisfaction (Table 24). The erroneous charges incident was the “most negative” of the group. Surprisingly, the layout incident, a predicted satisfier, was the second most negative incident. The low variation in repatronage intentions as a result of positive disconfirmation supports

the assertion that firms must go beyond satisfaction, a delight customers in order to distinguish themselves (Oliver, et al., 1997).

In this study, it was shown that Web users are particularly sensitive to time delays both whether during the Web interaction (response time) or after the Web interaction (delivery time). The issue of what constitutes a "modest" delay encountered in retrieving Web pages is difficult to pinpoint. On the Web, longer delays (30 seconds or more) have been shown to negatively affect Web site evaluations (Dellaert and Kahn, 1999). Delays as short as 13 seconds were rated as "long" and resulted in negative evaluations and the abandoning of links (Nah and Kim, 2000 298). Practitioners have suggested 10 seconds (Nielsen, 1997) and the oft-quoted “8 second rule” (Zona Research, 1999) as the thresholds for "long" delays. Management of these delays is particularly important since delays can negatively affect satisfaction (Dube-Rioux, et al., 1998).

Two approaches are generally available: operations management and perception management (Katz, et al., 1991). Perception management is particularly important because 1) practical limits of reducing actual delay times through operations management (Taylor, 1995) and 2) perceived time is likely a more significant determine of satisfaction than the actual time itself (Tom and Lucey, 1995). Given this sensitivity, making the waiting period more tolerable through such techniques as using background music to fill the void, or by reducing uncertainty through indications of service progress (e.g., time remaining or percent complete indicators) are warranted.

In terms of consumer communication, respondents were much more likely to convey dissatisfaction with service outcome (service failure) than satisfaction in the same service area (service success). Word-of-mouth is by far the most common form

of expressing both satisfying and dissatisfying experiences. Given the predominance of WOM comments in this study, the importance of user-provided comments such as guest books, discussion groups, and user testimonials for products or services may be more important in affecting site opinion than previously assumed.

Surprisingly, very few respondents were likely to contact the firm directly for either satisfaction or dissatisfaction incidents. Because most of the examined incidents (the exceptions being Completeness, Informativeness, and Updates) are more likely to be recalled in negative contexts than positive contexts, firms should use caution in attempting to interpret site acceptance by raw frequencies alone. For example, a near equal number of negative and positive incident reports for a satisfier (e.g., site layout) should actually be taken as a warning since the expected incident ratio for a satisfier should favor satisfaction incidents.

For consumer communications, different ranking criteria that illustrate the difference between satisfaction and dissatisfaction can shed light on potential areas of focus in site improvement. Table 35 shows the ranking of the tested incidents using two separate criteria: column 1 by percent of positive reports and column 2 by percent of negative reports. Column 2 is most reflective of the original classification scheme, with all dissatisifiers being mentioned more frequently than any of the satisfiers.

Columns 1 and 2 denote characteristics most likely to be remembered for lowly rated and highly rated incidents respectively. In other words, in terms of word of mouth and other response behaviors, these are the characteristics most likely to be conveyed for service failures and service successes respectively. For example, a person asked to name the worst (best) experiences he has ever had with a Web site would likely recall incidents at the top of response column 1 (2). Similarly, a site

trying to improve an already good image would benefit more by focusing on factors related to the most frequently recalled positive contexts incidents (column 2) as opposed to those related to negative incidents (column 1).

Table 35 Incident ranking by multiple categories

Ranked by percentage of negative responses	Ranked by percentage of positive responses
Charges	**Delivery time**
Server reliability	Informativeness
Delivery time	**Charges**
Response time	Completeness
Layout	Updates
Informativeness	**Response time**
Completeness	Layout
Updates	**Server reliability**

Identification phase classification: dissatisfiers in **bold**

7.3 Implications for Theory

In a typical satisfaction survey, evaluations tend to be predominately positive or predominately negative. The corresponding "minority" cases constitute "univariate outliers" in that they are unusual in terms of the independent variable (leverage) but not necessarily outliers in terms of the regression line (Fox, 1991). Because they typically comprise a small fraction of the evaluated data set, such points have only a small affect on the regression coefficients (Fox, 1991). By focusing at the incident level, and using incident pairs to ensure an equal distribution of positive and negative evaluations, one condition does not overpower the other.

The chosen research methods have implications in and of themselves. The critical incident technique (CIT) has rarely been applied in IS research. This study marks one of the largest recorded applications of CIT in the IS domain. Examining

research phase results together has implications for site evaluation. The list of incidents associated with the repatronage intention asymmetry differs slightly between identification phase and verification phase. This difference may be a result of methods differences (the critical incident technique for the identification phase and scenario-based surveys for the verification phase).

CIT is a retrospective-based qualitative technique. Because these evaluations are rendered in hindsight, differences in results between the two phases would be expected if such evaluations changed over time. That is, the set of factors deemed most important when initially encountering a site may differ from those considered important after the relationship has been established. This would suggest different assessment techniques depending on whether new relationships (recruiting) or existing relationships (retention) are the primary focus.

Alternatively, the fact that the visual-related satisfiers (Layout and Completeness) exhibited behavior similar that expected for dissatisfiers in repatronage intentions predictions may be a function of the outcome variable under consideration. Because the categories were derived from self-reports (a communication form), one would expect the category behavior to hold true for consumer communications (a similar voicing action) but not necessarily for repatronage intentions.

Finally, because so many cases of asymmetry were observed, it is entirely possible that dissatisfaction in general rather than the satisfier-dissatisfier distinction is the basis for the observed asymmetry. More work is needed to determine whether the interpretation of the scales, psychological reactions to the incident, or both are responsible for the satisfaction-dissatisfaction asymmetry.

7.4 Limitations

These conclusions presented here suffer from the usual limitations of using student subjects (see McGrath, 1982); thus additional research is necessary to understand the extent to which these findings may generalize to different environments and different individuals. In addition, the results are based on a limited number of participants and consequently may have failed to capture the full breadth of Web site incidents. Because the sample was fairly homogeneous, issues such as age, culture, and socioeconomics may not have been fully in this study.

The selected data collection methods also may have a material affect on obtained results. In this study, the critical incident technique (CIT) method was selected as the data collection method for the identification phase and scenarios for the verification phase. Difficulties in reproducing critical incident technique results using other methods have been previously noted (French, et al., 1973). In an attempt to increase control, incident scenarios were used instead of actual sites for the second phase. While the use of scenarios afforded greater control in standardizing reactions, the lack of actual Web interaction may have affected the generalizability of the obtained results. Limiting the number of tested incidents may also have negatively affected generalizability.

For both phases, surveys were used to collect the data. The use of surveys as opposed to face-to-face methods, may also have limited the precision of the incidents gathered in the identification phase. Because surveys are, in essence, a one-way form of communication, misinterpretations of survey content may have gone unnoticed. Also, using intentions as proxies for actual behavior may also have

affected the accuracy and generalizability of the results when predicting actual behavior.

Also, the specific background information and instructions associated with data collection cannot be ignored. In the verification phase, participants were asked to "imagine that the Web site described is an established music/video site, but one with which you have had no previous experience (i.e., your first visit)." Thus, results are specifically tied to a specific class of sites as well as low loyalty (first time use) situations.

Finally, the data analysis method, particularly in the identification phase, may have driven the results to some degree. The use of an alternative framework for incident classification other than Pitt, Watson, and Kavan (1995) may yield additional or even different results.

7.5 Future Research

Together, the obtained results and study limitations suggest a number of future research areas. Future research needs to address a wide range of individual and cultural differences not explored here. A number of companies have implemented separate Web sites for their operations in other countries. In these cases, the research conducted to determine how site design should be adjusted to suit cultural difference can be applied. However, for the larger number of U.S. firms with U.S.-only Web sites, it is critical to design sites that are acceptable to non-U.S. cultures as well. Given the difficulty of achieving success 100% of the time with a "one site fits all" approach, it is imperative to access reactions across a number of cultures to minimize problems. Research is also necessary to ensure generalizability across a wide variety of Web site types.

The critical incident technique, while widely used in other disciplines, has seen limited use in IS research. One of its principle advantages is its focus on events rather than interpretation and reactions. This interpretation process frequently required in questionnaire completion requires respondents to map these past events into specific questions. The difficulty arises from the mapping process which requires: 1) comprehension of the question, 2) cognitive processing (assessments of the information sought, retrieval of relevant memories, and integration and response formulation), 3) evaluation of the accuracy of the response, 4) evaluation of the response based on goals other than accuracy (for example, social desirability), and 5) "editing" the response to ensure accurate responding (Cannell, Miller, and Oksenberg, 1981).

Because the researcher bears the responsibility of interpretation of participant-described incidents, many of the problems associated with survey question interpretation are reduced. Thus, this method could prove useful when examining issues complex enough that the respondent has difficulty isolating the root cause(s). This method could also be beneficial in diagnosing issues beyond the site administration's control yet (erroneously) attributed to the site (as seen in the identification phase of this research). The CIT method could therefore be employed to examine a number of emerging consumer technologies, including handheld devices and Internet "appliances" where the type of incidents encountered by users are not yet well understood by the consumer.

Finally, the distinction between satisfaction and dissatisfaction is a potential area for further study. As noted, the satisfaction vs. dissatisfaction has been examined in a number of other disciplines. The knowledge of which incidents are likely to remain salient in the consumer's mind over time can guide service recovery

research. Memories of these incidents have a longer lifespan and thus will likely be conveyed to more people than other incidents. These incidents, in particular, should be the focus of Web service recovery research.

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APPENDIX A: CLASSIFICATION INSTRUMENT (LOYALTY)

Web Loyalty

The number of Web sites has risen dramatically over the past decade. In some cases, "traditional" brands are being promoted via the Web. In others, distinct "Web brands" are emerging such as Yahoo, amazon.com, etc.

To get a better understanding commitment to online brands and Web sites, we would like you to think about two incidents that occurred within the past year:

- a case in which there is a site that you are particularly bonded to (HIGH) and

- a case in which one or more incidents with the site caused you to look either stop using any form of the product/service or to look for alternative providers of the same product/service on the Web (LOW).

Please provide as much detail as possible for each of the two cases.

1. You should include specific incidents that caused you to develop your commitment (or lack thereof) for these sites. For example, the approximate time of year (MM/YY), the company/URL, the specific incident(s), how you felt at the time, and any subsequent interactions with that company/Web site and how they either lessened or intensified your feelings.

2. You should explain actions that you took after the incident. For example, No Actions, Advised Friends/Neighbors, Contacted the company, or Sought Legal Action. Also, how did you do these things: Face to Face, telephone, email, formal letter, etc.?

APPENDIX B: CLASSIFICATION/CONFIRMATION INSTRUMENT

Think of a recent experience that you had while using a particular Web site to either search for information or to make a purchase where afterwards, you felt either very satisfied or very dissatisfied. Briefly describe the incident below (you may use the back of this sheet and/or additional sheets if necessary). We are not interested in general impressions (e.g., “the Web site was fun.”) but specific past experiences (e.g., “last week when I was looking for a place to buy...”). **Be sure to include the following details: 1) the approximate date of the occurrence, 2) the purpose of your visit to the site, 3) the actual experience, and 4) any follow-up actions you may have taken (for example, emailing the company, telling a friend about the experience, bookmarking/unbookmarking the site, etc.).**

Web site name/URL:_____

Please describe your attitude just after the incident.

		Strongly Agree						Strongly Disagree
1.	All Web sites are alike.	1	2	3	4	5	6	7
2.	By complaining about defective products, I may prevent other consumers from experiencing the same problem.	1	2	3	4	5	6	7
3.	By making complaints about unsatisfactory products, in the long run the quality of products will improve.	1	2	3	4	5	6	7
4.	Choosing the particular Web site was an important decision for me.	1	2	3	4	5	6	7
5.	Considering everything, the costs to stop doing business with the Web site and start up with the alternative Web site would be high.	1	2	3	4	5	6	7
6.	Generally speaking, the costs in time, money, effort, and grief to switch Web sites would be high.	1	2	3	4	5	6	7
7.	Getting the results I wanted was critical for me.	1	2	3	4	5	6	7
8.	I believe I did the right thing when I used the Web site.	1	2	3	4	5	6	7
9.	I don't like people who complain to stores, because usually their complaints are unreasonable.	1	2	3	4	5	6	7
10.	I have a strong interest in this type of Web site.	1	2	3	4	5	6	7
11.	I often complain when I'm dissatisfied with business or products because I feel it is my duty to do so.	1	2	3	4	5	6	7
12.	I was happy about my decision to use the Web site.	1	2	3	4	5	6	7
13.	I would be sure not to use the service of this Web site.	1	2	3	4	5	6	7
14.	I would be sure to use similar services from a different Web site.	1	2	3	4	5	6	7
15.	I would definitely not use any of the services provided by this Web site again.	1	2	3	4	5	6	7
16.	I would likely select this Web site if I needed the same service again.	1	2	3	4	5	6	7

17.	I would be more satisfied with the products and services available from the alternative Web sites than the products and services provided by the current one.	1 2 3 4 5 6 7
18.	I would possibly select this Web site if I needed the same service again.	1 2 3 4 5 6 7
19.	I would probably revisit the site less frequently if I discovered that the same type incident would occur on a regular basis.	1 2 3 4 5 6 7
20.	I would probably select this Web site if I needed the same service again.	1 2 3 4 5 6 7
21.	In general, I would be more satisfied with an alternative Web site than I am with the current one.	1 2 3 4 5 6 7
22.	It bothers me quite a bit if I do not complain about an unsatisfactory product.	1 2 3 4 5 6 7
23.	It sometimes feels good to get my dissatisfaction and frustration with the product off my chest by complaining.	1 2 3 4 5 6 7
24.	On the whole, I would spend a lot of time and money to change Web sites.	1 2 3 4 5 6 7
25.	Overall, alternative Web sites policies and practices would benefit me more than the current Web site/s policies and practices.	1 2 3 4 5 6 7
26.	Overall, I was satisfied with the decision to use the Web site.	1 2 3 4 5 6 7
27.	Overall, I would spend a lot and lose a lot if I changed primary wholesalers.	1 2 3 4 5 6 7
28.	People are bound to end up with unsatisfactory products once in a while, so they should not complain.	1 2 3 4 5 6 7
29.	People have a responsibility to tell stores when a product they purchase is defective.	1 2 3 4 5 6 7
30.	The incident left me with strong feelings.	1 2 3 4 5 6 7

If you were to experience a similar incident again, how likely would you be to:

	Very Likely						Very Unlikely
31. Convince your friends and relatives to use (or not to use) that repair Web site?	1	2	3	4	5	6	7
32. Create a reference to the site (shortcut, bookmark, link on your Web page, set page as your default home page, etc.).	1	2	3	4	5	6	7
33. Decide not to use the Web site again?	1	2	3	4	5	6	7
34. Definitely talk to a person at the site's physical store on your next trip?	1	2	3	4	5	6	7
35. Forget the incident and do nothing?	1	2	3	4	5	6	7
36. Go back to the Web site or call immediately and ask them to take care of the problem?	1	2	3	4	5	6	7
37. Report to a consumer agency so that they can tell other consumers?	1	2	3	4	5	6	7
38. Speak to your friends and relatives about your experience?	1	2	3	4	5	6	7
39. Take some legal action against the Web site company?	1	2	3	4	5	6	7
40. Write a letter to the local newspaper about your had experience?	1	2	3	4	5	6	7
41. Write to or call a consumer agency and ask them to make the Web site take care of your problem?	1	2	3	4	5	6	7

Finally, please tell us about yourself.

I am: Male [ ] Female [ ] Age: _____ email address: _____

Highest level of education completed:

High school | Community college | 2 or more years of college | College | Post graduate

Please indicate your familiarity with the Web

Not familiar [1] [2] [3] [4] [5] [6] [7] Very Familiar

APPENDIX C: VERIFICATION INSTRUMENT

SECTION 1 - We want to understand how various situations encountered on the Web might affect customer attitudes. We are going to ask you how you would react if you were dealing with a site that behaved in a certain manner. **In each case, imagine that the Web site described is an established music/video site, but one with which you have had no previous experience (i.e., your first visit).**

Please indicate your response by circling the appropriate number or by checking (√) the appropriate option.

Example:

On my first visit to the Web site, it caused my computer to blow up.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

√ . I would talk (complain) about the incident (select all that apply).

√ . To friends

√ . Consumer agency (e.g., the Better Business Bureau)

√ . Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

This questionnaire is completely confidential, so please be very candid and honest. There are no right or wrong answers. Some of the statements might appear similar to some other statements. Please do not be concerned about this. Work quickly, recording your first impressions.

A faulty server often interrupts you in the middle of a process, forcing you to start all over.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).

___ To friends

___ Consumer agency (e.g., the Better Business Bureau)

___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

After a recent purchase at a Web site, you notice that there are several unexplained and unexpected charges from that same site on the statement delivered with the product.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).

___ To friends

___ Consumer agency (e.g., the Better Business Bureau)

___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

All sections of the site are complete and appear well thought out.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).

___ To friends

___ Consumer agency (e.g., the Better Business Bureau)

___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

After accepting your order at a Web site, you are informed 2 days later that the item is on backorder and that the expected delivery date is unknown

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).
___ To friends
___ Consumer agency (e.g., the Better Business Bureau)
___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

You are unknowingly placed on an electronic mailing list, which contains only aggressive sales promotions and arrives as frequently as daily.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).
- ___ To friends
- ___ Consumer agency (e.g., the Better Business Bureau)
- ___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

After a recent purchase at a Web site, you received an email confirmation within the hour of the order and the exact amount of the purchase, including shipping & handling and relevant taxes.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).
- ___ To friends
- ___ Consumer agency (e.g., the Better Business Bureau)
- ___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Much of the site is labeled as “under construction.”

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site’s control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).

___ To friends

___ Consumer agency (e.g., the Better Business Bureau)

___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

You almost always find extremely informative information matching your needs.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).

___ To friends

___ Consumer agency (e.g., the Better Business Bureau)

___ Web site

The probability that I would revisit is…

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

The server is always up and running and consistently problem-free.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).

___ To friends

___ Consumer agency (e.g., the Better Business Bureau)

___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

The site has a variety of features accessible to the general public as well as sections restricted to paid subscribers.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).
- ___ To friends
- ___ Consumer agency (e.g., the Better Business Bureau)
- ___ Web site

The probability that I would revisit is…

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

The site is consistently updated with new content that is clearly marked (as new).

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).

___ To friends

___ Consumer agency (e.g., the Better Business Bureau)

___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

The site is unorganized and poorly laid out.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).

___ To friends

___ Consumer agency (e.g., the Better Business Bureau)

___ Web site

The probability that I would revisit is…

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

Changes to the site's content are infrequent and not clearly marked.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).

___ To friends

___ Consumer agency (e.g., the Better Business Bureau)

___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

The site offers you the chance to sign up to its mailing list, which can be customized in terms of both content and frequency.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).
- ___ To friends
- ___ Consumer agency (e.g., the Better Business Bureau)
- ___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

The site often times out and your are unable to link to the information selected.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).

___ To friends

___ Consumer agency (e.g., the Better Business Bureau)

___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

The site requires you to enter credit card information, even to access basic information.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).
___ To friends
___ Consumer agency (e.g., the Better Business Bureau)
___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

The site responds almost immediately after any selection.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).

___ To friends

___ Consumer agency (e.g., the Better Business Bureau)

___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

You are often unable to find information that should logically be a part of the site.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).

___ To friends

___ Consumer agency (e.g., the Better Business Bureau)

___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

The site's layout is simple, concise, and uncluttered.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).

___ To friends

___ Consumer agency (e.g., the Better Business Bureau)

___ Web site

The probability that I would revisit is…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

After placing an order at a Web site, the site gives you the estimated time of arrival well within the shipping time you expected.

I would rate this incident as…

Much worse than expected	1	2	3	4	5	6	7	Much better than expected
Overall, I would not be satisfied with the decision to use this Web site	1	2	3	4	5	6	7	Overall, I would be satisfied with the decision to use this Web site

Thinking about this type of incident, I would say that…

It probably happens all the time at this Web site.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
It is completely within the site's control.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would respond by doing the following…

___ I would not talk about the incident.

___ I would talk (complain) about the incident (select all that apply).
- ___ To friends
- ___ Consumer agency (e.g., the Better Business Bureau)
- ___ Web site

The probability that I would revisit is…

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

SECTION 3 –The following section deals with general impressions. Please indicate your impressions by circling the appropriate number.

	Strongly Agree						Strongly Disagree
People have a responsibility to tell companies when they receive poor service from a Web site	1	2	3	4	5	6	7
It bothers me quite a bit if I do not complain about unsatisfactory Web service.	1	2	3	4	5	6	7
I don't like people who complain to companies, because usually their complaints are unreasonable.	1	2	3	4	5	6	7
Getting the results I want from a Web site is critical for me.	1	2	3	4	5	6	7
Choosing a particular Web site is an important decision for me.	1	2	3	4	5	6	7
By making complaints about unsatisfactory Web service, in the long run the quality of service will improve.	1	2	3	4	5	6	7
When it comes to Web sites, one Web site is just as good as another.	1	2	3	4	5	6	7
It sometimes feels good to get my dissatisfaction and frustration with the service off my chest by complaining.	1	2	3	4	5	6	7
Generally speaking, the costs in time, effort, and grief to switch Web sites are high.	1	2	3	4	5	6	7
Considering everything, the costs to stop doing business with a Web site from which I have purchased frequently and to start up with an alternative Web site would be high.	1	2	3	4	5	6	7
By complaining about a poor Web site, I may prevent other consumers from experiencing the same problem.	1	2	3	4	5	6	7
People are bound to end up with unsatisfactory service once in a while, so they should not complain.	1	2	3	4	5	6	7
I often complain when I'm dissatisfied with a Web site because I feel it is my duty to do so.	1	2	3	4	5	6	7
On the whole, I would spend a lot of time to change Web sites.	1	2	3	4	5	6	7

SECTION 4 - Finally, please tell us about yourself.

Are you: Male [ ] Female [ ]

Age: _____

Please indicate your highest level of education

Grade School	High School	Some Post-Secondary	Bachelor's Degree	Graduate Degree

Please indicate your familiarity with the Web

Not familiar	1	2	3	4	5	6	7	Very Familiar

How often do you use the Web?

Never	1	2	3	4	5	6	7	Very Often

On average, how much time do you spend using the Web per day? _____Minutes

Thank you for your cooperation

APPENDIX D: PILOT STUDY

In the summer of 2000, pilot tests were conducted on the proposed scenarios. In the first step, 38 candidate incidents were tested. The principle objective here was to gather feedback on the clarity of incident wording and to select a subset of these incidents for further testing. In the second step, the adequacy of the disconfirmation manipulations was rechecked. The goal was to ensure that intended positive disconfirmations did, in fact, lead to satisfaction evaluations while intended negative disconfirmations were associated with dissatisfaction. In the third step, the aim was to examine the entire instrument and determine what, if any, incident refinements were necessary.

Incident Refinement and Screening (Pilot 1)

In the identification phase, 374 usable surveys were collected resulting in 700 incidents being identified. In that phase, 10 categories were developed from the collected incidents, with incidents from two categories recalled significantly more in negative service contexts (after-session support/customer service and functionality/technology) and two categories recalled more often in positive service contexts (online information content and structure and navigation). From these categories, scenarios were developed using the collected incidents in these categories as models.

From the total set, 38 incidents were selected for further testing (Table 36). The incidents were randomly ordered and distributed to twelve participants. In this phase respondents were asked to rate each incident on a seven-point scale (1 = very satisfied to 7 = very dissatisfied).

Table 36 Initial incident candidate pairs

A faulty server often interrupts you in the middle of a process, forcing you to start all over.	5A-
After a recent purchase at a Web site, you notice that there are several unexplained and	2A-

unexpected charges from that same site on the statement delivered with the product.	
After a recent purchase at a Web site, you receive an email confirmation within an hour of the order and the exact amount of the purchase, including shipping and handling and relevant taxes.	2A+
After accepting your order at a Web site, you are informed that the item is on backorder and that the expected delivery date is unknown.	3A-
After placing an order at a Web site, the site gives you the estimated time of arrival well within the shipping time you expected.	3A+
All sections of the site are complete and appear well thought-out.	10D+
Any page of the site can be bookmarked and retrieved without having to go to the home page first.	10A+
Much of the site is labeled as “under construction.”	10D-
Navigating the site is difficult and time-consuming.	10C-
The content is relevant to your information needs.	8B+
Much of the site's content is product advertisements.	8B-
The server is always up and running and consistently problem-free.	5A+
The site access is restricted to certain times of the day or week.	7A-
The site could be accessed any time of the day or week.	7A+
The site has a variety of features accessible to the general public as well as sections restricted to paid subscribers.	6A+
The site has customization features that allow the customer to access his or her most frequently used features with a single click.	6B+
The site has many features that were unavailable for your favorite Web browser.	5B-
The site is aesthetically unpleasing with poor graphics and bland color choices.	13A+
The site is consistently updated, with new site content clearly marked.	8C+
Changes to the site's content are infrequent and not clearly marked.	8C-
The site is unorganized and poorly laid out.	10B-
The site looks and works consistently no matter what browser or computer operating system you are using.	5B+
The site offers you the chance to sign up to its mailing list that can be customized in terms of both content and frequency.	4A+
The site often times out, unable to link to the information selected.	5C-
The site pages cannot be accessed by keyword searches but instead are only accessible by following navigating through the site's links.	6B-
The site requires credit card commitment to even access basic information.	6A-
The site responds almost immediately after any selection.	5C+
The site's advertisements are tasteful.	8D+
The site's advertisements are often crude and disgusting.	8D-
The site's layout is simple, concise, and uncluttered.	10B+
The site's navigation is quick and easy.	10C+
The site is very colorful, with nice pictures that could be enlarged (to show more detail).	13A+
While searching for a book Web site, you enter a site named everybook.com that has a wide selection of books.	12A+
While searching for a book Web site, you enter a site named goodbooks.com that only has gambling information	12A-
You almost always find extremely informative content matching your needs.	8A+
You are often unable to find information that should logically be a part of the site.	8A-
You are automatically placed on a mailing list that contains only aggressive sales promotions and arrives as frequently as daily.	4A-
You must view an advertisement page before entering site; retrieved bookmarks to site pages are also redirected to this advertisement home page.	10A-

Ratings for each of the pairs are given in Table 37. Although the mean of the negative incident exceeded the mean of the positive incident on average, on a case basis, this was not always true.

Table 37 Incident pairs descriptive statistics

	N	Minimum	Maximum	Mean	Std. Dev
A02-	12	**3**	7	6.50	1.17
A02+	12	1	3	1.42	0.67
A03-	12	5	7	6.42	0.67
A03+	12	1	2	1.33	0.49
A04-	12	**1**	7	5.92	2.11
A04+	12	1	4	2.42	1.31
A05-	12	5	7	6.58	0.67
A05+	12	1	4	1.33	0.89
A06-	12	4	7	6.58	0.90
A06+	12	1	**5**	3.08	1.31
A07-	12	**1**	7	5.92	1.78
A07+	12	1	3	1.58	0.79
A08-	10	**1**	7	4.80	2.20
A08+	12	1	**7**	3.00	2.37
A10-	12	**1**	7	5.17	2.33
A10+	12	1	4	1.83	1.03
A12-	12	**3**	7	5.67	1.44
A12+	12	1	**5**	2.25	1.42
A13-	12	4	7	5.75	1.06
A13+	12	1	3	1.50	0.67
B05-	12	**1**	7	5.00	2.26
B05+	12	1	3	1.50	0.80
B06-	12	**2**	7	5.58	1.51
B06+	12	1	**5**	1.67	1.23
B08-	12	4	7	5.75	1.22
B08+	12	1	3	1.58	0.79
B10-	12	5	7	6.58	0.67
B10+	12	1	4	1.83	0.94
C05-	12	**1**	7	6.33	1.72
C05+	12	1	3	1.33	0.78
C08-	11	4	7	6.09	1.04
C08+	12	1	4	1.58	0.90
C10-	12	4	7	6.42	0.90
C10+	12	1	2	1.25	0.45
D08-	12	4	7	6.33	0.98
D08+	12	1	4	1.92	1.31
D10-	12	5	7	6.25	0.62
D10+	12	1	4	1.75	1.06

1=very satisfied; 7=very dissatisfied

Cases where an incident received ratings both above and below neutral are bolded, indicating potential problems in incident wording.

To encourage more candid responses, no demographics were collected. Twelve respondents were also asked to comment on the clarity of the wording. These data were used to produce a reworded subset for retest. The incident subset selection was based in part on clarity and in part by frequency of mention in the identification phase.

Manipulation Check (Pilot 2)

In this iteration, the incidents were reworded and 26 of the incidents were again randomly ordered and retested. The design is illustrated in Table 39. The second pilot group consisted of 28 undergraduate business students. Outlier analysis indicated some possible confusion with the repatronage intention scale for several of the incidents. As a result, eight were excluded from further analysis. Demographics for the remaining 20 participants are given in Table 38. Fourteen (70%) were male, and all were at least college-level juniors. Included in these measures are self-reported Web experience level on a seven-point scale, with endpoints not familiar (low) to very familiar, and self-reported frequency of use on a seven-point scale, with endpoints never (low) to very often (high).

Table 38 Descriptive Statistics (Group 2; N=20)

	Min	Max	Mean	Std. Dev
Age	20	27	22.05	1.67
Self-reported familiarity	5	7	6.15	0.81
Self-reported frequency of use	5	7	6.45	0.69

Comparisons were conducted to ensure the adequacy of the disconfirmation manipulations. That is, for each of the incident pairs, participants understood and rated the positive incident more favorably than the corresponding negative incident.

Table 39 Preliminary Experimental Design

	Positive disconfirmation	Negative disconfirmation
Technology	Consistently problem-free	Faulty server
	Platform independent look and feel	Browser-specific limitations
	Quick response by server	Server times-out
After-session customer service	Clear pricing information	Unexplained charges
	Reasonable delivery time	Extended and unspecified delivery time
Online information	Extremely informative content	Many information omissions
	Clear and frequent content updates	Unclear and infrequent content updates
	Tasteful advertising	Tasteless advertising
Navigation and Structure	Well laid out	Poorly laid out
	Site is mainly complete	Site mainly “under construction”
Media expectations	24-hour operation	Limited hours of operation

Information policy	General and subscription content	All subscription (fee) content
Email	Optional and customizable mailing list	Automatic and promotion-oriented mailing list

Table 40 reports the means for each incident. Items were anchored with better than expected (1) and worse than expected (7). Paired t-test (negative incident score minus positive incident score) showed all 13 pairs to be significant at the .05 level, confirming that the manipulations had both the intended effects and the intended direction.

Table 40 Disconfirmation pair mean (standard deviation) scores

Incident type	Incident subtype		Positive incident		Negative incident		t	
Technology (T)	Server reliability	Ta	6.35	(0.99)	2.40	(1.10)	12.34	***
	Platform depend.	Tb	6.40	(0.75)	3.40	(1.47)	2.22	*
	Response time	Tc	6.35	(0.75)	2.05	(0.69)	18.65	***
After-session customer service (A)	Charges	Aa	6.10	(0.79)	1.55	(0.60)	22.94	***
	Delivery time	Ab	6.10	(0.79)	3.10	(1.12)	11.05	***
Email	Listserv	Ea	5.80	(0.77)	2.00	(1.45)	12.49	***
Information policy	Credit card requirement	Ia	4.75	(0.47)	1.30	(1.07)	14.69	***
Media Expectations	Availability	Ma	5.95	(1.19)	2.65	(0.59)	12.11	***
Online Information (O)	Informativeness	Oa	6.40	(0.75)	2.05	(0.51)	20.84	***
	Updates	Ob	6.15	(0.75)	3.20	(1.40)	8.78	***
	Advertisements	Od	5.10	(1.29)	2.35	(1.42)	6.03	***
Navigation and Structure (N)	Layout	Nb	5.58	(1.02)	1.80	(0.89)	11.16	***
	Completeness	Nd	5.85	(0.75)	3.00	(0.73)	14.57	***

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

Instrument Test (Pilot 3)

Examination of the data indicated some possible confusion with the repatronage intention scale. “Exit interviews” with the pilot group indicated that the instrument was a bit lengthy. To address these problems, a second pilot was conducted using a modified subset of 20 (10 pairs) of the original incident pairs. A group of 18 undergraduate students completed the modified instrument. Nine (50%) were male, and all were at least college-level juniors. Identical demographics to the first pilot group were obtained (Table 41). Some minor wording changes were made and the intentions item rescaled from a 1 to 7 scale to a 0 to 100% probability scale. The intention was to make the intentions scale visually distinct from the other items to decrease confusion.

Because of the wording changes, the disconfirmation manipulation was reassessed as well as the intentions. The manipulation results remained satisfactory (Table 42), and no one in the sample appeared to misinterpret the revised intention scale. intention means were all in proper relation to the overall mean score (Table 43).

Table 41 Descriptive Statistics (Group 3; N=18)

	Minimum	Maximum	Mean	Std. Dev
Age	21	51	27.8	8.69
Self-reported familiarity	5	7	5.94	0.80
Self-reported frequency of use	5	7	6.33	0.84

Table 42 Disconfirmation pair mean (standard deviation) scores

Incident type	Incident subtype		Positive incident	Negative incident		t	
Technology	Response time	Tc	6.28 (0.96)	2.11	(1.02)	12.61	***
	Server reliability	Ta	6.44 (0.86)	2.39	(1.14)	12.04	***

After-session customer service	Charges	Aa	6.28 (0.83)	1.61	(1.42)	12.05	***
	Delivery time	Ab	6.00 (1.19)	3.00	(1.19)	7.57	***
Email and support systems	Listserv	Ea	5.50 (1.29)	1.83	(0.92)	9.78	***
Online Information	Informativeness	Oa	6.28 (1.02)	2.94	(1.11)	9.39	***
	Updates	Ob	6.39 (0.61)	3.67	(1.14)	8.96	***
Navigation and Structure	Layout	Na	6.11 (0.58)	1.89	(0.76)	18.73	***
	Completeness	Nd	5.72 (1.18)	2.67	(1.03)	8.29	***
Information policy	Assessibility	I1	4.39 (1.14)	1.39	(0.61)	9.82	***

*** p < .001 level

Table 43 Repatronage intention means by incident

Incident subtype		TYPE	Mean	Std. Dev.	N
Charges	Aa	+	92.22	18.65	18
Updates	Ob	+	91.18	9.28	17
Delivery time	Ob	+	90.56	13.92	18
Layout	Na	+	89.44	11.10	18
Server reliability	Ta	+	89.44	18.30	18
Informativeness	Oa	+	88.89	21.39	18
Completeness	Nd	+	88.33	23.33	18
Response time	Tc	+	87.78	19.27	18
Listserv	Ac	+	79.44	19.55	18
Assessibility	Ia	+	55.56	29.75	18
	Overall Mean		55.29	38.05	359
Completeness	Nd	-	45.00	27.06	18
Delivery time	Ob	-	42.78	24.92	18
Updates	Ob	-	35.56	21.75	18
Server reliability	Ta	-	33.89	27.89	18
Response time	Tc	-	28.33	29.15	18
Informativeness	Oa	-	27.78	19.57	18
Layout	Na	-	22.22	21.30	18
Listserv	Ac	-	10.00	13.72	18
Charges	Aa	-	6.67	11.88	18
Assessibility	Ia	-	2.78	6.69	18

* < .10 ** < .05 *** < .001

Repatronage Intentions

To test the difference between positive and negative incidents, repatronage intentions were regressed on disconfirmation level (DISC) and the covariate incident type (TYPE). The covariate was formed by dummy coding incident type to represent either positive or negative. Incident categories where positive and negative incidents

behave as mirror images with respect to neutral evaluations should lead to insignificant results for incident type (TYPE). That is,

$$\text{Repatronage intentions}_i = b_{i2} * \text{TYPE}_i + b_{i1} * \text{DISC}_i + b_{i0} \quad \text{(asymmetric incidents)}$$

and

$$\text{Repatronage intentions}_i = b_{i1} * \text{DISC}_i + b_{i0} \quad \text{(symmetric incidents)}$$

where "i" denotes the particular incident.

Results suggest that while asymmetry does exist, its existence isn't explained completely by the derived categories (Table 44). In the case of repatronage intentions, both the technology and after-service incidents (i.e., the dissatisfies) showed the expected asymmetry. As for the satisfiers, structure and navigation incidents were found to be symmetric as expected, but asymmetry was observed for the online incidents categories. The "control" categories (email and information policy) showed signs of asymmetry and symmetry respectively.

Response Behaviors

The results of the repatronage intentions data gave some evidence of differences between those incidents leading to satisfaction and those leading to dissatisfaction. Additional tests were conducted to see if the factors associated with satisfactory and dissatisfactory encounters differ in terms of their respective impact on consumer response behaviors. Table 45 reports the response distributions of the pilot sample (percent of respondents who would voice approval or disapproval). The higher percentage incident of each of the pairs is bolded. For the incidents previously identified as dissatisfiers, the frequency of negative mention exceeded the frequency

of positive mention. In all but one case for satisfiers (layout), positive mentions exceed negative mentions. The analysis suggests differences in satisfaction and dissatisfaction factors with respect to response behaviors. These data suggest, on an incident level, that the negative form of the incident is more likely to generate a response than the positive counterpart.

Table 44 Repatronage intentions ANCOVA

Incident subtype	Source	df	Type III Sum of Squares	Mean Square	F	Eff. size
Server reliability (Ta)	TYPE	1	2,133	2,133	3.96*	.12
	DISC	7	24,510	3,501	6.50	.62
	Error	28	15,085	539		
Response time (Tb)	TYPE	1	1,805	1,805	3.40*	.11
	DISC	7	20,333	2,905	5.47	.58
	Error	28	14,878	531		
Charges (Aa)	TYPE	1	8,235	8,235	127.03**	.82
	DISC	6	7,231	1,205	18.59	.79
	Error	29	1,880	65		
Delivery time (Ab)	TYPE	1	474	474	3.81*	.12
	DISC	7	43,313	6,188	49.76	.93
	Error	28	3,481	124		
Listserv (Ea)	TYPE	1	1,646	1,646	7.87**	.22
	DISC	7	5,638	805	3.85	.49
	Error	28	5,857	209		
Layout (Na)	TYPE	0	0	b.	b.	b.
	DISC	5	11,507	2,301	9.61	.62
	Error	30	7,188	240		
Completeness (Nd)	TYPE	1	605	605	1.51	.05
	DISC	7	46,909	6,701	16.69	.81
	Error	28	11,241	401		
Informativeness (Oa)	TYPE	1	1,417	1,417	3.86*	.12
	DISC	7	17,893	2,556	6.96	.64
	Error	28	10,285	367		

Updates (Ob)	TYPE	1	3,954	3,954	14.25**	.34
	DISC	6	24,407	4,068	14.66	.76
	Error	28	7,770	277		
Information policy (Ia)	TYPE	1	102	102	.37	.01
	DISC	7	8,307	1,187	4.35*	.53
	Error	28	7,638	273		

b Cannot compute the appropriate error term using Satterthwaite's method.

Table 45 Percentage of reports favorable to response behaviors

	Positive incident distribution	Negative incident distribution	Z statistic
Server reliability	0.44	**0.78**	1.73 *
Response time	0.22	**0.56**	2.65 ***
Charges	0.50	**1.00**	3.00 ***
Delivery time	0.56	**0.61**	0.33
Listserv	0.28	**0.77**	2.50 **
Credit card requirement	0.22	**0.56**	2.12 **
Informativeness	**0.67**	0.44	-1.41
Updates	**0.33**	0.22	-0.71
Layout	0.28	**0.61**	2.45 **
Completeness	**0.50**	0.28	-1.63 *

- $p < .10$ ** $p < .05$ *** $p < .01$

Discussion

Pilot results suggest that dissatisfier incidents (technical problems and after-session problems) exhibited unique behavior with both response behavior and repatronage intentions. Excluding layout, online information and structure and navigation (satisfiers) also exhibited similar but distinct behaviors from the dissatisfiers (Table 46).

Table 46 Percentage of reports favorable to response behaviors

Incident	Incident subtype	Response behavior χ^2	Revisit intentions F
Technology (T)	Server reliability	1.73 *	3.96 *
	Response time	2.65 ***	3.40 *
After-session (A)	Charges	3.00 ***	127.03 **
	Delivery time	0.33	3.81 *
Email (E)	Listserv	2.50 **	7.87 *
Information policy (I)	Credit card requirment	2.12 **	0.37
Online Information (O)	Informativeness	-1.41	3.86 *
	Updates	-0.71	14.25 **
Navigation and structure (S)	Layout	2.45 **	--
	Completeness	-1.63 *	1.51

* p < .10 ** p < .05 *** p < .001

Conclusions

One of the major focuses of this research is to analyze behavioral intentions at the incident level. Technology evaluation often uses broad categories that not only ask respondents to match specific incidents to general categories, but to integrate several separate but related incidents in forming these evaluations. This pilot has verified several unique relationships between selected incidents and the outcomes under study (repatronage intentions and response behaviors). However, insufficient sample size prevents drawing more generalized conclusions. “Exit interviews” with the pilot group also indicated that the instrument was a bit lengthy.

In order to adequately confirm results of the previous phase, the four categories -- online information and navigation and structure (satisfaction) and functionality/technology and after-session support/customer service (dissatisfaction) -- were selected for retest in a larger-scale follow-up study with a smaller number of incidents. This redesign is illustrated in Table 47.

Table 47 Percentage of reports favorable to response behaviors

	Positive disconfirmation	Negative disconfirmation

Technology	Consistently problem-free	Faulty server
	Quick response by server	Server times-out
After-session customer service	Clear pricing information	Unexplained charges
	Reasonable delivery time	Extended and unspecified delivery time
Online information	Extremely informative content	Many information omissions
	Clear and frequent content updates	Unclear and infrequent content updates
Navigation and Structure	Well laid out	Poorly laid out
	Site is mainly complete	Site mainly “under construction”