

An Analysis of Online Customer Complaints: Implications for Web Complaint Management

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Abstract

How businesses resolve customer complaining behavior effectively has been considered a “defensive marketing” strategy [12] or a “zero-defections” [22] strategy, which diminishes customer dissatisfaction. Handling customer dissatisfaction accompanies Web customer complaint management, which might be the critical issue for online customer service solutions and e-CRM. In this paper, the authors 1) investigate the current sources and causes of online complaints; 2) seek effective ways of handling customer complaints by examining different product types; and 3) provide guidelines for successful e-CRM. One thousand customer complaints from three different publicized e-business customer service centers and five hundred complaints from online feedback systems were analyzed in this study. The research findings suggest that e-businesses should 1) provide excellent online customer services because customer service is the most important factor in online customer satisfaction; 2) respond to customers’ requests/complaints fast because the response speed is more important in online customer satisfaction than offline; and 3) employ strategies that are appropriate for the product category in question.

1. Introduction

Electronic Customer Relationship Management (e-CRM) is gaining the attention of e-business managers who are interested in increasing repeat business and customer loyalty [17]. Although e-marketers or e-researchers have addressed the importance of customer satisfaction and customer retention, the issues of customer dissatisfaction and complaints in the Web environment have rarely been investigated. Online customer complaints, as a Web-enabled market feedback, have illuminated the origins and causes of online customer dissatisfaction. Online customer complaints also show how e-businesses handle customer complaints – a reflection of how much they value their customers.

Successful e-CRM requires adherence to a stable and consistent strategy that focuses on the goals of maintaining customer loyalty and of using complaint handling data to solve problems and address issues raised by customers [5, 6, 19]. The key e-CRM components to be discussed in this paper include: i) maximizing customer satisfaction/minimizing customer dissatisfaction; ii) increasing customer loyalty; iii) increasing product/service quality; and iv) resolving customer complaints (Figure 1).

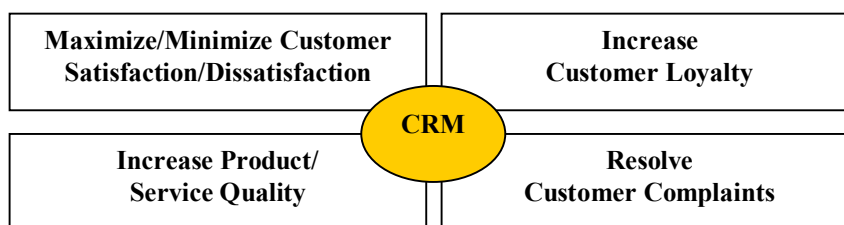


Figure 1. Key Components of e-CRM

1.1 Maximizing/Minimizing Customer Satisfaction/ Dissatisfaction

Although customer satisfaction has been identified as

a key component of e-CRM, the question of how to minimize online customer dissatisfaction has not been received much attention. As with any transaction, online

customer satisfaction/dissatisfaction is largely determined by how much the customer's expectations differ from the product's or service's actual performance - what traditional marketers refer to as the degree of disparity resulting from a customer's disconfirmation of expectations [1, 29]. According to the proposed model of online customer complaining behavior [5], online customer dissatisfaction results from unmet expectations about a product, technology issue; and/or Web assessment factors [24], which include information content, customized product information, convenient after sales support, privacy issues, fast and accurate delivery, etc. Similarly, according to customer metrics by [17], online customer satisfaction primarily depends on lead-time, delivery speed, product or service introduction, and convenience.

1.2 Increasing Product/Service Quality

A previous report [27] stressed that a firm's successful complaint management requires that a Quality Assurance (QA) department provides rapid feedback in order to improve a customer's overall perception of product and service quality. Another study [30] also described how online service quality is generated from feedback mechanisms that serve as intermediaries for Web-based information markets - in other words, how online product or service quality is used to evaluate online businesses. For example, customers can use online feedback systems to share their evaluations of product/service quality, including online transactions. In its most simple form, these systems result in increased sales when product or service quality is reported as satisfactory or better, and decreased sales when customer complaints persist.

1.3 Increasing Customer Loyalty

"E-loyalty" has been receiving more attention recently. According to [22], the Internet is a potentially powerful tool for strengthening relationships between firms and their customers. A previous study [22] also argued that today's online customers exhibit a clear proclivity toward loyalty, which can be reinforced by the proper use of Web technology. Another study [14] stated that establishing effective relationships results in greater customer loyalty and improved data on customer usage. Studies by [5, 19] encouraged the use of complaints to improve communication channels between buyers and sellers in general, and as a specific means of turning dissatisfied customers into loyal repeat customers.

1.4 Resolving Customer Complaints

As indicated in Figure 1, the proper management of online complaints has a direct effect on customer retention. Complaint management refers to the strategies used to resolve disputes and to improve ineffective products or services in order to establish a firm's reliability in the eyes of customers [28]. Complaint data is a key component in the process of problem correction and increased performance [28]. Online customers may file complaints 1) directly to the company from whom a product or service is purchased; or 2) indirectly via public or non-profit feedback websites - for example, the bbbonline.org site managed by the nonprofit Better Business Bureau (BBB).

Based on the four e-CRM components shown in Figure 1, the goals of the present study are to 1) explore the emerging virtual sites for customer complaints; 2) identify most common reasons for online complaints as reported by online resources; and 3) suggest effective ways of handling customer complaints, particularly with different product types. The qualitative components of this study focuses on customer complaints gathered from public/non-profit feedback websites and online customer service centers. It is believed that the results will contribute to improved e-CRM by emphasizing its value to e-businesses - that is, how complaint management can affect customer retention and profitability.

2. Literature Review

Although customer complaint behavior has been the focus of many studies involving traditional marketing approaches, little attention has been paid in terms of online marketing [6, 13]. Of the 200 studies of online customer behavior reviewed by [6], only two addressed customer complaint behavior; in contrast, online customer satisfaction was the focus of 42 of those studies. This lack of research on online customer complaint management is surprising in light of the identification of this topic as a key e-CRM issue by several leading e-businesses, including The Institute of International Research (<http://www.iir-ny.com>).

In traditional markets, customer complaints are considered an important source of information [29]. Since complaint management is recognized as being central to customer satisfaction, any measure of complaint behavior should consider the degree and quality of the underlying customer satisfaction [6]. According to [13, 18], effective complaint management has a dramatic impact on customer retention, deflects potential word-of-mouth damage, and improves profitability. Researchers [5, 2] are starting to look at complaint management as an important aspect of online strategic marketing tool - one that has such potential benefits as maximizing customer satisfaction and loyalty,

creating favorable publicity, and reducing the overall number of complaints. Examples of two leading online businesses that are considered leaders in e-CRM and improved relationships with online customers are burke.com [26] and neimanmarcus.com.

Traditional markets have learned that customer complaints are affected by individual customer characteristics, customer's perceptions of the sources of their dissatisfaction, outcome expectancies, product type, and the costs associated with complaining [7, 25,

32]. However, few online customer complaint behavior model has been proposed to date; studies [5, 6] identified such technology factors as system performance, Web assessment factors, and other media characteristics as primary cause of customer complaint behavior [24]. Web assessment factors, include information, agreement, and settlement components - all of which can be used to evaluate online customer complaints and to measure the effectiveness of electronic commerce sites that transcend traditional marketing paradigms [24].

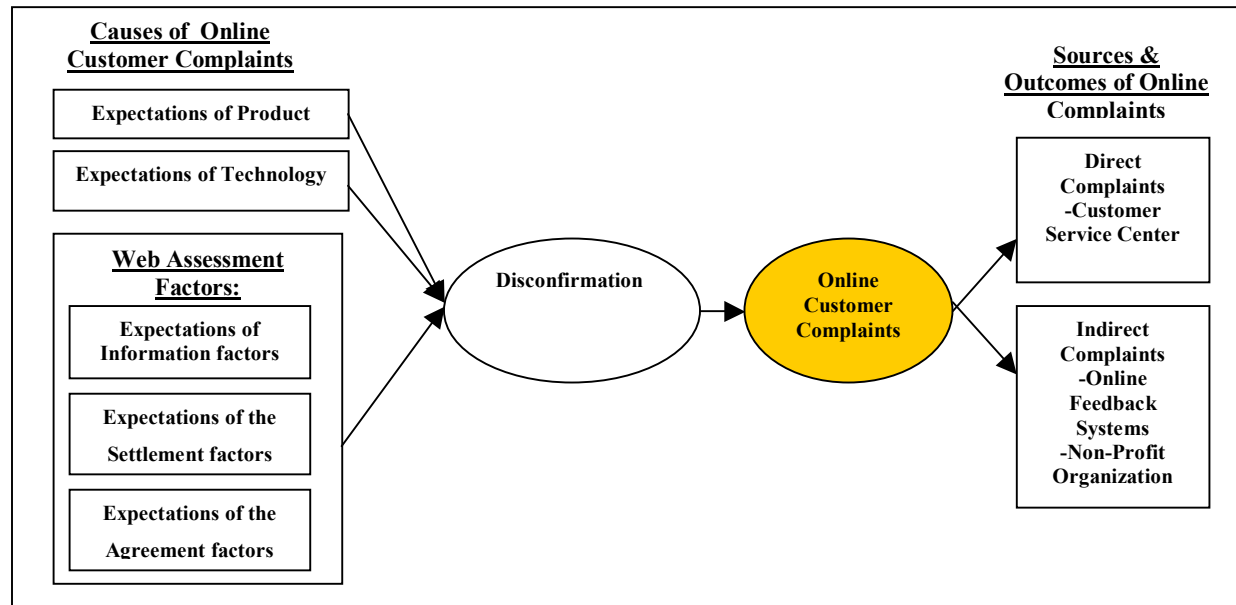


Figure 2. An Analysis of Online Customer Complaint Behavior

On the other hand, unmet customer expectations are also considered a primary cause of both online and offline customer complaints. Customer disconfirmation may be the result of a disparity between expectation and actual performance in terms of any of the Web assessment factors mentioned [24]. During the information phase, customers collect information on potential products or services, look for suppliers, and inquire about prices and conditions. In the agreement phase, a firm link is established between the seller and customer, and the details of a contract (e.g., product specifications, payment, and delivery) are negotiated. Product or service delivery occurs during the settlement phase, after which guarantee claims are made or help desk services are required [24].

Theories, such as dissonance theory, exit, voice, and loyalty explained causes and outcomes of customer complaining behavior. According to cognitive dissonance theory [10], disconfirmed expectations create a state of dissonance or psychological discomfort.

Hirschman's theory of exit, voice, and loyalty [16] posits that consumer complaining behavior is contingent upon the "value of voicing the complaint," the "probability that the complaint will be successful," and on "the ability and willingness to take up the voice," and that exit is often a last resort [4]. According to Hirschman [12], management discovers its failure to provide satisfaction via two feedback mechanisms, exit and voice.

In a complaint handling framework by [28], authors introduced the concept of justice to explain people's reactions to conflict situations. Prior studies [4, 28] described a sequence of events starting with a complaint and ending with an interaction through which a decision is made and outcome reached. This scenario stresses the influence of interpersonal treatment, process elements, and benefits/outcomes as core components of whether or not customer service is viewed in a positive light [21, 28]. The argument has been made that evaluations of how complaints are handled are contingent upon how customer service centers are managed. However, a previous study [6] found that product issues (e.g., product quality and performance)

are more important determines. In the present study, the first proposition was established to determine whether customer service issues result in a larger number of online complaints when compared with product issues.

Proposition 1: Causes of online customer complaints will be more likely triggered by problems with customer service than by product failure.

The second proposition to be tested is how online customer complaints depend on the product categories, specifically if customers failed to find proper information on those products. According to [11], all products are not equal on the Web because products possess different attributes and different levels of the same attributes. Based on [11], although the Web could capture many attributes of the product, critical aspects of some pumps were not conveyed. Similarly, the previous study [8] argued that online transactions differ from traditional exchanges in terms of sensory (touch, smell, or sound) and non-sensory product attributes. In this study, products are classified into two categories – “sensory products” and “non-sensory products.” Sensory products [8] have attributes that can be conveyed through our senses, particularly touch, smell, or sound. Non-sensory products are defined as products with attributes that can be conveyed reasonably well in words (e.g., product information).

In order to minimize customer dissatisfaction in e-businesses, this study proposes that sensory products (e.g., clothing, shoes, etc.) will require more intensive information online than non-sensory products. Otherwise, customers will be more dissatisfied with sensory products due to the specific attributes. This classification has been suggested because customer expectations on products via online, are contingent upon different product attributes.

Proposition 2: Online customer complaints based on information failure are greater for sensory products than for non-sensory attributes.

3. Sources of Online Complaints

This section i) describes the sources of online complaints where online customers can get opinions or leave comments, and ii) introduces the framework for classification. The sources of online complaints are feedback systems, such as epinions.com, cnet.com, eComplaints.com, customer service centers, and non-profit organizations. In some cases, those websites are dedicated to the exchange of information on all products and services from any company; in other cases, online customer service centers focus on the product lines or services offered by a single company. This study uses the following framework (Table 1) to classify the

features of the sources of online complaints: i) non-public vs. public, or ii) direct vs. indirect.

3.1 Epinions.com

The Epinions.com website is a source of product ratings, price comparisons, and opinions on the ‘pros’ and ‘cons’ of a broad range of individual products. Products are discussed along a continuum of “highest-rated” to “lowest-rated” based on user comments. Users are given access to recommendations, criticisms, and opinions for individual products, as well as a composite opinion rating based on consumer comments. Only members (i.e., registered users) at epinions.com are allowed to participate in rating the product or reporting opinions.

3.2 cnet.com

Similar to epinions.com, cnet.com provides product rating, price comparison, and positive/negative opinions. Cnet.com also provides information on diverse products/services. Unlike epinions.com, users at cnet.com are allowed to report product ratings (e.g., 1 = worst; 5 = best) and detailed opinions without being a member. Cnet.com provides product ratings based on value, service and support, quality and reliability and features. Users at cnet.com choose options to view all opinions, positive, or negative opinions.

3.3 Better Business Bureau (bbbonline.org)

Better Business Bureau OnLine (BBBOnline), a nonprofit organization, brings consumer protection and business self-regulation to e-commerce (<http://www.bbbonline.org/about/press>). BBBOnline describes this site as a “source of collecting complaints to resolve marketplace problems and to provide valuable models for e-commerce (<http://www.bbb.org>). The Bureau argues that its system proves that the majority of marketplace problems can be solved fairly through voluntary self-regulation and consumer education. Although any consumer is empowered to register a complaint, those complaints are not made public; instead, the Bureau prefers giving descriptions and ratings for a range of product within specific categories. The BBB’s reputation for reliability makes it a favorite source of information for consumers making purchases from companies they have not dealt with previously; its nonprofit status is considered a big plus in its favor (<http://www.bbbonline.org>).

3.4 Complaints.com

Owned and operated by Comments.com, Inc., complaints.com’s stated goal is to maintain an online

computer database to resolve customer problems and to increase the value of business firms (<http://www.complaints.com>). Users must register before they are given access to electronic bulletin boards to exchange messages on product, service, consumer, and business complaints, as well as any actions taken in response to those complaints (<http://www.complaints.com>). Unlike some feedback systems that are operated on a specific product/service basis, customers using complaints.com file their dissatisfaction against online businesses. Customer profile information and message content are sent to firms that are the targets of complaints posted by anonymous users (<http://www.complaints.com>).

3.5 Planetfeedback.com

Considered one of the leading public online consumer feedback services, planetfeedback.com's stated goal is to help consumers send their comments to companies "quickly and effortlessly" (<http://planetfeedback.com>). Also according to this website, the company has received both TRUSTe and BBBOnline privacy certification. According to PlanetFeedback.com, registered users are allowed to express their satisfaction/dissatisfaction with a company's response to a complaint and to share their opinions with others; all letters, which include contact information are saved in a database. PlanetFeedback's business services division, BrandPulse, helps businesses respond to consumer comments and offers detailed analyses of customer satisfaction with a product, service, or firm, as well as the "virality" (word-of-mouth behavior) of consumers.

3.6 eComplaints.com

eComplaints.com describes its service as a means of letting consumers "fight back" by voicing their concerns to companies who sell faulty products or services, while at the same time giving other consumers information on which to base their purchase decisions (<http://www.ecomplaints.com>). All complaints published by eComplaints.com are also sent to the companies in question, which encourage e-businesses to reply and to use the information to improve their products or services. By helping companies overcome their reluctance to address issues that come up repeatedly, eComplaints.com believes that it can help companies create and maintain a competitive advantage, and therefore remain profitable.

3.7 Web Customer Service Centers

Increasingly, online businesses are claiming that they use the Web as a customer service tool (<http://www.rightnow.com>). According to The Institute

for International Research, some companies are using what they call "Web-based customer contact centers" to deal with customer comments and complaints, utilizing sophisticated technology (e.g., chat functions) in their collaborative approach to problem-solving. For a large majority of online customer service centers, the exchange of information is restricted to the parties involved in a dispute. Instead of sharing customer complaints on their web pages, these companies restrict electronic interactions to email message. By controlling access to complaints, these businesses believe that they will avoid negative publicity, especially the spread of damaging rumors by word-of-mouth [28]. On the other hand, this approach may influence the belief that these companies neglect customer complaints and devalue their customers.

Some e-businesses, such as <http://www.samsungmall.co.kr> and <http://www.skdtod.co.kr>, open all customer complaints to the public. Any valid customers are allowed to file a complaint in what is referred to as "customer service center" files that are organized by topics - e.g., delivery, product quality, or after-sales services. The sellers' responses to these complaints are also publicized, giving customers insight as to how the firms react to problems.

The following categories are used to distinguish the different types sources of online complaints:

Public Most of the feedback systems, such as <http://www.epinion.com>, <http://www.eComplaints.com>, and <http://www.cnet.com> are examples of public sites. Customers using public sites are able to view the other comments, such as product review ('pro' and 'con' views), price comparison, and news for diverse kinds of products. Online customers also view comments/opinions regarding products/service at customer service centers, which are managed by some online businesses, such as <http://www.samsungmall.com>, <http://www.skdtod.co.kr>. These centers are public, so customers can view all the messages posted by other customers. However, they require registration in order to leave a message.

Non-Public Most online business manages their complaint messages individually. Customer complaints are not opened to the public and stored in a disclosed form. By hiding complaints, online businesses will not disseminate the troubles, which spread damaging word of mouth [23]. However, online businesses may have a tendency to neglect customer problems or ignore the value of the customer.

Direct Online Complaints Some online businesses have managed to transform consumer complaints into valuable business opportunities (<http://washingtonpost.com>) and protect customers. Online companies such as <http://www.samsungmall.co.kr> build customer service centers and bulletin boards to offer feedback about

customer complaints. On the other hand, the majority of online companies manage complaints via e-mail individually. Online companies, which do not disclose customer feedback systems, might take advantage if they manage effectively, while avoiding negative publicity. Customer dissatisfaction might result from viewing complaints of other customers.

Indirect Online Complaints Feedback systems provide customer complaints online. Customers using these system do not send complaints directly to the companies that sold a product or service, but to a third party that not only sends them to the targeted companies, but also disseminates the information to a wider audience. These third-party websites post complaints as open-ended messages (i.e., general opinions), structured feedback (i.e., rating) or a combination of the two [30]. While most feedback

systems are open to the public, some accept only registered users (e.g., <http://www.complaints.com>). Customers leave positive/ negative product/service evaluations and comments/ opinions relating to a brand and/or product in the feedback system after they make a purchase. By posting negative opinions, the purpose of the feedback systems is to i) help others avoid the same pitfalls; ii) help others avoid similar problems; and iii) exert leverage to solve customer's complaints (<http://complaints.com>). Non-profit organizations such as <http://www.bbb.org> also provide a place where customers report complaints. Although customers cannot share other users' opinions/comments on the product/service, these organizations protect customers and resolve their problems. The BBB system has proven that the majority of marketplace problems can be solved fairly through the use of voluntary self-regulation and consumer education [<http://www.bbb.org>].

Table 1. An Analysis of Sites for Online Customer Complaints

Sources of Online Complaints	Classification				Product/Service Rating Availability
	Openness		Type of Complaints		
	Public	Non-Public	Direct	Indirect	
Epinions.com	v			v	v
cnet.com	v			v	v
Complaints.com	v			v	
Better Business Bureau (BBB <i>OnLine</i>)	v			v	
PlanetFeedback.com	v			v	v
eComplaints.com	v			v	v
Publicized Customer Service Center	v		V		
Private Customer Service Center		V	V		

4. Causes of Online Complaints

This study has been expanded from the prior studies (see section 4.1 and 4.2 for method and discussion). The previous study [6] has identified the primary causes of online customer complaints for a selected sample such as failure to meet price expectations (21.6%), lack of convenience (ease-of-use) (13.7%), slow delivery (9.8%), lack of access to information (6.3%), slow responses to inquires (6.2%), and poor product variety (6.0%). Another study [5] also found factors that need to be improved to maximize customer satisfaction in the online shopping environment: security and privacy issues (13.8%); technology ability issues (13.7%); customer service (11.8%); shipping cost (5.9%); lack of information (4.0%); and follow-up ads (i.e., spam: 3.9%). Many of these factors imply difference between product, service, or company performance and customer expectations.

The previous study [6] also analyzed the disparity between online customer expectations and actual performance in an attempt to identify the most important

triggers of online customer complaint behavior. The criteria for Web assessment factors have been used as a framework to distinguish the classification of online customer complaints. Their results show that online customers have strong expectations concerning 1) 1) the availability of reliable product information during the information phase; 2) security during the agreement phase; and 3) reliable after-sales support during the settlement phase.

4.1 An Analysis of Customer Complaints from the Feedback Systems

Method Based on the previous findings [5, 6], more extensive study has been done on posted online customer complaints. While previous studies have been conducted based on the indirect measure of dissatisfaction by asking about the disparity between a customer's expectations and the reality of their experience in a smaller sample of posted complaints, this study has been conducted based on direct customer reaction with a larger amount of complaints from

various sources. 500 publicized complaints have been gathered in this study from the most popular feedback sites, which publish complaints on the Web, i.e., <http://www.epinions.com>, <http://www.cnet.com>, and <http://www.eComplaints.com>. An almost equal amount of complaints (170 from epinions.com; 170 from cnet.com; and 160 from eComplaints.com) were randomly selected in a similar time period (September 2000 - May 2001). Complaints have been also randomly gathered from diverse product categories, including computers, printers, clothing, and electronics. Qualitative analysis on the causes of online customer complaints has been conducted. To increase the validity of the study, major issues are doubly reviewed by an e-commerce and an IS-major person.

Discussion Table 2 provides what are the major online customer complaints, based on this review of customer complaints reported in feedback systems. According to this result, online customer complaints have been produced from the unsatisfactory customer service (# of reviews: 169 (33.8%)); product failure (e.g., product performance, product quality: # of reviews: 131 (26.2%)); dissatisfied price factor (# of reviews: 75 (15.0%)), and others. The other complaints were distributed among security and trust issues, tracking and tracing issues, and misleading information.

Table 2. An Analysis of Complaints from the Feedback Systems

Causes of Complaints	Classification in Web CCB Model	Example of Actual Reponses*	# of reviews (%)
Customer Service (i.e., contact possibilities, after-sale service, technical support)	Settlement factor	Unresponsive to requests for assistance; longer than average waiting time; unresponsive to requests for assistance; unfriendly technical support.	169 (33.8%)
Product (e.g., quality, performance, etc.)	Product factor	Product damaged/poor quality; freezes occasionally; poor video acceleration; underwhelming performance; speakers stop working periodically.	131 (26.2%)
Price	Product factor	Expensive; pricey; be wary of their financing program; interest rates are insanely high.	89 (17.8%)
Delivery Problems	Agreement factor, Settlement factor	Long delivery time; shipping contributes a lot to the cost.	75 (15.0%)
Misleading Information	Information factor	Hardware was not as good as advertised.	10 (2.0%)
Security and Trust Issues	Agreement factor	Believe that this company rips people off.	9 (1.9%)
Tracking and Tracing	Settlement factor	The site didn't provide the order status.	9 (1.9%)
Promotion	Information factor, Agreement factor	Very few "buy computer-get printer" offers.	8 (1.6%)

* Source: <http://www.epinion.com>, <http://cnet.com>, and <http://www.eComplaints.com> reported from September 2000 to May 2001.

4.2 An Analysis of Complaints from Customer Service Centers

Method A second set of 1,000 complaints was established with information taken from the online customers service centers of three major retail companies whose anonymity will be preserved in this report – ABC.com, XYZ.com, and PQR.com. Customers file their complaints in their service center if they are dissatisfied with the products or services. These companies are popular companies that sell diverse product categories online. 1000 selected complaints have been analyzed qualitatively. As with the review of complaints reported in feedback systems, an almost equal amount of complaints (350 from ABC.com, 350 from XYZ.com, and 300 from PQR.com) were randomly selected in a similar time period (September 2000 - May 2001). Complaints have been also randomly gathered from diverse product categories, such as computers, printers, clothes, electronics, etc. and doubly reviewed for consistency.

Discussion In the second set of data set, the distribution of online customer complaints was i) problems with customer service, such as online contact possibilities and delayed feedback response time (# of complaints: 173 (17.3%)); ii) problems with business rules and conditions (# of complaints: 111 (11.1%)); iii) unsatisfactory-delivery issues (# of complaints: 109 (10.9%)); iv) product failure (# of complaints: 106 (10.6%)); v) problems with handling after-sales support (# of complaints: 105 (10.5%)); vi) payment/billing issues (# of complaints: 101 (10.1%)), and others (Table 3). Issues about product unavailability, information failure, adjustable customer profiles, and price are comparatively minor problems.

A *t*-test was conducted to test *proposition 1*. The number of complaints about the two issues – customer service and products – has been counted for each month over the 9-month data collection period. The *t*-test result ($t = 6.81$;

significant at 0.05 level) shows that the number of complaints about customer service is significantly larger than those about the product. In other words, problems with customer service centers have been proved as the major causes of online customer complaints and it was higher than problems with product issues. Therefore, this result supports *proposition 1*, while it needs to be compared against offline companies for a more accurate

test. Table 3 also provides relative complaints based on Web assessment phase factors. Overall, online customer complaints have been generated from i) agreement phase factors (total # of complaints: 428 (42.8%)); ii) settlement phase factors (total # of complaints: 394 (39.4%)); and iii) information phase factors (total # of complaints: 127 (12.7%)).

Table 3. An Analysis of Complaints from the Customer Service Centers

Criteria for Causes of Complaints*		Explanation	Example of Complaints**	# of Complaints (%)
Product factor	Product failure	Requires product exchange or refund, etc.	Product fell apart; quality is bad.	106 (10.6%)
Technology factor	Performance of the system	Speed, links to other pages, and other issues related to website, etc.	Page is always slow; even when other sites are working well; failure to link another page, etc.	45 (4.5%)
Information factor	Information failure	Failure of information quality, bad structure of information content, does not specify where to get after-sales service, misleading information, etc.	Product does not have the all the functions as described on information page; received false information, etc.	71 (7.1%)
	Product unavailability	Possibility of product accessories, geographical availability, etc.	It says "in-stock," but wasn't; battery and ear-set for my cellular phone was not available from the vendor.	26 (2.6%)
	Cost/benefits passed on the client	Problems with price differences compared to other vendor, buyer's expectation on reduced costs, etc.	Product price was more expensive online than in-store; overcharged product price; price gouging, etc.	30 (3.0%)
Agreement factor	Adjustability of customer profiles	Inability to adjust customer profiles such as personal information, payment information, etc.	Cannot fix credit card information; impossible to delete part of my information, etc.	44 (4.4%)
	Interactive integration of business rules	Failure of general terms and conditions, guarantees, possibility for returning products, etc.	Vendor cancelled product order; service provided not as agreed upon, etc.	111 (11.1%)
	Contact possibilities with seller	Problems arise with vendor, e.g., help desk during order process, late feedback response time, etc.	Rude customer service representative; service declined in quality, etc.	173 (17.3%)
Settlement factor	Tracking & tracing issues	Customers dissatisfied with unspecified information about such issues as tracing orders, etc.	Company does not provide tracking and tracing information; Impossible to track product location, etc.	79 (7.9%)
	Delivery issues	Late delivery time, no delivery, delivery of damaged product, etc.	Monitor arrived too late; didn't deliver when expected; too late as a gift, etc.	109 (10.9%)
	Good integration of generic services	Payments, billings, electronic contracting (pricing and conditions), shopping carts, one bill for multiple shops, etc.	Vendor does not provide several options; so I cannot pay it with my credit cards; vendor didn't provide effective payment options; changed separately for multiple products, etc.	101 (10.1%)
	Inconvenient after-sales support	Problems with after-sales services (e.g., feedback form, guarantee form, etc.)	Refused to fix the product under warranty, etc.	105 (10.5%)

* Criteria for the causes of online customer complaints have been modified from the study by Schubert and Selz (1999).

** Source: publicized complaints taken from the Customer Service Center Websites of three anonymous online retail companies, called ABC.com, XYZ.com, and PQR.com reported from September, 2000 to May, 2001.

Table 4 provides the proportion of complaints by product categories with the condition that the customer's problem is generated from information failure. Product categories are classified into sensory vs. non-sensory depending on the attribution. *Proposition 2* has been tested by recoding the data, the difference in the portion of 'information failure' between sensory and non-sensory product. Specifically, first the types of complaints were recoded: 'Information failure' was coded 1 and 'other comments' were coded 2. Similarly, 'sensory products' were coded 1 and 'non-sensory products' were coded 2. Then, a *Chi-*

square test was conducted with the recoded 'complaint type' and 'product type.' The result ($X^2 = 12.01$: significant at 0.01 level) shows that customers are more likely to complain about sensory products than non-sensory products via online modes if they fail to find proper information. In other words, online customers are less likely to complain about non-sensory products in cases when they encounter information failure with those products. Thus, this result supports *proposition 2*.

Table 4. An Analysis of Complaints According to Product Category

Product Categories	Product Classification	Complaint Percentage Associated with Information Failure
Clothes & Accessories	Sensory Product	28.7%
Cosmetics/Skin Care Products	Sensory Product	21.6%
Shoes/Handbag	Sensory Product	19.4%
Consumer Electronics	Non-Sensory Product	16.1%
Computer Hardware/Software	Non-Sensory Product	15.2%

The results of the review in table 3 have been compared to the results from the analysis of complaints from the feedback systems (table 2). Some consistent results have been found in table 3 from the results from the analysis of customer complaints, reviewed from feedback systems (table 4). Based on the results from the review of online customer complaints from the different sources, issues with customer service have been found to be the most significant factor, which causes complaints in the online businesses. But, some differences are also found. The proportion of complaints from two different sources has been compared: i) product failure has been shown as the second significant factor for causes of complaints in a review of feedback systems, but as the fifth significant factor in a review of complaints reported in customer service centers; ii) price issues have been the third significant factor in a review of feedback systems, while they have been a minor problem in a review of complaints in customer service centers; and iii) problems with business rules and conditions have been a much more significant factor in a review of complaints in customer service centers. Overall, criteria for the agreement & settlement phase criteria have been found to be more significant than the criteria for the information phase criteria in both results. There are some limitations of the study. While these results from different sources of online complaints have been compared, there is a lack of evidence that complaints in online feedback systems are the consequence of the online purchase. Therefore, it is expected that the analysis of customer complaints reported in feedback systems might be the result of a combination of online-offline shopping experiences. By assuming this fact, these two results can be distinguished as comparison analysis of customer complaints between the online shopping experience (i.e., review of customer service centers) and a combination of the online and offline shopping experience (i.e., review of feedback systems).

5 Implications for Web Customer Complaint Handling Management

Previous studies of customer complaining behavior have provided insights to businesses regarding which changes should be made to remedy customer problems or retribute purchase or usage-related problems [32]. This study proposed that handling customer complaints should be

included as a key component of e-CRM. By examining complaint data, this study found that major online customer complaints and dissatisfaction have been generated from the problems with Web customer service centers. This result has implications for how e-businesses' customer service centers should manage customer complaints effectively. Specifically, this study suggests that e-businesses should give faster feedback responses in an accurate and kindly manner. Online customer service centers (also referred to as "Web-enabled customer contact centers": <http://www.iir-ny.com>) could provide online chat services to their customers, more efficient customer self-help centers, or a combination of several customer communication channels (<http://www.rightnow.com>). Synchronous feedback system, of course, is the fastest means of communication online. The primary point is that the lack of a rapid response tends to increase the intensity of the original complaint. This study found that most of the current online customer service centers, e.g., reviewed in this study, do not use a synchronous feedback system. Therefore, online complaints are often augmented by customers who request rapid feedback.

The results also suggest that e-businesses should employ product category-dependent strategies. Those e-businesses dealing with sensory products (e.g., clothing, shoes, or cosmetics) need to develop better means of delivering product information to customers who obviously cannot touch, taste, or smell the object they are thinking of buying. Such e-businesses should put more efforts on issues such as Web interface, design, and highly advanced technologies, etc. An excellent example of using advanced Web features to achieve this goal can be found at landsend.com. The company helps customers build a three-dimensional mirror image known as "My Virtual Model™." Those companies offer highly interactive communication to reach customer satisfaction. Thus, by making such effort, online companies dealing with sensory product can decrease customer dissatisfaction and complaints.

In summary, when approached as a defensive marketing strategy [12], complaint management is now considered an excellent competitive tool for e-businesses. Taking complaint management seriously also affects product/service quality, website design, and operational policies. Finally, the results of this and studies that appropriate online complaint management facilitates repeat business and customer loyalty [12]. Efforts toward the effective resolution of customer

problems serve as the basis for long-term product and successful e-CRM.

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