Improving the Quality of Online Consumer Communities

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INTRODUCTION

Consumer-opinion websites enable consumers to voice their opinions on products, services and companies, read those others or and interact with other consumers on a website other than that of a manufacturer, retailer or auction. To consumers, these websites are sources of pre-purchase or post-purchase product information (Hennig-Thurau & Walsh, 2003). Consumers voicing their opinions on the Web are valuable sources of knowledge not only to other consumers but also to companies. They may learn about customer preferences and product defects (Nah et al., 2002), which they can translate into opportunities for product modification and development (Cho et al., 2002; Pitta & Fowler, 2005).

Previous research on consumer-to-consumer interactions on the Web has primarily focused on C2C auctions (e.g. Standifird, 2001; Dellarocas, 2003; Mollenberg, 2004), while communicative aspects of consumer interactions have not been paid much attention to. Relevant studies conducted in this area have looked at the persuasiveness of consumer-to-consumer communication on the Web (Xue & Phelps, 2004), the effect of positive and negative messages on consumers' brand evaluation (Chiou & Cheng, 2003), the use of online communities for marketing (Evans et al., 2001; Maclaran & Catterall, 2002), consumers' reasons for visiting C2C websites (Hennig-Thurau & Walsh, 2003), and their motivation to voice their opinion on C2C sites (Hennig-Thurau et al., 2004). These papers are anchored in the fields of marketing, information systems, but have not viewed consumer-to-consumer interactions as communicative exchanges. This paper is grounded in media richness theory, focusing on the interactional structures and tools available to participants in communicative exchanges on consumer-opinion websites. The goal of this paper is to identify mechanisms that render the information disseminated on consumer-opinion websites more valuable to both consumers and companies.

CONCEPTUAL FRAMEWORK

This study applies the concept of media richness to interactions on consumer-opinion websites. Media richness theory is well suited for this analysis, since there is a close link between website design, web usability and media richness (Palmer, 2002). Originally proposed as a theory in the realm of managerial communication, media richness theory suggests that media can be high or low in richness, which is defined as "the ability of information to change understanding within a time interval" (Daft & Lengel, 1986, p. 560). While leaner media suffice for unequivocal messages, task performance is expected to improve when richer media are used for complex messages (Daft & Lengel, 1986). Also, users perceive a medium as richer as they gain experience with it (Burke & Chidambaram, 1999).

Media richness theory argues that a medium's richness depends on its capacity regarding four parameters: the immediacy of feedback, the number of cues it can convey, language variety, and personal focus. Face-to-face communication is considered to be the richest medium, as its participants are able to give rapid feedback, communicate cues other than language (e.g. physical appearance, body language, tone of voice), use natural language to convey a wide range of meanings, and can communicate feelings easily. Richer media thus create a more positive affective state in the receiver, as they are capable of conveying information about the emotional state of the sender (Daft & Lengel, 1986; Daft et al., 1987; Lengel & Daft, 1988). Interactive media such as telephone or e-mail are considered to be leaner than face-to-face conversations but richer than static written communication, with telephone conversations being richer than e-mail messages (Lengel & Daft, 1988). The exact position of websites along the continuum between face-to-face and written communication is difficult to determine, since they may provide anything from mere textual information to multimedia applications (Palmer, 2002).

Examining websites in light of the four parameters of media richness, one can safely say that feedback in electronic media is always less immediate than oral communication—irrespective of whether synchronous or asynchronous—as typing a message causes a delay in transmission (Dennis & Kinney, 1998). The Web's capacity to convey social cues is lower than that of other channels, which entails that many of the social cues we are used to in the physical world are absent in online interactions (Donath, 1999). The parameter of language variety refers to how a medium serves to increase understanding among communicators by transmitting verbal and non-verbal information as well as signs and symbols (Daft & Lengel, 1986). Although in this sense written communication conveys less information than oral communication, web-mediated communication has means unavailable in conventional written communication, e.g. hyperlinks or animations, thus providing richer interactions than non-digital written formats such as letters or faxes. Ultimately, a sender who communicates feelings and emotions has greater presence in the exchange, since receivers tend to constantly monitor the sender's emotional expressions (Strongman, 1996). In the absence of nonverbal and visual cues, a writer in computer-mediated communication tends to lose in presence compared to the speaker in an oral conversation (Tanis & Postmes, 2003).

DATA COLLECTION AND ANALYSIS

Media richness theory provides a scheme for organizing and understanding the design features offered by C2C websites, which helps to identify ways of making them more suitable for the tasks they seek to perform. This study applies the techniques of content analysis to analyze features of websites (cf. Robbins & Stylianou, 2003; Zhou, 2004). The strengths of this approach lie in the unobtrusive, systematic, and replicable collection of data (Krippendorff, 1980).

The sample websites were found in the *Yahoo Directory* under "Consumer Opinion" (Yahoo Directory, 2006), which contains links to 28 sites. The *Google Directory* did not have a corresponding category containing chiefly consumer-opinion websites and was thus not considered for drawing the sample. From the 28 consumer-opinion websites found via the *Yahoo Directory*, nine had to be excluded, because they were not available at the time of data collection, contained only sponsored links, or were just alternative URLs to other sites listed in the directory. The resultant sample consisted of 19 websites (see Table 1 in "Results" section). A user account was opened with each site in order to gain access to all features offered.

A coding instrument was developed that makes for the systematic and unbiased collection of data from the sample websites by conducting a pilot study of the interactional structures of the first 9 websites from the alphabetically ordered list of sites. To develop this coding scheme, as many different features and tools as possible were identified that provide for feedback, multiple cues, language variety, and personalized messages. The scales used to measure these facts were nominal, taking into account the presence or absence of a particular feature. In content analysis, nominal scales do not require human judgment and interpretation to the same extent as, for example, ordinal scales and thus reduce coder bias. Subsequently, all 19 sites were examined for the presence or absence of the 25 features derived from the pilot coding. Since the study is exploratory in nature, the coding scheme was open for new codes that emerged throughout the coding process and sites already coded were then recoded for the presence or absence of these features (cf. Schultz, 1999; Ellison, Heino, & Gibbs, 2006). Overall, the coding scheme included 27 codes (see Appendix). All sites were revisited and re-coded as a check on intra-coder reliability (cf. Bauer, 2000; Stempel & Wesley, 1981), reaching an agreement of 99.61%.

Table 1. Basic interaction formats

	DI	CO	PR	RE	QU	RA	BL	WK	RG
AskAnOwner					•				
ComplaintBook		•							
Complaints		•							
ConsumerReview	•			•					•
Dooyoo				•					•
Epinions	•			•					•
JudysBook				•	•				•
MarketMarks		•	•		•				
My3cents	•	•	•	•			•		•
PlanetFeedback		•	•		•				•
Ratings				•		•			•
ReviewCentre	•			•		•			•
Riffs				•		•	•	•	
RipOffReport		•							•
SafetyForum	•								
SqueakyWheel		•							•
SyllasForum	•								•
TCCL	•	•	•						•
uSpeakOut	•								•
Total	**8**	**8**	**4**	**7**	**4**	**2**	**1**	**1**	**13**

RESULTS

As Table 1 shows, the sites enable consumers to express themselves in a variety of formats, including discussion threads (DI), complaints (CO), praises (PR), product reviews (RE), questions (QU), product ratings (RA), consumer blogs (BL), and wikis (WK). Further, Table 1 indicates how many sites require users to register (RG) in order to actively participate in such interactions. Reading contributions is possible without registration on all sites.

Feedback

The 19 C2C sites use almost exclusively asynchronous feedback mechanisms. In fact, *TCCL* and *Riffs* are the only websites facilitating synchronous feedback in the form of online chats. Asynchronous feedback on C2C websites includes comments on product reviews (n=12), e-mails (n=10), ratings of the usefulness of a product review (n=9), replies in discussion threads (n=8), company rebuttals to complaints (n=6), personal messages among registered users (n=6), replies to questions (n=4), and wiki collaborations (n=1).

Feedback facilities can also be looked at in terms of the parties involved. While only eleven sites offer one-to-one consumer communication (i.e. PM, e-mail, chat), 16 sites post one-to-many feedback from consumers (i.e. ratings, comments, replies in threads) and six sites enable companies to provide feedback on consumers' opinions in the form of rebuttals. Only one C2C website does not include any feedback mechanisms at all, confining interactions to message transmission and reception. To some extent, also the operators of the C2C sites give feedback to the contributors as well. While some of them merely claim that they reserve the right to remove inappropriate or offensive messages, two sites claim to approve all reviews before they post them online, and two websites automatically screen all messages for offensive words and censors them.

While the majority of sites rely on voluntary contributions, six sites offer financial or material incentives to contributors, which also function as a feedback mechanism. The incentives offered include cash rewards for every 100th review submitted by registered members or credit points which are redeemable for products or cash and are earned for each review or each time the review is read.

Multiplicity of Cues

Allowing members to provide information about themselves when they register is one way to remedy the Web's reduced capacity to convey social cues. Twelve sites enable users to make such information available in their member profiles, including for example location, gender, occupation, e-mail addresses, verbal biographies, hobbies, and links to personal websites. On ten sites, the user profiles also include statistics about the user's activities on the site. The data users are able to provide or the site provides about them include the number of contributions by the user, the join date, the number of credit points earned, the average rating s/he has received for his/her contributions, the number of visits, the date of the last visit, and the average response time.

C2C sites also provide cues regarding the status of individual users in C2C communities. Two sites provide rankings of their contributors either on the basis of the number of credit points they have earned or on the number of contributions they have made to the site. Six other sites award titles based on the quality (e.g. *top reviewer*) and quantity (e.g. *senior member*) of users' contributions. *ReviewCentre* does not award titles to users but to their contributions, labeling high-quality reviews as *expert reviews*. Similarly, registered members on *Dooyoo* can nominate reviews for inclusion in the site's *Hall of Fame*.

Another way of determining a user's status in a C2C community is by enabling registered members to indicate in their profiles which users in the community they trust in terms of expertise. These buddy networks people create when they add people to their list of trusted members may help others to decide whether or not to trust a reviewer. Overall, four sites offer such reputation systems. One C2C site merely lists a user's *Friends* but does not indicate how many users have added this user to their list of *Friends*.

Language Variety

All 19 C2C sites enable people to articulate their opinions publicly using natural language, e.g. discussion threads, blogs, chats, product reviews, comments, questions and answers, complaints and praises. The texts can be enhanced with active hyperlinks on six sites, e.g. to link to the sites of companies or products that writers are reviewing. Six sites also enable writers to paste pictures into their messages. Similar to hyperlinks, pictures may help people to provide evidence for their arguments for or against a company or a product. Three websites inviting verbal reviews offer a default structure that encourages readers to deal with positive and negative aspects of a product in the review.

Eight sites use categories in addition to verbal statements in the form of Likert-scale questions or closed-ended questions. These communication formats clearly

limit people's means of expression to a pre-defined set of answers and introduce a response bias as they suggest ideas and cannot account for qualifications to responses (*Blunch, 1984)*. Such ratings appear in two different formats. First, people can rate products or companies according to predefined criteria (e.g. customer service, ease of use, etc.). Second, they can rate the usefulness of other consumers' contributions, e.g. "Was this review very helpful / helpful / somewhat helpful / not helpful to you?". Although such data can be analyzed more easily than verbal product reviews, they provide only meaningful information if large numbers of users make use of these rating facilities.

Personal Focus

Six of the C2C websites enable people to use a selection of emotive icons to express sentiments such as fear, boredom or uncertainty, which sequences of ASCII characters do not convey as unequivocally as icons. Thus, such interactions are richer than those in which people can use either only ASCII-code emoticons in texts or no emoticons at all because opinions are to be expressed in the form of ratings. Another factor determining how much presence a writer has in computer-mediated communication is whether or not they post their contributions anonymously, use a screen name, or use their real names. On four sites people can voice their opinions anonymously, on three sites they are strongly encouraged to use their real names, and on twelve sites they can register any name. Consumers thus have the possibility to express feelings, emotions and attitudes when they select screen names. Avatars, which enable people to express emotions and attitudes, can only be used on five C2C sites. Thus, in the C2C interaction systems studied, interlocutors do not have much visual presence, although the medium has the capabilities to do so.

DISCUSSION AND IMPLICATIONS

Media richness theory argues that leaner media suffice to convey simple messages, while richer media should be used to convey complex messages. Messages on consumer-opinion websites have varying levels of complexity, depending on the writer's motives and on the reader's use of these messages. The tasks performed by users of consumer-opinion websites are threefold, including (1) passive information gathering (i.e. reading) before or after a purchase or as part of social interactions, (2) active information gathering (i.e. asking) before or after a purchase or as part of social interactions, and (3) information dissemination to share information after a purchase or as part of social interactions. Passive information gathering is complex, given that the relevant information has to be found first and then several or possibly many different viewpoints have to be processed. Reading stimulated by the need for social interaction is clearly less challenging, as an interactant will only respond to one message of his/her choice at a time. Writing, meanwhile, involves complex messages, if the writer seeks to produce a comprehensive and accurate product review, but uses less complex messages, if the purpose of writing is to vent emotions or interact with others. Thus, to be successful, consumer-opinion websites need to offer a high level of richness to those users producing or consuming complex messages, but at the same time they must not overwhelm those consumers exchanging less complex messages.

As the above results have shown, the websites examined have implemented a number of measures intended to render contributions to these sites more valuable. Table 2 summarizes these measures, indicating which parameter of media richness they belong to and how many sites have implemented them. Essentially, the measures listed in this table represent a non-exhaustive inventory of potential success factors for consumer-opinion websites, given that they enhance the richness of consumer-to-consumer interactions.

The quality of contributions in C2C interactions could be improved in a number of ways. Feedback mechanisms may impact quality, since writers might pay more attention to the quality of their contribution when site owners review contributions before they make them available publicly or may even decide not to post them. Similarly, people are likely to try harder when they know other people can rate them or comment on what they have written. However, readers may not be willing to provide feedback that rewards the writer but does not provide any rewards for themselves.

Quality is also closely associated with language, as opinions expressed verbally can account for both positive and negative views on a product or a company, unlike opinions expressed by answering multiple choice questions or closed-ended questions. When users rely on word-of-mouth communication, they consider negative information more helpful than positive information in distinguishing between high-quality and low-quality products (Herr, Kardes, & Kim, 1991). This suggests that website operators should encourage consumers to consider both positive and negative points when stating their opinion on a product, as is currently done by three C2C websites in the sample. When writers are guided by such a structure, their contributions may contain more valuable product evaluations rather than personal stories or venting of emotions.

Further, activated hyperlinks may enhance the quality of contributions in C2C interactions, as they enable the writer to loosely integrate information from other sources, giving a broader picture than the information posted on one C2C website can give. Ultimately, quality in C2C interactions can also be enhanced by offering emotive icons to writers, since words on a screen cannot always convey what people convey with facial expressions or intonation in face-to-face interactions. Conversely, the use of emotive icons may shorten or eliminate passages verbalizing emotions in consumers' contributions.

However, website operators wishing to enhance their sites need to be aware that not all features are valuable to all sites, in particular to those sites offering only one interaction format. For example, ratings of contributions add to the richness of general-opinion websites (e.g. product review sites) but are clearly of less value to pure complaint sites or discussion forums. Conversely, company responses would be a meaningful enrichment for complaint sites but not for discussion forums. Clearly, hybrid sites, facilitating more than one interaction format, provide richer interactions, as users can choose – depending on their experience with the medium – the format they perceive as the richest for the task they seek to perform.

The results also suggest that it is worthwhile for C2C websites to separate the tasks of information search/dissemination and social interaction. C2C websites could cater to both consumers' information and social needs but with different interaction facilities, for example by offering a discussion forum with member statistics and product-review facilities supported by trust networks. This separation would enable people to perform their information-oriented reading or writing tasks in a richer setting and social tasks involving less complex messages in a leaner setting.

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Table 2. Improving the richness of online consumer interactions

Feedback	Cues	Language	Personal Focus
Company Responses [6] Ratings by Readers [9] Reader Comments [12] Screening/Reviewing [4] Credit Points [6]	Member Profiles [12] Trust Networks [6] Community Titles [6] Rankings [2]	Verbal Expression [19] Active Hyperlinks [6] Default structure [3]	Emotive Icons [6]

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APPENDIX: LIST OF FEATURES

Feedback	Asynchronous/synchronous, ratings, comments, threads, PM, e-mail, chats, rebuttals, wiki, feedback from site owner, credit points
Cues	Contents of member profiles, user statistics made available, link to personal site, picture of oneself, network of trust, ranking of contributors, titles awarded
Language	Ratings, verbal comments, pros and cons, activated hyperlinks, pictures
Personal focus	Registration, screen name, avatar, emotive icons