Establishing Trust in Electronic Commerce Through Online Word of Mouth: An Examination Across Genders

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ABSTRACT: This paper focuses on the cultural effect of gender on the relationship of online word of mouth and trust in e-commerce. To encourage online commerce, many online retailers use online word-of-mouth systems, where consumers can rate products offered for sale. To date, how such ratings affect trust and adoption of e-commerce across genders has been relatively unexplored. We assess whether the effect of online trust on intention to shop online is moderated by gender. Our results show that the effect of trust on intention to shop online is stronger for women than for men. In addition, we find that men value their ability to post content online, whereas women value the responsive participation of other consumers to the content they have posted. Finally, we find that online word-of-mouth quality affects online trust differently across genders.

KEY WORDS AND PHRASES: consumer-generated content, electronic commerce, gender, online trust, online word of mouth, sociolinguistic theory.
Lack of trust has been shown to prevent consumers from purchasing online and to abandon their shopping cart during an online transaction [61, 63]. Online retailers have attempted to provide a proxy for advice from friends and salespeople through the use of e-commerce-based word-of-mouth (WOM) systems in order to build brand loyalty and trust [30, 70]. The question arises: Do men and women differ in their evaluation of online trust, online WOM, and e-commerce? Answering this question will help practitioners and academics to understand how to establish trust online. We develop a model, based on sociolinguistic theory, which hypothesizes that the effect of online WOM on trust differs across genders because genders communicate and evaluate communications differently. Using a large sample, we ask the following research questions:

- **RQ1:** Do men and women use different factors to evaluate online WOM quality?
- **RQ2:** Is the effect of WOM quality on online trust different across genders?
- **RQ3:** Is the effect of other traditional actors associated with online trust, such as perceived ease of use and perceived usefulness, different across genders?
- **RQ4:** Is the effect of online trust on intention to shop online different across genders?

Prior Literature

Sociolinguistic theory posits that communication is interpreted through cultural lenses, where gender can apply as a cultural difference [99]. Thus, cultural misunderstandings often occur when members of the opposite genders communicate [91, 99]. Cross-gender misunderstandings have been shown to exist in community-based e-mail lists (listservs) [51, 89], in the perception of social presence in e-mail [43], in online services [40], and in virtual discussion groups [42]. Most recently, Gefen and Ridings [42] found that women generally go to virtual communities to give and receive social support. In addition, they found that women more favorably assess the capability of others in the virtual community, and the overall quality of the online conversation, in both single-gender communities and mixed-gender communities.

Recent studies show that women generally spend less time online, are less interested in the Internet, and are less likely to shop online [1, 35, 53, 83]. However, the literature regarding gender differences in e-commerce is still relatively nascent [26]. Prior literature has shown that men and women react differently to Web sites [18, 83], information design [18], and navigational design. Prior studies found that enjoyment affected e-loyalty for women, but not for men; and that perceived social presence had a direct effect on e-loyalty for women, but not for men [19]. In addition, men and women have different buying attitudes, men being more pragmatic and women emotive [26]. Consequently, online shopping may be perceived less favorably by women due to the reduced social interaction as compared to the physical store [95]. In this paper, we explore WOM forums, which communicate the reactions of other consumers.
We test gender differences that might relate to trust, online WOM, and adoption of electronic commerce through a sample of 1,561 North American female and male responses collected via a cross-sectional survey instrument.

Theoretical Framework and Hypotheses

The study focuses on online trust, WOM quality, and how those factors are moderated by gender. In order to get a robust view of the effect of online WOM on trust, we include antecedents of trust from the integrated trust and technology acceptance model (TAM) developed to examine e-commerce adoption [45]. In addition, we include antecedents of WOM quality from prior literature (extended from Gefen and Ridings’s [42] construct “community quality”). All of the paths in the model that are not part of our hypotheses are adapted from the two aforementioned models [42, 45]. The model is presented in Figure 1.

Word-of-Mouth Quality and Posting Opinions Online

WOM quality is the degree to which the WOM system on the retailer Web site is deemed to be relevant and useful [22]. Prior research has shown that perceived WOM quality for virtual bulletin board discussions differs across genders [42]. We extend this prior literature by examining the relationship between user motivation for participating in online retailer-based WOM, and user assessment of WOM quality, across genders.

Sociolinguistic theory suggests that men and women have different underlying social objectives when communicating. Women’s communication objectives are usually based on cooperation [16, 99] and network-oriented collaboration [62, 92]. Men’s communication objectives are typically focused on protecting and increasing their social standing [91, 92]. Hence, men are more likely to attempt to control the conversation by speaking and sharing the information that they know [62, 91, 92]. Thus, when men attempt to control a conversation by sharing their opinion, they will likely feel that the communication medium, an online WOM system in this case, was used to their benefit. Prior literature has shown that gender differences in oral communication extend to online written communication as well [43, 50, 97, 99]. Posting information on an online WOM system allows men to share the information that they know, a perceived benefit. However, we do not expect the same result for women, as women’s communication objectives are not based on sharing information they know, but on developing rapport through giving and receiving social support [42].

Hypothesis 1a: The ability to post an opinion online will have a positive effect on WOM quality for men.

Hypothesis 1b: The ability to post an opinion online will not have an effect on WOM quality for women.

One element of online WOM systems that may contribute to a greater sense of social support and social presence on a Web site is responsive participation of others—a
posting is perceived as a dialogue and therefore as beneficial communication. In addition, responsive participation may also contribute to a sense of online social presence, which may also be perceived as beneficial by women, as prior literature has found that perceived social presence has a direct effect on e-loyalty for women, but not for men [19]. Thus, we expect that responsive participation of others in the online WOM system will have a positive effect on perceived WOM quality for both men and women, as acknowledgment of content posted is also congruent with men’s communication goals of improving social standing [91, 92], but more so for women.

Hypothesis 2a: Responsive participation of others will have a positive effect on perceived WOM quality for both men and women.

Hypothesis 2b: Responsive participation of others will have a more positive effect on perceived WOM quality for women than men.

Word-of-Mouth Quality and Trust

Prior literature has defined trust as behavioral intentions that result from (1) a general belief in an online retailer [37]; (2) a combination of trustworthiness, integrity, ability, and benevolence of online retailers [58, 59]; or (3) specific beliefs in competence, integrity, and benevolence [69]. Prior studies have shown that social presence has a significant influence on competence, integrity, ability, and benevolence—especially benevolence [44]. Perceived social presence has been shown to have a direct effect on e-loyalty for women, but not for men [19]. Thus, in accordance with social presence theory, we expect that online WOM systems will have a positive association with trust for women, as they will contribute to a greater sense of social presence on the Web site. Sociolinguistic theory suggests that men are more focused on exchanging task-specific information in their communication, whereas women are more focused on exchanging social support in their communication [62, 91, 92]. Online WOM
systems are focused on information-based communication and sharing of information about products. Accordingly, the perception of quality of WOM systems is potentially based on the perceived communication benefit of the WOM system to the user. Men will likely perceive the product-specific exchange of information to be beneficial, and will thus perceive the online retailer as more competent, able, and benevolent, which are elements of online trust. Thus, we expect that WOM quality will have a positive impact on trust of the Web site for men also. Prior literature has shown that offline WOM has differing effects on reducing the perception of risk perception for men and women [35]. Thus, we expect that in the online setting, as well, the effect of a WOM system on trust will be different for men and women.

Hypothesis 3a: WOM quality will have a positive effect on online trust for both men and women.

Hypothesis 3b: The effect of WOM quality on trust of an online vendor will be significantly different in magnitude for men than women.

Online Trust and Perceived Ease of Use

Perceived ease of use (PEOU) is defined as “the degree to which a person believes that using a particular system would be free of effort” [20, p. 320]. Applied to online consumer behavior, perceived ease of getting information is defined as “the extent to which a consumer believes that getting product information from a website would be free of effort” [78, p. 3]. PEOU use has been shown to relate to self-efficacy, defined as a person’s judgment of his or her ability [4, 5, 6], and computer self-efficacy [96], a person’s judgment regarding his or her ability to use a computer. The environment and support provided have been shown to affect consumer self-efficacy [10], and therefore PEOU. Women have been shown to place greater importance on such service aspects and physical environment than men [55]. In addition, women have been reported to weigh PEOU more strongly toward behavioral intention [97], to exhibit higher levels of computer anxiety [12, 73, 84], and to have lower computer aptitude [29] than men. Prior literature in psychology has shown an inverse relationship between computer anxiety and computer self-efficacy [57] and therefore PEOU [96]. Thus, higher levels of computer anxiety among women can be expected to lead to lower levels of computer self-efficacy, and therefore lower PEOU for women. Prior literature has shown that PEOU is positively associated with online trust [45, 77, 78], and that elements of PEOU of online Web sites such as easy to understand processes contribute to trust [65] and reduce misunderstandings in business transactions [11]. Accordingly, because women have been shown to generally have lower PEOU, we expect that an increase in PEOU will have a stronger effect on online trust for women than for men, who generally have higher perceptions of ease of a system [97]. Accordingly, we expect PEOU to have a significantly more positive effect on online trust for women than for men.

Hypothesis 4: PEOU will have a positive effect on online trust for women more than for men.
Online Trust and Perceived Usefulness

“Perceived usefulness” is the degree to which “people tend to use or not use an application to the extent they believe it will help them perform” [20, p. 321]. Prior research suggests that men’s work role is typically their dominant role [7]; that men place greater emphasis on accomplishment, eminence [76], achievement [54], and earning power [55]; and that men are more directed toward individualistic tasks and goals [14, 47, 88] than women. Men may be more task oriented than women [71]. In the context of online shopping, the task is making an online purchase. Thus, men will likely place greater emphasis on the usefulness of the retailer’s Web site in completing the task. One element of completing the task is the ability to trust the online vendor. The more that men find an online retailer’s Web site to be useful, the more likely they will perceive the retailer to be competent and capable, and competency is one of the elements of trust [58, 59]. Thus, we expect that perceived usefulness of the online retailer’s Web site will be a stronger determinant of online trust for men than for women. Perceived usefulness has been shown to be a strong determinant of user acceptance, adoption, usage behavior [20, 21, 68, 93, 94], and online trust [36, 41] across both genders. We build on these findings by theorizing that perceived usefulness of a system will be a more significant factor for men in relation to online trust than for women.

Hypothesis 5: Perceived usefulness will have a positive effect on online trust for men more than for women.

Online Trust and Online Shopping Behavior

In the presence of uncertainty, trust is a prime determinant of what people expect from a situation, both in social interactions [11] and in business interactions [33]. Trust increases the perceived certainty concerning other people’s expected behavior [67, 100] and reduces the fear of being exploited [100]. Accordingly, heightened levels of trust are associated with increased levels of use [45]. Thus, the concept of trust centers on reliance on other entities, such as firms and other people. The more that one depends on other people, the greater the need to trust before performing an action [24, 67, 85]. Women’s communication style is more network oriented [91] and focused on giving and receiving social support [42], which may suggest that women rely on others more than men. In addition, women have been shown to react more to Web sites that have more humanistic elements [83, 95] and socioemotional traits [86], which again may suggest that women have a greater desire for the presence of other people than men, and therefore may rely on others more than men. Hence, we theorize trust to be relatively more important for women in making a purchase online than for men. This hypothesis is aligned with prior findings revealing that women perceive more risk with regard to buying online [35], are less likely to trust a Web site [18], and are more influenced by the impact of trust on e-loyalty than men [19]. Accordingly, and aligned with theory, we expect that gender will moderate the relationship between trust and intention to shop online.
Hypothesis 6: Trust in the online retailer will have a more positive effect on intention to shop on a business-to-consumer Web site for women than for men.

Research Method

To examine the effects of WOM quality, PEOU, and perceived usefulness on online trust and intentions to purchase from a Web site, a survey was employed focused on asynchronous online forums—for example, Amazon.com reviews—where users can see individual comments, respond to individual comments, rate individual comments, and see overall ratings.

Instrument Development

We administered a pretested instrument to online shoppers, asking them to assess the last online book, CD, or DVD vendor from which they had made a purchase. Books, music, and movies are among the most sought after products in e-commerce and are “low touch” items [28]. Aligned with Gefen et al. [45], our sample was drawn from online consumers of books, music, and movies. Most online shoppers have purchased one of these items online. In addition, books, music, and movies have been reported in prior literature to be goods about which consumers seek out WOM when selecting what to buy [15].

An initial structured questionnaire was developed based on a review of existing literature (see the Appendix for the questionnaire). The survey asked respondents several sets of seven-point Likert-scaled questions regarding antecedents of trust, online trust, motivations to participate in online WOM, WOM quality, and intention to shop online. The questionnaire also asked a series of questions regarding Internet usage; frequency of use of online WOM; and demographic information, including age, education, gender, geographic location, and income. The survey was pretested for content, flow, scope, and purpose on a group of 38 undergraduate business students [32, 48]. The respondents were asked to comment on questions, demarcate ambiguities, and introduce any factors they believe were omitted. The questionnaire was refined based on feedback. The final questionnaire contained 41 questions related to the various constructs, five demographic questions, and six questions related to online behavior (time spent online, number of shopping transactions in the last month, etc.).

Table 1 shows differences in online activity across genders.

In the summer of 2006, the survey was e-mailed to over 3,000 randomly selected respondents from a nationally representative pool owned by MarketTools, Inc. Pitkow and Recker [80] recommend using online surveys and suggest ease of use, low overhead, and reliability as some of the advantages of online surveys [25]. MarketTools owns a database of responders that have agreed to participate in online surveys. We requested a nationally representative sample of users. Of the 3,000 surveys sent, we received a total of 1,670 responses, 109 of which had significant missing data, leaving 1,561 usable responses. Checking for missing data revealed that the missing units did not exhibit a nonrandom pattern. Thus, deletion of cases or estimation of missing values...
Table 1. Variables with Significant Differences Across Genders

<table>
<thead>
<tr>
<th>Variable Description</th>
<th>Men</th>
<th>Women</th>
<th>t</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of online purchases in the past month</td>
<td>2.68 ± 1.37</td>
<td>2.55 ± 1.33</td>
<td>1.62</td>
<td>0.105</td>
</tr>
<tr>
<td>Years of computer experience</td>
<td>16.15 ± 5.49</td>
<td>13.61 ± 5.50</td>
<td>8.25</td>
<td>0.000</td>
</tr>
<tr>
<td>Time per week spent reading news on the Web</td>
<td>3.68 ± 1.72</td>
<td>2.97 ± 1.51</td>
<td>7.91</td>
<td>0.000</td>
</tr>
<tr>
<td>Time per week spent reading product information online</td>
<td>3.05 ± 1.37</td>
<td>2.89 ± 1.31</td>
<td>2.09</td>
<td>0.037</td>
</tr>
<tr>
<td>Education level</td>
<td>5.69 ± 1.28</td>
<td>5.04 ± 1.36</td>
<td>8.69</td>
<td>0.000</td>
</tr>
<tr>
<td>Income</td>
<td>5.82 ± 2.12</td>
<td>5.29 ± 2.2</td>
<td>4.43</td>
<td>0.000</td>
</tr>
<tr>
<td>Employment</td>
<td>2.17 ± 1.95</td>
<td>3.13 ± 2.75</td>
<td>7.13</td>
<td>0.000</td>
</tr>
<tr>
<td>Age</td>
<td>5.00 ± 1.73</td>
<td>4.57 ± 1.16</td>
<td>6.53</td>
<td>0.000</td>
</tr>
<tr>
<td>Marital status</td>
<td>2.29 ± 1.19</td>
<td>2.48 ± 1.32</td>
<td>2.74</td>
<td>0.006</td>
</tr>
<tr>
<td>Valid N</td>
<td>685</td>
<td>601</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Demographic variable legend

<table>
<thead>
<tr>
<th>Education level</th>
<th>Value</th>
<th>Value label</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Less than ninth grade</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Some high school</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>High school graduate/equivalent</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Some college</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Associate degree</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Bachelor's degree</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Graduate or professional degree</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Income</th>
<th>Value</th>
<th>Value label</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Under $15,000</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>$15,000 to $24,999</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>$25,000 to $34,999</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>$35,000 to $49,999</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>$50,000 to $74,999</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>$75,000 to $99,999</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>$100,000 $149,999</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>$150,000 $199,999</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>$200,000 and up</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment</th>
<th>Value</th>
<th>Value label</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Employed full time</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Employed part time</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Self-employed</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Not employed, but looking for work</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Not employed/not looking for work</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Retired</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Student</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Homemaker</td>
<td></td>
</tr>
</tbody>
</table>
was not necessary [90]. Summary demographic information across genders is shown in Table 1. A *t*-test of the study variables between early and late respondents revealed no significant differences, suggesting that nonresponse bias was not a problem.

The questionnaire contained the standard TAM scales of perceived usefulness and PEOU adapted from Davis’s scales [20], previously shown to apply well to e-commerce and trust [45] as well as purchase intentions for books [58, 60] and airline tickets [46]. Intended use of an electronic commerce Web site was assessed by two items [45]: (1) willingness to provide the online vendor with credit card information for purchases; and (2) willingness to provide the online vendor with the information it needs to better serve my needs. Such a structure is consistent with Crosby et al. [17], McKnight et al. [69], and Morgan and Hunt [72]. The items that made up the online trust factor were centered on the e-vendor’s integrity, benevolence, ability, and predictability [17, 27, 34, 39, 60, 69, 87].

The WOM items and factors were adapted from Gefen and Ridings’s [42] adaptation of Deeter-Schmelz and Ramsey [23], which was based on the work of House [56]. Responsive participation of others references the quantity and speed of responses to posts [38, 42]. Coming to post information references the motivation to use WOM to share a user’s opinions. WOM quality refers to the perceived quality of the WOM system [42]. The questions were adapted to the online WOM context. We also collected self-reported online participation data, including the number of hours spent in participating in the online WOM and the number of posts made [42, 52]. Web experience was operationalized as the frequency of use of Web newspapers, newsgroups, information on products, and shopping, based on McKnight et al. [69], who based their operationalization on the Georgia Institute of Technology’s Graphics, Visualization, and Usability surveys of Web usage (www.cc.gatech.edu/user_surveys/). All of the items were on a seven-point scale ranging from strongly disagree (1) through neutral (4) to strongly agree (7).

Data Analysis

Analyzing Measure Validity and Reliability

A confirmatory factor analysis was performed to establish reliability. Two such measures are the indicator reliability [66] and the alpha scores [31], both frequently used to test model reliability (e.g., [82]). The indicator reliability is measured by the square of the standardized factor loadings, which reflects the percent of variation that is explained by the construct it measures. The indicator reliabilities varied from 0.667 to 0.977; each indicator reliability score was above the recommended 0.50 threshold [31]. The alpha scores [98], which reflect the internal consistency of the indicators, were all above 0.7 [75].

Testing for Validity

A recommended method of examining the validity of constructs is by assessing the convergent validity, which can be established at the multimethod level of analysis by
measuring the degree of agreement in responses of the informants to different survey items [79]. Convergent validity of an indicator is used to assess whether individual scale items are related. A confirmatory factor analysis was performed to test for validity [3]. The $t$-values for all of the factor loadings exceeded the critical value of 3.29, at a $p$ level of 0.01. Thus, the measures support convergent validity [2]. Discriminant validity was examined using factor intercorrelations.

Model Estimation and Goodness of Fit

The overall model investigated 10 constructs including gender. Each of the constructs was measured by at least three indicator variables except for intention to shop online, which was measured by two indicator variables. The model was estimated using AMOS 6.0 and provides a reasonably good fit for the data for both men ($\chi^2 = 6,343.66$, degrees of freedom [df] = 2,722, $p < 0.000$; comparative fit index [CFI] = 0.964; nonnormed fit index [NNFI] = 0.962; root mean square error of approximation [RMSEA] = 0.046) and women ($\chi^2 = 6,307.23$, df = 2,722, $p < 0.000$; CFI = 0.980; NNFI = 0.950; RMSEA = 0.075). The Tucker–Lewis index, also known as the NNFI [9], and the CFI [8] are both close to 1, suggesting a good fit between the structural model and the data. RMSEA is also below the suggested threshold value of 0.08 [13]. All of these fit indices are acceptable, suggesting that the overall structural model provides a good fit with the data in each group, males and females. The structural model tested in the present study is shown in Figure 1. The fit indices are presented in Table 2.

The squared multiple correlations (SMC) for the structural equations for men were 0.367 for WOM quality, 0.285 for online trust, and 0.208 for intention to shop online. These SMC values ($R^2$) may be interpreted to mean that 36.7 percent, 28.5 percent, and 20.8 percent of the variance in WOM quality, online trust, and intention to shop online, respectively, are explained by the model for men. The SMC values for the structural equations for women were 0.473 for WOM quality, 0.336 for online trust, and 0.195 for intention to shop online. These SMC values ($R^2$) may be interpreted to mean that 47.3 percent, 33.6 percent, and 19.5 percent of the variance in WOM quality, online trust, and intention to shop online, respectively, are explained by the model for women.

Because all of the survey data were collected at one time, the data are at most supportive of correlation. Even though the hypotheses were written as causal, to actually show causation would require an experimental design with temporal precedence and isolation. Thus, in accordance with prior literature [45], the path correlations are examined as supportive of the causation implied in the theorized hypotheses.

Results

The structural model was tested with the data of each of the subsamples (i.e., women taken separately and men taken separately). Table 3 presents the path coefficients for each of the subsamples. In order to show that a path in one data set (men) is significantly different from that in the other data set (women), we fixed the given path in
one set (e.g., men) and forced the coefficient of this path to be as it was estimated in the other data set (e.g., women). We then reestimated the model for the given data set (men) with the given changes and compared the chi-square of the model with the given path fixed to the chi-square of the model relative to the model with the given path free. If the difference in chi-squares is significant, then the path is significantly different between men and women. The fixed paths are included in parentheses in the text below. Table 3 presents the standardized paths. The next to last column in Table 3 summarizes the differences between the two subsamples, and the last column summarizes the corresponding results for each hypothesis.

In confirmation of H1a, men positively associate the ability to post their opinion online with WOM quality (0.025, \( p < 0.026 \)). Interestingly, in support of H1b, women’s ability to post online is negatively related to WOM quality (−0.141, \( p < 0.000 \)). Thus, women actually associated posting online with a decrease in online WOM quality. In support of H2a, both men (0.04, \( p < 0.000 \)) and women (0.188, \( p < 0.000 \)) showed a positive correlation between responsive participation by others to their posts and WOM quality. In support of H2b, women showed a more positive correlation between responsive participation by others to their posts and WOM quality; the difference across the two subsamples was significant (\( \chi^2 \) difference = 15.7, \( p < 0.01 \)).

In support of H3a, WOM quality had a significantly positive effect on online trust for both men (0.4, \( p < 0.000 \)) and women (0.166, \( p < 0.000 \)), and, in support of H3b, WOM quality was significantly higher for men (\( \chi^2 \) difference = 31.13, \( p < 0.000 \)). Thus, we see a significant difference in establishing trust online for men versus women: for men, the presence of an online WOM system on a retailer site contributes more to perceived trust of an online vendor than for women.

In support of H4, PEOU is significant and positively associated with online trust for men (0.078, \( p < 0.000 \)) and for women (0.152, \( p < 0.000 \)), but the magnitude is significantly stronger for women (\( \chi^2 \) difference = 24.57, \( p < 0.000 \)). Thus, women value PEOU more than men in establishing trust online. H5 is marginally supported, as the effect of perceived usefulness on WOM quality is positive and significant for both men (0.527, \( p < 0.000 \)) and women (0.509, \( p < 0.000 \)), but the difference is only marginally significant (\( \chi^2 \) difference = 6.76, \( p < 0.10 \)). Thus, perceived usefulness of a Web site contributes to level of online trust of an electronic commerce Web site for both men and women, and somewhat more for women. Finally, in confirmation of H6a, online trust is positively associated with intention to shop for both men (0.914,
Table 3. Standardized Path Coefficients and Corresponding Hypotheses Results

<table>
<thead>
<tr>
<th>Path</th>
<th>Men</th>
<th>Women</th>
<th>Significance</th>
<th>Significance</th>
<th>Difference in ( \chi^2 )</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a Post to share own opinion →</td>
<td>0.575</td>
<td>−0.361</td>
<td>***</td>
<td>***</td>
<td>−24.08***</td>
<td>H1a Supported</td>
</tr>
<tr>
<td>H1b WOM quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>H1b Not Supported</td>
</tr>
<tr>
<td>H2a Responsive participation by</td>
<td>0.082</td>
<td>0.255</td>
<td>***</td>
<td>***</td>
<td>−15.7**</td>
<td>H2a, H2b Supported</td>
</tr>
<tr>
<td>H2b others → WOM quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>H3a, H3b Supported</td>
</tr>
<tr>
<td>H3a WOM quality → trust</td>
<td>0.509</td>
<td>0.328</td>
<td>***</td>
<td>***</td>
<td>−31.13***</td>
<td>H5</td>
</tr>
<tr>
<td>H3b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>H6</td>
</tr>
<tr>
<td>H4 PEOU → trust</td>
<td>0.289</td>
<td>0.385</td>
<td>***</td>
<td>***</td>
<td>−11.87***</td>
<td>H7a, H7b Supported</td>
</tr>
<tr>
<td>H5 Perceived usefulness → trust</td>
<td>0.321</td>
<td>0.296</td>
<td>***</td>
<td>***</td>
<td>−6.76*</td>
<td></td>
</tr>
<tr>
<td>H6a Trust → intention to shop online</td>
<td>0.531</td>
<td>0.739</td>
<td>***</td>
<td>***</td>
<td>−24.57***</td>
<td></td>
</tr>
<tr>
<td>H6b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* \( p < 0.05; ** p < 0.01; *** p < 0.001. \)
In confirmation of H6, the positive relationship between trust and intention to shop online is significantly higher for women. Thus, establishing trust is important for both genders, but slightly more so for women ($\chi^2$ difference = 24.57, $p < 0.000$).

**Discussion**

*This research focused on gender differences in the relationships among theoretically grounded determinants of electronic commerce acceptance and usage along with theoretical determinants of online WOM quality that are grounded in sociolinguistic theory. Our results show that men and women develop trust in an online retailer differently, and online trust affects online shopping behavior differently across genders.*

Overall, the findings show that trust plays a more significant role in intention to shop online for women than for men and that online WOM quality is an antecedent of online trust. Thus, understanding the determinants of WOM quality, which this model shows differ across genders, is an essential part of understanding online consumer trust.

We show that heightened levels of online trust are associated with greater intention to shop online—but this effect differed across genders. The relative importance of trust has been shown to be related to the degree to which a person depends on other people [24, 67, 85], where the more a person depends on others, the greater that person’s need to trust. Our results confirmed this theory by showing that in online shopping, women, who show greater reliance on networks of people [91], place a greater emphasis on trusting an online retailer before making a purchase.

We then examined antecedents of trust, including WOM quality, along with antecedents of WOM quality. We found that men consider the ability to post information to be a positive influence on WOM quality. This result corresponds with prior ethnographic studies that have shown that men attempt to dominate listserv communications, do more self-promoting, post longer communications, and post messages that are more informative in nature, whereas women tend to bring up more personal issues [49, 50]. On the other hand, women discount the value of posting information, but place greater emphasis on the responsiveness of other consumers to their contributions. The negative effect of posting online on WOM quality for women at first seemed surprising. However, prior literature reported that women adopt a discourse pattern that is generally focused on letting all participants speak [16]. In addition, women have been shown to disapprove of one person’s dominating a conversation, whereas men, on the other hand, use communication specifically with the goal of dominating a conversation by controlling more of the conversation [16]. Accordingly, posting online can be interpreted as a way of dominating the online discourse by making one’s own opinion heard. Hence, women’s discounting of posting online toward WOM quality aligns with their dislike of conversation domination, whereas men’s valuing of posting online aligns with their affinity for dominating the conversation.

This paper also showed that the effect of responsive participation of others in an online WOM forum was stronger for women than for men. Posting a review online and receiving a response to a post are very different actions. Posting is a proactive,
individual action. Receiving a response is dependent on others reacting to you. Women are therefore judging the value of online WOM based on the response they get, which is aligned with prior literature that illustrates that women’s communication is typically focused around developing a rapport [91], and also prior literature in social presence theory, which has shown that perceived social presence has a direct effect on e-loyalty for women, but not for men [19]. Thus, it appears that women feel a great social presence of others on the Web site when they receive responses to their online postings, and therefore perceive the quality of the WOM system to be higher. These direct effects on WOM quality translate into indirect effects on online trust. Women have greater trust in vendors where other online WOM users respond to their posts, whereas men have greater trust for online vendors where they are able to post their opinion. Perhaps by creating a greater social presence on a Web site by eliciting consumers to respond more to each other’s posts through incentives, firms could increase online trust for women. On the other hand, for men, a more task-oriented layout where they are able to state their opinion and obtain facts could lead to greater perception of WOM quality and therefore greater online trust.

Our results also show that women place a greater emphasis on the relationship between PEOU and trust than do men. This result aligns with literature from psychology, which suggests that men are less concerned with the ease of the process, and are more focused on the outcome [62, 91, 92]. Our results confirm studies in psychology [12, 57, 73, 84] that computer anxiety is inversely related to PEOU. The greater impact of PEOU on online trust for women than for men lends further evidence that the design of online experiences may need to be tailored to specific genders.

An important distinction in our study is that a WOM system hosted on an online retailer’s Web site is, by design, less rapport building and more factual building. Thus, the stronger relationship between WOM quality and trust for men is aligned with men’s communication preferences for the exchange of information [91], categorical references [81], and quantitative examples [74]. Prior literature has suggested that e-commerce-based WOM systems are often implemented in order to increase online consumer trust [30, 70]. Our study provides empirical evidence that the effect is different across genders.

One implication of these results is that firms may wish to encourage responses to women’s reviews, so as to increase women’s perception of the WOM quality and their overall trust of the online firm, leading to more online shopping. In addition, firms may want to encourage men to post reviews, again in order to increase men’s perception of the quality of online WOM of the online vendor, and therefore their online trust in the vendor.

Limitations

The findings of this paper do not necessarily apply to all men and all women, but rather to the general mean of the population. In addition, data were collected through an online survey, which is liable to a self-selection bias. Moreover, because respondents were asked to assess the last online vendor from which they had made a purchase, it
is difficult to control for consistency in the Web sites viewed. We attempted to address
this in the survey by including a digital picture of an online review system. In addition,
several of the control variables are significantly different \((p < 0.000)\) between men
and women (for example, years of computer experience, time per week spent reading
news on the Web, age, etc.). Such a difference has been reported in many prior studies
[1, 35, 53, 83]. However, some research has found that differences in variables across
genders do not necessarily correlate to differences across hypothesized relationships.
For example, while a lack of significant results was found in regards to trust, attitude
toward transaction security, and e-loyalty [18], the same paper found significant
results when using a \(t\)-test to compare online trust levels for men and women. Other
research also found a lack of significant differences across genders for consumer trust
and perceptions of online shopping [64]. Thus, the exact implication of the significant
differences across control variables is unclear, but warrants mentioning. Finally, as
mentioned previously, the theory and hypotheses are presented as causal relationships,
but the data limits us from proving causality, as there is a lack of time separation.

**Conclusion**

**Online retailers are attempting to use online WOM to develop trust in the consumer**
but in a standard way across genders. Our results suggest that men and women value
online WOM differently, and these factors affect online trust differently across genders.
In addition, this paper shows that online trust affects intention to shop online more
for women than for men. Thus, firms may want to consider more carefully designing
online WOM.

**Notes**

1. Instrument provided to reviewers and is available from authors upon request.
2. These statistics were presented to the reviewers and are available upon request from the
authors.
3. These results were presented to the reviewers and are available from the authors upon
request.

**References**

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### Appendix

#### Survey Instrument (seven-point Likert scale)

**Intended Use (adapted from Gefen et al. [45])**

1. **ISHOP1** I would be willing to provide the information it needs to better serve me to an online retailer that provides customer ratings and reviews.
2. **ISHOP2** I would be willing to provide my credit card to purchase from an online retailer that provides customer ratings and reviews.

**Perceived Ease of Use (adapted from Gefen et al. [45])**

3. **PEOU1** The Web site is easy to use.
4. **PEOU2** It is easy to become skillful at using the Web site and the customer reviews.
5. **PEOU3** Learning to operate the Web site is easy.
6. PEOU4 The Web site is flexible to interact with.
7. PEOU5 My interaction with the Web site is clear and understandable.
8. PEOU6 It is easy to reference the customer reviews on the Web site.
9. PEOU7 It is easy to interact with Web site.

Perceived Usefulness (adapted from Gefen et al. [45])

10. PU1 The Web site is useful for finding customer review information about CDs/books.
11. PU2 The Web site is useful for finding customer review information about and purchasing CDs/books.
12. PU3 The Web site improves my performance in searching and re-searching information about, as well as buying, CDs/books.
13. PU4 The Web site enables me to find useful information about CDs/books faster.
14. PU5 The Web site enables me to search and buy faster.
15. PU6 This Web site enhances my effectiveness for search, researching, and buying CDs/books.
16. PU7 The Web site makes it easier to search, find information about, and purchase CDs/books.
17. PU8 The Web site increases my productivity in searching, researching, and purchasing information about CDs/books.

Coming to Post Information (adapted from Gefen and Ridings [42] an adaptation of Deeter-Schmelz and Ramsey [23], which was based on the work of House [56])

18. POBH1 To get others to listen to you?
19. POBH2 To get others to concur with your opinion?
20. POBH3 To give other people advice?
21. POBH4 To give other people suggestions for which book/CD to buy?

Responsive Participation by Others (adapted from Gefen and Ridings [42])

22. RPAR1 The other consumers are very responsive to my reviews.
23. RPAR2 I always get a lot of responses to my reviews.
24. RPAR3 I get responses to my reviews fairly quickly.
25. RPAR4 Other consumers always rate my advice.

Quality of Responses by Others (WOM Quality) (adapted from Gefen and Ridings [42])

26. WOMQUAL1 The product reviews are relevant for me.
27. WOMQUAL2 The product reviews are helpful.
28. WOMQUAL3 The product reviews are usually not the information I need. (Item reversed in the analyses.)

Trust of the Web Site (adapted from Gefen et al. [45])

29. TVEN1 Based on my experience with the online vendor in the past, I know it is honest.
30. TVEN2 Based on my experience with the online vendor in the past, I know it cares about customers.
31. TVEN3 Based on my experience with the online vendor in the past, I know it is not opportunistic.
32. TVEN4 Based on my experience with the online vendor in the past, I know it provides good service.
33. TVEN5 Based on my experience with the online vendor in the past, I know it is predictable.
34. TVEN6 Based on my experience with the online vendor in the past, I know it is trustworthy.
35. TVEN7 Based on my experience with the online vendor in the past, I know it knows its market.