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# The Influence of Online Word of Mouth on Product Sales in Retail E-commerce: An Empirical Investigation

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## ABSTRACT

The ability to exchange opinions and experiences online is known as online word of mouth (WOM). Due to the high acceptance of consumers and their apparent reliance on online WOM it is important for organizations to understand how it works and what kind of impact it has on product sales. Using the well established notions of volume and valence to describe online WOM, we empirically evaluate the hypothesized relationship between online WOM in a retail e-commerce site and actual product sales. Our analysis of the data shows that there is a significant change in the number of products sold following the addition of online WOM to a retail e-commerce site's product pages. Additionally, only the volume dimension of online WOM, measured by the number of customer review comments, is shown to have an influence on product sales.

## Keywords

Online word of mouth, consumer virtual opinion platforms, online customers, online marketing, online retailers.

## INTRODUCTION

Today's online customers can exchange opinions and experiences related to companies, products, and services with individuals outside of their personal communication network of family, friends, acquaintances, and colleagues. This ability to exchange opinions and experiences online is known as *online word of mouth (WOM)*. More formally, WOM is described as "all informal communications directed at other consumers about the ownership, usage, or characteristics of particular goods and services or their sellers" (Westbrook, 1987). Due to advances in both information technology (IT) and the internet, the power and impact of online WOM has substantially increased. Not only are message boards and online communities for posting information and exchanging opinions available, but some companies have decided to include forums for exchanging WOM on their product pages. This use of online WOM has the potential of impacting product sales. However, research of online WOM has received limited attention in the e-commerce literature.

Anecdotal evidence and prior empirical studies have shown that there is a high level of acceptance of consumers and reliance on online WOM (Henning-Thurau and Walsh, 2004). More specifically, according to Forrester Research, 50% of young internet surfers rely on online recommendations when purchasing CDs, movies, and video games (Walsh, 2000). Also, according to a BizRate.com survey of 5,500 participants, 59% of the respondents said that they value consumer reviews over expert reviews (Piller, 1999). Additionally, 67% of consumer good sales are based on WOM according to another study from McKinsey and Company (Taylor, 2003). Previous research has also shown that the influence of WOM can be so strong that it overrides private signals and results in individuals relying solely on the information provided by others (Banerjee, 1992; Ellison and Fudenberg, 1995). In fact, Awad, Dellarocas, and Zhang (2006) assert that online WOM may eventually take the place of traditional advertising. Zhu and Zhang (2006) conclude that it is particularly important for organizations to manage reviews for less popular products because reviews can be even more influential for these items.

The objective of our research is to empirically address the following question: *Does the presence of online WOM in the form of review comments and reviewer ratings significantly impact product sales on an e-commerce multi-product retail website?*

The rest of the paper is organized as follows. The next section discusses some relevance literature on WOM and the conceptual model for our research study. Subsequently, we present a description of the research design including hypotheses and a description of the source data and measurement approach. This is followed by a detailed analysis of the collected data. The final section discusses the results, the implications, and limitations of our research as well as directions for future research.

## BACKGROUND AND CONCEPTUAL MODEL

WOM relies on information that is communicated about companies, products, or services among consumers. In comparison to traditional advertising (e.g. TV, Newspapers, etc.), WOM is apparently perceived by consumers as being more credible

than private signals and is often more accessible through social networks (Banerjee, 1992; Brown and Reingen, 1987; Liu, 2006). Table 1 summarizes several noteworthy findings that previous WOM researchers have identified.

Articles	Findings
(Awad, Dellarocas and Zhang, 2006)	Participation in and use of online WOM is complement to participation in and use of offline WOM; the use of online WOM is a substitute for traditional advertising
(Awad and Zhang, 2006)	Online ratings on a website are significantly correlated with online purchases; a firm's filtering strategy effects the impact of ratings on purchases
(Hu, Pavlou and Zhang, 2006)	The average ratings score does not necessarily reveal a products true quality and may provide misleading recommendations
(Liu, 2006)	WOM activities are most active during the prerelease of a movie and opening week; audiences hold high expectations before a release and become more critical during opening week; the volume of WOM offers explanatory power for both aggregate and weekly box office revenue more so than the valence of WOM
(Zhu and Zhang, 2006)	Online reviews have a significant influence on sales; one point increase in average rating is associated with a 4% increase in sales; negative ratings have a larger impact than positive ratings; reviews are more influential for less popular products
(Chen, Wu and Yoon, 2004)	More recommendations improve sales; consumer ratings are not related to sales; the number of consumer reviews is positively associated with sales; recommendations work better for less-popular products
(Godes and Mayzlin, 2004)	The more conversation there is about a product the more likely someone is to be informed about it and the greater the sales
(Henning-Thurau and Walsh, 2004)	Consumers read online articulations to save decision making time and make better buying decisions; these motives influence their behavior
(Anderson and Salisbury, 2003)	Advertising, WOM, market growth, and purchase frequency have a significant moderating influence on adaptation rate
(Chevalier and Mayzlin, 2003)	WOM from customers has a causal impact on consumer purchasing behavior
(Bowman and Narayandas, 2001)	Engaging in WOM behavior following customer initiated contact, the median number of customers influenced is approximately three regardless of factors; there is substantial variation in whether customers tell others about customer initiated contact experiences and the number of people they tell
(Chatterjee, 2001)	WOM search depends on the consumer's reasons for choosing an online retailer; the influence of negative WOM on perceived reliability and intentions is determined largely by retailer familiarity
(Dellarocas, 2000)	The combination of controlled anonymity and cluster filtering is a powerful technique for improving the reliability of reputation systems
(Duhan et al., 1997)	There are different influences on the likelihood of consumers choosing different types of recommendation sources; choosing strong tie sources is influenced by task difficulty and prior knowledge; choosing weak tie sources is influenced by the importance of instrumental cues and subjective prior knowledge
(Ellison and Fudenberg, 1995)	WOM may lead people to adopt an action that is on average superior
(Banerjee, 1992)	People will do what others are doing (herd behavior) rely on their own information
(Anderson, 1998)	Dissatisfied customers do engage in greater WOM than satisfied customers, however this difference appears to be exaggerated
(Brown and Reingen, 1987)	Strong ties are more influential and more likely to be used than weak ties
(Westbrook, 1987)	Affective response is related to the favorability of consumer satisfaction in judgments, the extent of seller directed complaint behavior, and the extent of WOM transmission
(Richins, 1983)	The nature of dissatisfaction, consumers' attributions for blame, and perceptions of complaint situations are related to dissatisfaction responses.

**Table 1. List of Noteworthy Examples of Previous Research Findings from WOM studies**

As illustrated in Table 1, a large number of extant research articles on WOM in the marketing literature have primarily focused on studying personal relationships as the basis of communication about products or services (Stewart et al., 1985). These “ties” among consumers may be based on either strong or weak personal social relationships (Brown and Reingen, 1987). In contrast, today’s online consumers can exchange opinions and experiences related to companies, products, and services with individuals outside of their personal communication network of family, friends, acquaintances, and colleagues by writing their experiences and opinions in blogs, user feedback forums, search engines, or shopping bot sites (e.g. pricescan.com). In this online environment, the personal ties are always weak due to the fact that the person who wrote the review and the person relying on the review do not have a personal relationship (Chatterjee, 2001).

Previous WOM research has identified that the notions of volume and valence are two salient attributes of WOM. According to Liu (2006), volume measures the *total amount of WOM interactions* and valence measures the *nature of the WOM message and whether it is positive or negative*. Additional WOM attributes include duration, intensity, and dispersion (*ibid*). Liu (2006) has suggested that most previous research has only studied volume (Anderson, 1998; Bowman and Narayandas, 2001) or valence (Zhu and Zhang, 2006) individually and not at the same time. Therefore in our study, following Liu’s (2006) recommendation for traditional WOM, we propose that the notion of **online WOM** is similar and that both its attributes, volume and valence, are also relevant and should potentially impact product sales on an e-commerce retail site. This is illustrated in Figure 1. In addition, we know from previous research (Liu, 2006) that this relationship can be explained in terms of two key cognitive consequences, *awareness* and *attitude* shown in the middle box with dotted lines in our proposed research model. We concur with previous researchers that the ultimate behavioral consequences (i.e. actual product sales in our case) of enhanced online WOM are due to increased awareness of and attitude towards the product. In other words, these cognitive consequences do not mediate the relationship between online WOM and product sales, but, explain why volume and valence can impact online behavior.

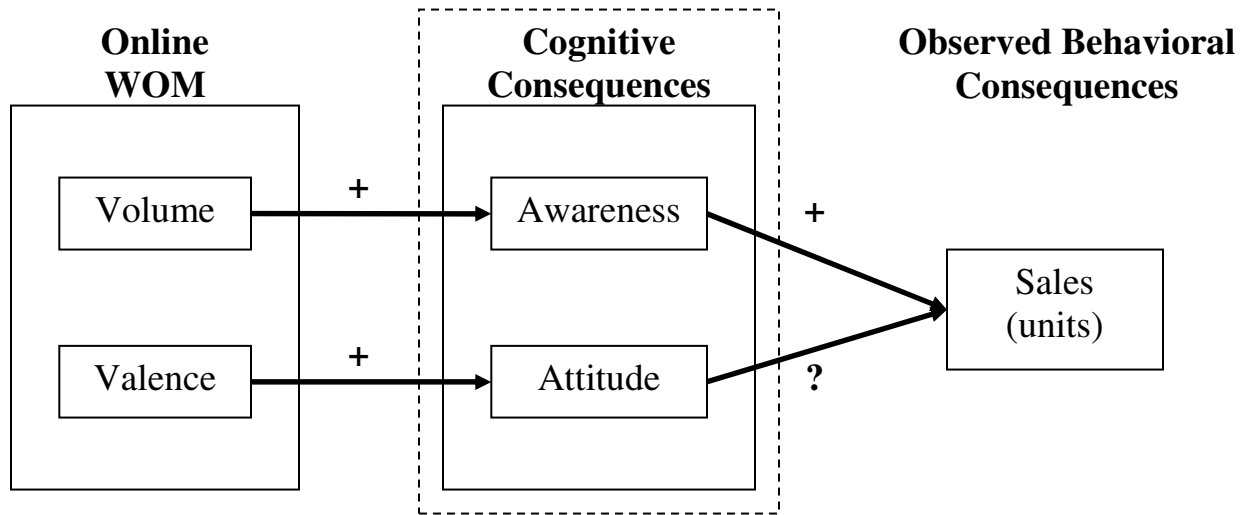


Figure 1. The Impact of Online WOM Measures on Potential Sales (Adapted from Liu, 2006)

Clearly, our model suggests that the mere existence of online WOM will result in an increase in awareness and a positive (or negative) attitude towards a product resulting in a change in sales. Thus, the more conversation in the form of online comments there is about a product, the more likely someone will be informed about it (i.e. there is increased awareness of the product) (Godes and Mayzlin, 2004). Many previous studies have shown that the WOM volume significantly correlates with consumer behavior and market outcome (Anderson and Salisbury, 2003; Bowman and Narayandas, 2001; Liu, 2006). Additionally, Mayzlin (2006) has found that rational consumers still pay attention to anonymous on-line posts, even when it is possible for firms to pose as online consumers. For the most part, researchers have concluded that online customer reviews have a significant influence on the sale of products (Awad and Zhang, 2006; Zhu and Zhang, 2006). However, some researchers have argued that only the volume of the reviews matter (Chen, Wu and Yoon, 2004; Duan, Gu and Whinston, 2005). Chatterjee (2001) suggests that little is known about online reviews influence on consumer evaluations and purchase intentions of products. In fact, when studying the effect of negative reviews on consumer intentions, Chatterjee (2001) found

that the influence of negative WOM is based on the consumers' familiarity with the retailer and whether or not they were pure online firm or both online and brick and mortar firm.

In terms of the second WOM dimension, valence, behavioral research has shown that it is unclear whether positive WOM leads to increased sales (Anderson, 1998). However, Chen and Singh (2001) suggest that online ratings have become increasingly important because they "allow users to harvest the wisdom of the community in making decisions." In fact, Zhu and Zhang (2006) studied the influence of consumer ratings on video game sales and showed that a higher rating by only one point was associated with a 4% increase in sales.

## RESEARCH DESIGN

Based on the conceptual model discussed above, we develop a set of hypothesis and analyze data collected from a multi-product retail e-commerce firm.

### Hypotheses

Research has shown that managers believe that websites need to provide community content in order to build brand loyalty (McWilliam, 2000). However, there is no literature verifying that community content matters when it comes to consumer decision making (Chevalier and Mayzlin, 2003). Based on the former view, our first hypothesis suggests that products with review comments and ratings available on website product pages have a higher number of purchases.

*Hypothesis 1: Products with online review comments and ratings available for customers to read have a higher number of online purchases than products without online review comments and ratings.*

Previous research has shown that online customer reviews do have a significant influence on the sale products (Awad and Zhang, 2006; Zhu and Zhang, 2006). A study from Duan et al. (2005) suggested that only the volume of the review matters in relation to sales interest, not whether the reviews are positive or negative. Furthermore, this research hypothesizes that the more sales in a product (i.e. increased popularity) the more review comments will be written by consumers. Also, the more online comments (i.e. conversation) there is about a product, the more likely someone will be informed about it and in turn sales will increase (Godes and Mayzlin, 2004). Therefore the second hypothesis suggests that products with a higher number of customer comments have a higher number of purchases.

*Hypothesis 2: Products with a higher number of online customer review comments (i.e. volume) have a higher number of online purchases.*

Previous research has shown that a higher rating by only one point was associated to a 4% increase in video game sales (Zhu and Zhang, 2006). Consequently this research hypothesizes that this is not only true for video game sales, but other product lines as well. Therefore the final hypothesis suggests that products with a higher average rating have a higher number of purchases.

*Hypothesis 3: Products with a higher online average rating (i.e. valence) have a higher number of online purchases.*

The review of ratings, customer comment reviews, and product sales data from a leading e-commerce company can be analyzed to quantitatively test the above hypotheses.

### Source of Data and Measurement

In order to test our hypotheses, data was collected from a leading multi-product retail e-commerce company before and after the implementation of an online review system on their retail e-commerce website. Table 2 shows the details of the data that was collected.

Data Collected	Description
SKU	Product identification, i.e. SKU number of the product
Name	Name of the product
CatID	Identification number for the category the product is a part of
CatName	The name of the category the product falls under
WeekStart	Data was collected by week
ProdViews	The number of product page impressions that week
NumSold	The number of products sold that week
TotRev	The total weekly revenue from this product

**Table 2. Data Collected before Review System Implementation**

Additionally, data was collected weekly from after the implementation of the review system. All of the same data mentioned previously was collected, as well as some additional data. Table 3 shows the details regarding the additional data that was collected.

Data Collected	Description
AvgRat	Average review rating for the product between 1 (low) and 5 (high)
NumRev	Total number of review comments for the product

**Table 3. Additional Data Collected after Review System Implementation**

We use the number of review comments (NumRev) in the form of review text (positive or negative) provided by consumers as a measure for the volume attribute of WOM. We use review ratings (AvgRat) in the form of “star ratings,” 5 stars (i.e. best) to 1 (i.e. worst), as a proxy for the valence attribute of WOM. Generally, star ratings accompany review comments. Figure 2 shows the breakdown of the average rating for products.



**Figure 2. Average Customer Ratings**

The online review system was implemented in November 2006. The review system collects reviews from either the product page of the website or through email (e.g. usually a reply email from after the customer has received shipment notification). The review system that was implemented does filter product reviews. Reviews are filtered to exclude any comments related

to price, customer service issues, and other non-product quality data. However, all reviews related to product quality are posted including negative reviews.

In order to minimize the effect of the holiday shopping period on online product sales, we deliberately chose to look at sales and other data from January 2007, after the winter break and after reviews had been collected for two months. The first time frame chosen was the week of January 16, 2006 before the implementation of the online review system. The second time frame chosen was the week of January 15, 2007 after the implementation of the review system. By analyzing data from the same week, in different years, we hope to minimize additional outside effects. Figure 3 shows the breakdown of the number of products sold across the two time periods. To reduce any chance of confounding in our research model due to product category and lag effects, weekly sales data was collected from the same set of 546 products over the two time periods.

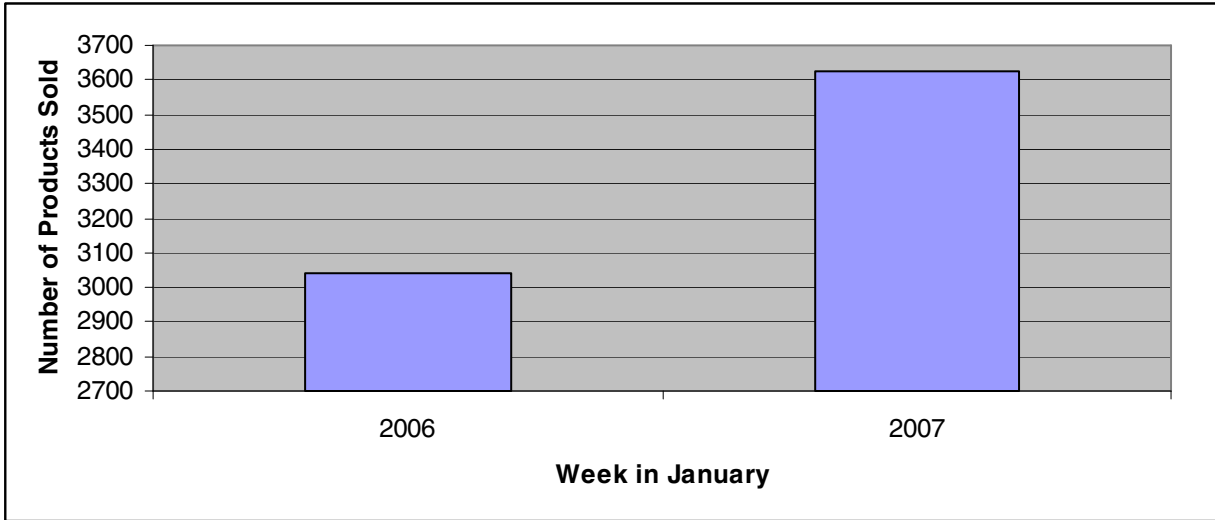


Figure 3. Comparison of Number of Product Sold From 2006 and 2007

**DATA ANALYSIS**

For the first hypothesis we used a paired samples t-test and for hypotheses two and three we used standard multiple regression to test the predictive power of NumRev and AvgRat. The following table shows the key summary statistics of the continuous variables (i.e. variables with a constant unit of measurement) used in the study (Table 4).

Variable	Total	Minimum	Maximum	Mean	Standard Deviation
AvgRat (Average rating)	546	2.00	5.00	4.4944	.48065
NumRev (Number of reviews)	546	1	68	3.67	5.298
ProdViews (Number of product views)	1092	0	2220	197.41	221.269
NumSold (Number of units sold)	1092	1	188	6.10	10.294

Table 4. Key Summary Statistics of Contiguous Variables

The first hypothesis asks whether or not there is a significant change in the number of products sold following the addition of online WOM (i.e. ratings and reviews) to product pages. A paired-samples t-test was conducted to evaluate the impact of the addition of online WOM to product pages on the number of products sold in SPSS 10.0. A paired-samples t-test allows us to test one group of products on two different occasions (i.e. January 16, 2006 and January 15, 2007). The dependent variable for this test is the number of units sold (NumSold) and the categorical independent variable is time.

The results in Tables 5 and 6 show that there is a statistically significant increase in the number of products sold from January 2006 to January 2007. The eta squared statistic (.015) indicates a small effect. Therefore, our first hypothesis is supported.

	Mean	N	Standard Deviation	Standard Error Mean
NumSold in 06	5.57	546	8.052	.345
NumSold in 07	6.64	546	12.113	.518

Table 5. Paired Samples Statistics

	Mean	Standard Deviation	Standard Error Mean	t	df	Sig. (2 tailed test)
NumSold in 06, NumSold in 07	-1.062	8.501	.364	-2.920	545	.004

Table 6. Paired Samples Test

The second hypothesis asks if there is a relationship between the number of online review comments (NumRev) and the number of products sold and the third hypothesis asks whether or not there is a relationship between the average rating (AvgRat) and the number of products sold. To test how well the two measures of WOM (NumRev and AvgRat) predict the number of products sold, we tested the data using standard multiple regression in which the two continuous independent predictor variables (NumRev and AvgRat) were entered into the equation simultaneously and evaluated in terms of their predictive power of the continuous dependent variable NumSold. Basic descriptive statistics and regression coefficients are shown in Tables 7, 8, and 9.

		NumSold07	AvgRat07	NumRev07
Pearson Correlation	NumSold07	1.000	-.038	.395
	AvgRat07	-.038	1.000	.006
	NumRev07	.395	.006	1.000
Sig. (1-tailed)	NumSold07	.	.189	.000
	AvgRat07	.189	.	.442
	NumRev07	.000	.442	.
N	NumSold07	546	546	546
	AvgRat07	546	546	546
	NumRev07	546	546	546

Table 7. Multiple Regression Correlations

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.397	.157	.154	11.139

Table 8. Multiple Regression Model Summary

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12592.298	2	6296.149	50.747	.000
	Residual	67370.172	543	124.070		
	Total	79962.471	545			

Table 9. Multiple Regression ANOVA



The standard multiple regression results show the predictor variable NumRev, had a significant ( $p < .0005$ ) zero-order correlation with NumSold and had a significant ( $p < .0005$ ) partial effect in the full model. However, the predictor variable, AvgRat, did not have a significant correlation or effect in the full model. The final predictor model was able to account for 40% of the variance in the number of products sold. Therefore, our second hypothesis is supported and the third hypothesis is not supported by the data. This outcome is in line with previous research which has shown that it is unclear whether positive WOM in terms of average reviewer ratings (i.e. valence) leads to increased sales (Anderson, 1998). Additionally, if we added ProdViews as an independent predictor variable to the model we found that this did not change the previous results model. This is important to the extent that it affirms our findings and shows that product views (i.e. a surrogate measure of the popularity of a product) does not have any impact on sales as it relates to our research question.

### CONCLUDING REMARKS, IMPLICATIONS FOR PRACTICE AND RESEARCH

The overarching aim of this study was to explore whether the presence of online WOM in the form of review comments and ratings leads to higher product sales on an e-commerce retail website. We also investigated the influence of online review comments (i.e. volume) and consumer ratings (i.e. valence) on a retail website. An empirical analysis of real data collected from a retail e-commerce firm was conducted. We found that there is a significant increase in the number of products sold following the addition of online WOM. We also found significant evidence to show that the use of online WOM on a retail website's product page has a significant influence on the number of products sold. Additionally, products with higher number of customer review comments (i.e. volume) tend to have a higher number of sales. However, we also found confirmation for findings from previous research that indicate that higher average customer review ratings (i.e. valence) do not mean more product sales. Another important contribution of our research study is that the data utilized was not self reported like has been done in previous studies.

Due to the high acceptance of consumers and their apparent reliance on online WOM it is important for organizations to understand mechanisms for dealing with negative reviews and ratings. Our research has confirmed that the use of online WOM can boost product sales. However this conclusion should be accepted with the caveat that the volume of WOM is more important than average ratings and/or positive (or negative) consumer feedback about products. Future research will need to further evaluate whether this relationship is different among different categories of products.

A limitation of this study is the potential of confounding variables other than online WOM impacting product sales. Examples of such variables could include product brand, perceived quality of product, featured items, and advertising/marketing campaigns among many others. Further research needs to be conducted into these and other explanatory factors that complement online WOM to impact product sales or potentially impact sales via increased WOM.

### REFERENCES

1. Anderson, E. W. (1998) Customer satisfaction and word of mouth, *Journal of Service Research*, 1, 5, 5-17.
2. Anderson, E. W. and Salisbury, L. C. (2003) The formation of market-level expectations and its covariates, *Journal of Consumer Research*, 30, 1, 115-124.
3. Awad, N. F., Dellarocas, C. and Zhang, X. (2006) The digital divide of word of mouth, in *Proceedings of the 1st Annual Midwest Association for Information Systems Conference*, May 5-6, Grand Rapids, Michigan, 107-114.
4. Awad, N. F. and Zhang, J. (2006) A framework for evaluating organizational involvement in *online ratings communities*, in *Proceedings of the 1st Annual Midwest Association for Information Systems Conference*, May 5-6, Grand Rapids, Michigan, 141-147.
5. Banerjee, A. V. (1992) A simple model of herd behavior, *Quarterly Journal of Economics*, 107, 3, 797-817.
6. Bowman, D. and Narayandas, D. (2001) Managing customer-initiated contacts with manufacturers: The impact on share of category requirements and word-of-mouth behavior, *Journal of Marketing Research*, 38, 3, 281-297.
7. Brown, J. J. and Reingen, P. H. (1987) Social ties and word-of-mouth referral behavior, *Journal of Consumer Research*, 14, 3, 350.
8. Chatterjee, P. (2001) Online reviews: Do consumers use them?, in M. C. Gilly and J. Myers-Levy (Eds.) *Proceedings of the Association for Consumer Research*, Provo, UT, 129-134.
9. Chen, M. and Singh, J. P. (2001) Computing and using reputations for internet ratings, in *Proceedings of the EC*, Tampa, Florida, 154-162.

10. Chen, P. S., Wu, S. and Yoon, J. (2004) The impact of online recommendations and consumer feedback on sales, in *Proceedings of the 25th International Conference on Information Systems*, 711-724.
11. Chevalier, J. and Mayzlin, D. (2003) The effect of word of mouth on sales: Online book reviews. In Working Paper Series.
12. Dellarocas, C. (2000) Mechanisms for coping with unfair ratings and discriminatory behavior in online reputation reporting systems, in *Proceedings of the 21st International Conference on Information Systems* Brisbane, Queensland, Australia 520-525.
13. Duan, W., Gu, B. and Whinston, A. B. (2005) Do online reviews matter? An empirical investigation of panel data. In Working Paper: University of Texas at Austin.
14. Duhan, D. F., Johnson, S. D., Wilcox, J. B. and Harrell, G. D. (1997) Influences on consumer use of word of mouth recommendation sources, *Journal of the Academy of Marketing Science*, 25, 283.
15. Ellison, G. and Fudenberg, D. (1995) Word of mouth communication on social learning, *Quarterly Journal of Economics*, 110, 1, 612-643.
16. Godes, D. and Mayzlin, D. (2004) Using online conversations to study word-of-mouth communication, *Marketing Science*, 23, 4, 545-560.
17. Henning-Thurau and Walsh (2004) Electronic word of mouth: Motives for and consequences of reading customer articulations on the internet, *International Journal of Electronic Commerce*, 8, 2, 51-74.
18. Hu, N., Pavlou, P. A. and Zhang, J. (2006) Can online reviews reveal a products true quality? Empirical findings and analytical modeling of online word of mouth communication, in *Proceedings of the EC*, Ann Arbor, Michigan, 324-330.
19. Liu, Y. (2006) Word of mouth for movies: Its dynamics and impact on box office revenue, *Journal of Marketing*, 70, 74-89.
20. Mayzlin, D. (2006) Promotional chat on the internet, *Marketing Science*, 25, 2, 155-163.
21. McWilliam, G. (2000) Building stronger brands through online communities, *MIT Sloan Management Review*, 41, 3, 43-54.
22. Piller, C. (1999, December 7) Internet awash in opinions: Regular consumers posting evaluations on web sites, *Chicago Sun-Times*.
23. Richins, M. L. (1983) Negative word of mouth by dissatisfied consumers: A pilot study, *Journal of Marketing*, 47, 1, 68-78.
24. Stewart, D. W., Hickson, G. B., Ratneshwar, S., Pechmann, C. and Altemeier, W. (1985) Information search and decision strategies among health care consumers, *Advances in Consumer Research*, 12, 1, 252-257.
25. Taylor, J. (2003, June 2) Word of mouth is where it's at, *Brandweek*, 44, 26.
26. Walsh, E. (2000) Entertaining young net surfers, Forrester Research, Cambridge, MA.
27. Westbrook, R. A. (1987) Product/consumption-based affective responses and postpurchase processes, *Journal of Marketing Research*, 24, 3, 258-270.
28. Zhu, F. and Zhang, X. (2006) The influence of online consumer reviews on the demand for experience goods: The case of video games, in *Proceedings of the 27th International Conference on Information Systems*, Milwaukee, WI.