User-Generated Content and Stock Performance: Does Online Chatter Matter?

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KEYWORDS

*User-Generated Content,
Online Word of Mouth, Stock Returns,
Online Chatter*

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Consumer comments on the rise /// Have you ever read a consumer review online before buying a new product? Quite likely. The amount of user-generated content online is massive and continues to grow rapidly. In 2010, 131.4 million users were estimated to have read a product rating, review or other electronic form of word of mouth while about 95.3 million users had submitted product feedback. But potential consumers are not the only ones influenced by electronic word-of-mouth reviews. Online chatter can also strongly affect the companies selling the discussed products, either by boosting or slowing sales. And according to a new study, user-generated content may even affect stock prices.

FIGURE 1:
Total number of reviews posted by consumers
about the products of a company in a day

Marketing professors Gerard T. Tellis and Seshadri Tirunillai looked at consumer data from 15 brands across six markets from June 2005 to January 2010: personal computing, cell-phones, personal digital assistants or smartphones, footwear, toys and data storage. A total of 347,628 consumer reviews and product ratings from the most popular websites that allow users to leave comments on goods — Amazon.com, Epinions.com and Yahoo Shopping — were analyzed. Figure 1 shows that user-generated content rose continuously over the observed period of time and that positive comments dominated the reviews across the markets.

Consumer reviews move markets /// The researchers found that having a higher volume of user comments, regardless of their assessment, was a strong indication of an increase in stock prices. Chatter levels led returns by a few days. This effect prevailed even after controlling for analysts' forecasts, media citations, advertising and new product announcements.

Figure 2 shows how different forms of user-generated chatter on online platforms changed stock prices according to the estimates of a vector autoregression model.

In addition to overall chatter volume, the researchers found that negative reviews had a stronger impact than positive reviews. The effect of positive chatter was neutral in either direction and proved unhelpful in predicting stock prices. "Bad reviews affect the stock prices of the companies making those products, causing negative returns of as much as 8 %," explains study co-author Tellis in his analysis. Negative user comments showed a strong, immediate impact on returns the next day, which then leveled off over a period of four days.

» The chatter
on the Web is not cheap talk –
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«

FIGURE 2:
Risk-adjusted stock returns

The authors offer several explanations as to why negative chatter has a stronger effect than positive comments. First, consumers seem more suspicious of positive reviews. Furthermore, negative reviews may have a stronger effect on consumers because the content is more informative and harder to come by in such forums – positive reviews were four times more common than critical ones.

For investors, negative information may also be more important. In general, people tend to pay more attention to losses than gains, but investors are likely to be particularly sensitive to financial loss. That is, the pain from negative information weighs more heavily on them than the gain from positive information. And finally, positive information may already be well known to investors from advertising and press releases.

Interestingly, numerical (five-star) ratings did not have any significant impact on returns. However, posts about rival products did affect stock prices. An increase in chatter about a competitor also drove up the volume of chatter about the target firm but had an adverse effect on its returns. Chatter about a competitor decreased returns of the target firm by 2.2 basis points in the short term and by 5.1 basis points cumulatively. As seen in Figure 2, an increase in a competitor's negative chatter, however, had a positive influence on the target firm's returns.

User comments can financially impact stock returns ///

"The chatter on the Web is not cheap talk – it's valuable talk," Tellis says. According to the research results, negative chatter could, in fact, erode about \$1.4 million from the average market capitalization in the short term and \$3.3 million over the 15 days after it appears. To better estimate the dollar value of the findings, the researchers calculated possible profits for an initial investment of \$100 million. They either sold or bought stock on a daily basis depending on the prevailing valence of chatter from the previous day. The composition of each portfolio changed daily as firms were added or removed depending on the valence of the chatter on the given day.

The overall gains using this strategy yielded an average annual profit of \$7.9 million over the four years in the sample. With this result, the researchers beat the Standard & Poor's 500 index by 8 % by buying stock based on positive chatter and short-selling it after negative chatter.

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Implications for marketing managers

> The voice of the masses is loud and clear on the Internet

/// It is a source of valuable information about a firm's performance that is beyond what normally can be determined through standard sources. Thus, marketing managers should monitor consumers' online talk as part of their marketing research. It is not necessary to wait for sales or earnings reports to gauge the performance of brands and products. Negative content, according to the study's results, is critical, and those who ignore consumer opinion might miss opportunities to detect problems and handle them before they cause too much damage. Actions can and should be taken to combat negative chatter.

> Advertising has a positive influence on user comments

/// The study shows that advertising has a positive effect on chatter. It increases the overall chatter, and for every percentage point increase in spending on advertising, the negative comments decrease by 0.06 %. Because offline television advertising increases the volume of chatter while also lowering the number of negative reviews, firms can use it to favorably influence online word of mouth. However, the advertising would have to be managed in such a way to appropriately address the issues raised in negative chatter.

> Denial of a problem is the wrong reaction

/// Textual analysis of negative chatter could signal potential problems or discontent among consumers. If specific problems become obvious, other, more immediate reactions than advertising might be advisable. Whether it's a faulty iPhone antenna, service problems at Dell or a guitar being broken by United Airlines, if a company's first reaction is denial, it likely won't help stock prices. Admission, apology and correction are much better methods. Corrective action could avert any long-term damage to shareholder value.

Implications for investors

> Portfolio analysis indicates that buying and selling stocks on the basis of chatter valence can lead to an average gain of \$27 million over one year, even for only six markets and 15 brands.

> This finding highlights the importance of the information that can be gathered from user-generated content to investors and other stakeholders. Conventional sources of investor information, such as site visits, industry reports, company press releases, expert reviews in the media and regular sales and earnings announcements are available at only sporadic or infrequent intervals. Online comments, on the other hand, can be accessed immediately, and they represent new information otherwise unavailable to investors through traditional channels.

Managerial summary of an article published in the academic top journal "Marketing Science":

Tirunillai, Seshadri; Tellis, Gerard J. (2012): "Does Chatter Really Matter? Dynamics of User Generated Content and Stock Performance", Marketing Science (March/April), pp. 198 – 215.

This study benefitted by a grant of Don Murray to the USC Marshall Center for Global Innovation.