How social dynamics on the Internet can change product opinions

If you are an avid follower of politics, you may have seen something take place in an election called “the bandwagon effect.” A positive impression about a political newcomer spreads among voters, first through the media and then through community word of mouth, from church picnics to social networking sites such as Facebook. Typically, casual, less-involved voters are the most prone to hop onto this so-called “bandwagon” for a once-unknown candidate – heavily influenced by what their friends and neighbors say – and finally the upstart candidate is victorious. Of course, a similar word-of-mouth spiral can defeat a well-established incumbent candidate – especially if the negative opinions are driven by a handful of influential citizens.

In the marketing world, the role of such a “bandwagon effect” – as well as the wider social dynamics of Internet conversation – is a critical question for researchers working in the fast-growing field of understanding how consumers interact online. Over the last 15 years, there has been a surge in consumers taking to popular product ratings, rankings, and review websites, and participation is increasing exponentially; one 2010 study found that 24 percent of shoppers pay attention to consumer review sites. These opinionated customers aren’t just creating a running conversation, but also a massive pool of free and unsolicited data waiting to be tapped for market research – a potential wealth of product knowledge that Eric Bradlow, a co-director of the Wharton Customer Analytics Initiative, or WCAI, calls simply “the Voice of the Consumer.”

Experts believe that scraping this Internet data will eventually supplant the more-than $10 billion a year that American businesses now spend on traditional market-research tools such as focus groups or automated surveys. To achieve this goal, researchers are tackling several major issues – seeking to learn not only how best to extract data from online consumer postings and make sense of it, but also to understand the group dynamics of these conversations. WCAI is actively supporting research intensely focused on learning more about what type of individual initially posts comments about products online, who responds to those comments, and how these discussion evolve over time. The initial findings suggest that Internet conversations – while often initiated by infrequent posters with favorable opinions – are typically overtaken by more frequent commenters who tend to offer a more critical view, pulling the discussion in a less positive direction. That knowledge may prove critical for product managers making decisions to add product features or launch new advertising campaigns based on the data culled from Internet consumer discussion sites.
"The Voice of the Consumer." The growth of the Internet has drastically altered the ways that consumers can voice their opinions about products or services. Today, customers can visit product-ratings sites and offer a numerical or star ranking for specific products ranging from autos to hotels to flat-screen TVs to bath soaps, or take part in more free-ranging discussion-boards. Ironically, at the same time American companies spend billions of dollars annually seeking to learn what customers think about products’ features or how they compare to rival brands; most continue to use traditional market-research methods which involves selecting consumers for focus groups or detailed surveys. While many these survey methods were pioneered at Wharton – for example, conjoint analysis was developed in the late 1960 by Wharton professor Paul Green – today’s generation of academics are asking whether there really is a need for surveys.

But relying on Web scraping of these conversations requires a better understanding of the social dynamics. "You see discussions that take on a life of their own – and move away from the underlying experience [of buying and using the product]," said Wendy Moe Associate Professor of Marketing at the Robert H. Smith School of Business at the University of Maryland, whose research into the social dynamics of online conversations has been funded by WCAI1. The work undertaken so far by Moe and some of her academic colleagues is, in effect, raising a yellow caution flag for marketers as they learn how to make the best use of this vast pool of online data. "What we're showing is that online reviews don’t always reflect what the greater customer base for that retailer might say about the product," Moe said. The research shows that both the tone and volume of online comments can have immediate impact on sales, yet Moe also warns managers not to overreact when negative postings appear.

A growing number of firms, aided by academic researchers, are looking beginning to tap into the voluminous data of online consumer conversations, but they acknowledge potential risks as well as rewards. In recent years, research teams have reported considerable progress in creating innovative programs to sift through these websites – and now a growing array of social networking options such as Facebook and Twitter – and not only learn which products consumers are talking about but also whether those opinions are positive or negative.

Yet experts also acknowledge they need to better understand the dynamics of exactly who is logging into these Internet sites to post about consumer items, why they post, and how their interactions with other customers might change the very nature of the discussion. This knowledge can be critical to company marketing executives for several reasons. For one thing, an online discussion board dominated by negative commenters could leave casual readers – sometimes called "lurkers" – with a far less positive impression of a product than is deserved. Another concern is that executives will make key marketing or product design decisions based on Internet conversations – conversations that may have a tendency to turn unfairly negative and reflecting the voice of a few consumers rather than the true “voice of the consumer”.

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1 At the time the research was funded, the Wharton Customer Analytics Initiative was known as the Wharton Interactive Media Initiative.
Tackling such issues is the mission of the Wharton Customer Analytics Initiative, or WCAI, which is pioneering the use of data created by interactive media to drive better business decisions. In 2009, more than 100 researchers working on issues related to user-generated content attended a WCAI conference\(^2\) to share and advance knowledge in these areas. WCAI has supported professors such as Moe, who along with David Schweidel, Assistant Professor of Marketing at the University of Wisconsin School of Business, published a working paper December 2009 paper entitled "Online Product Opinions: Incidence, Evaluation and Evolution." Moe also produced additional research on the same topic with a University of Maryland colleague, Assistant Marketing Professor Michael Trusov, in March 2010, "Measuring the Value of Social Dynamics in Online Product Ratings Forums." The two papers add both valuable new insight and a note of caution about online consumer chat.

**Why does Internet chat turn negative?** Moe said her interest in researching the social dynamic of online consumer sites was motivated by growing interest in the role that so-called "word of mouth" is playing in marketing, especially with the expanding role of social networking sites such as Facebook and Twitter, which are taking these conversations beyond the boundaries of strictly consumer-oriented websites. Her recent research focuses, however, on a more traditional consumer rating site to look at the nature of initial posters offering online product opinions, and how do online discussions evolve over time. In particular, Moe said she wanted to understand "whether these discussions take on a life of their own, and move away from the underlying experience of purchasing and using the product."

Her work was guided by earlier research suggesting that other types of popular Internet discussions – on topics such as politics or entertainment – often take a negative turn as more frequent, and more opinionated commenters begin to dominate the discussion. Researchers believe this happens for several reasons; later customers may have different or higher expectations than the earlier more positive posters, and the second wave of commenters also may feel that a more negative evaluation makes them

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\(^2\) At the time of the User-Generated Content conference, the Wharton Customer Analytics Initiative was known as the Wharton Interactive Media Initiative.
appear to be better educated. Moe and her colleagues wanted to go beyond the first set of studies and track discussions about everyday consumer products that have been on the market for some time, with the goal of both watching how these conversations evolve over time and tracking any impact on retail sales. In addition, the data would allow the researchers to look more deeply into the posting history of individual commenters.

The 2009 paper, Moe and Schweidel worked with BazaarVoice, an Austin-based company that has worked with nearly 1,000 brands in developing marketing and product strategies based on Internet consumer dialogue. The database they ultimately studied came from an online retailer of bath, fragrance and home products and contained posted product ratings for a six-month period in 2007. Among the more than 10,000 ratings of more than 1,800 products, Moe and Schweidel found that 18 percent of posters had evaluated more than one product. Explained Moe: "I thought it would be informative for these marketers and retailers to look across a number of discussions and not just one discussion – then maybe a larger picture would emerge."

Who are the first online? To understand the dynamics of an online consumer site, Moe stressed it's important to remember that a number of the visitors are the so-called "lurkers" – potential customers whose purchases may be influenced by what they read but who are for the most part not interested in posting their own comments. From this larger pool, she said, tend to come the initial postings about a product, and these tend to be positive. "Low involvement casual customers are more likely to be the first to post," she said, "because there are more of them, and they are more comfortable and confident jumping in at the beginning when there are no other voices in the conversation."

Moe's research divided consumers who choose to comment online into four categories, including this low-involvement group. Additionally, the research identifies "bandwagoners" – people who tend to post in more positive discussions and add their own favorable opinions – and "differentiators," who tend to get involved when a discussion turns more negative. But the most influential group in shaping the Internet conversation are people that Moe identifies as "community builders" because of how active they are in contributing their opinion; these opinions, however, skew to the negative.

Understanding the "community builder." The Maryland professor argues that these so-called "community builders" tend to be more critical of the products they rate because such opinions allow them to appear to be more of an expert. The paper also notes, however, that the community builders are more "altruistic" in that they tend to write about "you" or "your" experience more often, which to Moe is a sign these posters are also highly engaged with the products they are writing about. But what Moe and her co-author Schweidel found was the over the span of the online product discussion, the postings by these "community builders" became more frequent, and
their postings drove the product rating downward as well. Although earlier studies had noted this negative spiral, Moe and Schweidel found that this was because of what they call "the selection effect" – the personality of those choosing to make comments online.

Shawn Gaide, the director of business development for BazaarVoice, said that online consumer trackers like his firm are quite aware of the role of a type of commenter that he called an "influential super contributor." He supports more research because he strongly believes that any pitfalls of misinterpretation are outweighed by the benefits of scraping key consumer content from the Internet. "There is some risk in being open as a brand," Gaide said, "but there is also an incredible opportunity to be transformative."

In the second paper published in 2010, Moe and her University of Maryland colleague Trusov also looked at data supplied by BazaarVoice, with an eye toward how the evolution of online product ratings affected sales. Their research – which looked specifically at fragrance products for which consumer opinion could prove critical – showed that the impact of the Internet ratings was often "immediate and significant."

At the same time, the researchers found that the dynamics of the online discussion could have unexpected, indirect impact on sales volume. A passionate debate with varied opinions about a 3-star-rated (out of five) product – creating a higher volume of posts and online traffic – actually had a more positive impact than a similar product with a 3-star rating but without a diversity of written opinions. Moe and Trusov write that "[t]he managerial implication of this result is that marketers should not necessarily encourage strictly positive word-of-mouth, but also encourage informative variance of opinions in the online discussion."

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Widening the conversation. Moe acknowledges that her research – while advancing the body of knowledge about the social dynamics of consumers online – also raises new questions to be studied and answered. She proposes more study into the role of the most influential posters, as well as research into social dynamics of a broader variety of consumer forums beyond product ratings sites. Additionally, Moe proposes additional work into how social interaction changes the makeup of the online commenters over time. She also suggested comparisons traditional word of mouth "to see if they say the same things in a different environment."

Gaide, the BazaarVoice executive, said that one solution to some of the pitfalls of social dynamics on Internet consumer sites is to increase the methods for customer feedback, from mobile phones to store kiosks, and create a larger conversation. He said BazaarVoice now sees an Internet landscape in which roughly 10 percent of consumers post rankings or comments, and only 1 percent are highly active posters, but that new technology will increase the size of the
conversation and thus make it more difficult to corrupt. "We're getting smarter about how to include people in the conversation," Gaide said.

These are vital questions for marketing experts and executives who are increasingly looking to interactive media to take the pulse of the consumer. Moe said the findings are a caution flag for company officials who might be prone to make hasty decisions based on negative Internet feedback. "My words of warning are to try not to overreact," She said. "[Executives] may want to intervene when you they see a negative opinion, but they need to understand what is caused by the product and what is caused by the social dynamic." In the time ahead, the Wharton Interactive Media Initiative is committed to working with researchers like Moe to even better understand the dynamics of customer feedback, a critical step toward allowing “the Voice of the Consumer” to be heard by American business.