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Measuring Consumer Sentiment About Prescription Drugs

Data Mining and Scoring Consumer-Generated Content About Pharmaceutical Brands

By John Mack and Lawrence Greenberg

If the chatter and buzz of marketing vendors at industry conferences is any gauge, pharmaceutical companies are excited about consumer-generated content (CGC) (sometimes called user-generated content, or UGC), now being touted as the Internet's next "new thing."

The CGC/UGC Landscape

- Credibility: 71% find CGC credible; 73% find expert advice credible; and 35% find information from various brands credible
- Approximately two-thirds of current economic activity in the US is impacted by shared opinions about a product, brand, or service (McKinsey Consulting)
- By 2010, close to 70 percent of the digital universe will be individually generated (IDC)
- Today, half of all US marketers use WOM (word of mouth) in their program mix, and another fifth of them plan to make use of it (Osterman Research/ Boldmouth.com)
- Forty-eight million Internet users have posted content to over 50 million blog sites (mediapost.com)
- A given single blog post is read by anywhere between 9 and 20 Internet users who do not themselves post comments

Mining CGC: An Interview with Mark De Paoli

In a recent [Pharma Marketing Talk podcast](#), John Mack spoke with Mark De Paoli, Life Sciences Account Manager at BrandIntel, an online market intelligence company, about mining CGC to evaluate consumer sentiment about Pharmaceuticals.

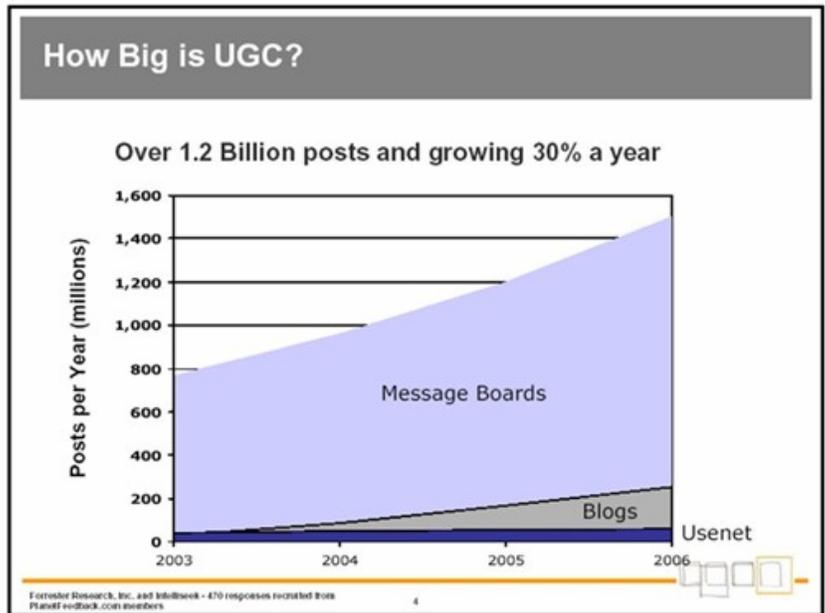


Figure 1: How Big is UGC?

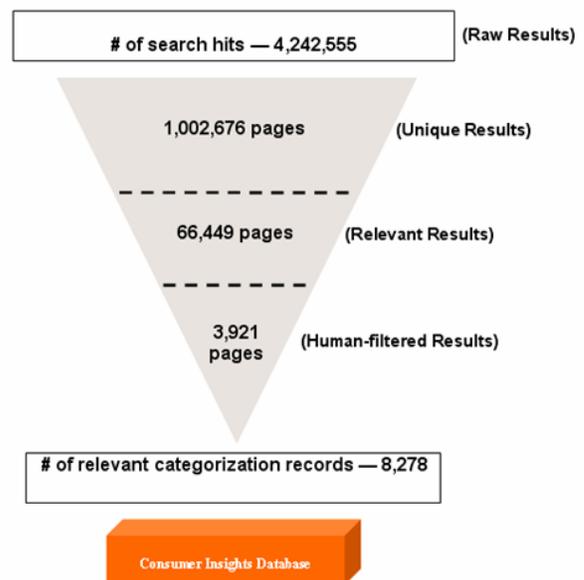


Figure 2: The BrandIntel Data Funnel

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“We look at sites where consumers can post their own content and opinions,” said De Paoli. “In our analysis, we’re measuring what consumers feel as expressed in their own words. We’re not interested in counting how many times a brand name is mentioned; our focus is on tracking opinions about brands expressed by consumers online.”

Healthboards.com

Dealing with a medical condition is often difficult. Connecting with others going through the same thing can make a world of difference. HealthBoards.com lets the user make these connections with a unique one-stop support group community offering more than 150 message boards on various diseases, conditions, and health topics. The HealthBoards community is one of the largest and most dynamic on the Web, with more than 300,000 registered members, and more than 2.5 million messages posted. Through a WebMD partnership, HealthBoards offers its users a comprehensive Health Guide with valuable health information and tools for health management. Consumer Reports Health WebWatch rated HealthBoards as one of the top 20 health information websites in 2005.

De Paoli mentioned various types of CGC. Some yield better results than others. “The types of sources or sites that produce the richest content are forums.” A good example of a forum is Healthboards.com (see box) where consumers engage one another about a wide range of conditions. Blogs can also be a good source of consumer sentiment about products. It’s where people tend to comment on their daily lives, their medical conditions, and the drugs they are taking. This can provide valuable insight into what pharmaceutical companies are really looking for. Blogs written by journalists from newspapers like the Wall Street Journal include posts about articles where consumers can submit their comments.

“We monitor an enormous array of Web-based, primarily consumer sources, including discussion forums, blog sites, message boards, information portals, media sites, and newsgroups,” said De Paoli. “We then analyze the information and extract CGC content into actionable data that organizations can utilize for effective decision-making.”

BrandIntel does this by using a mapping technology that can search more than 210 million unique URLs, more than 8.2 billion individual pages, and more than 52 billion links. Human

analysts read the pages the BrandIntel system selects, then code data based on various attributes and interpret comments, ensuring they are properly tagged. For example, a positive comment about Botox efficacy would be coded appropriately. Scoring is used to examine the proximity of brand names with both drug efficacy and safety.

Case Study: Botox® vs. Restalyne®

De Paoli illustrated his company’s approach using a case study based on Botox and Restalyne, two competing cosmetic drug products.

Botox is a physician-administered skin care treatment for smoothing facial wrinkles. Basically, it’s a muscle relaxant; small injections of botulinum toxin are applied to the affected areas. Restalyne is also used to treat facial wrinkles, but its base is radically different—hyaluronic acid—which has a different mechanism of action, binding to water molecules in the body to fill out and soften the skin.

Discussion Share

“A key concept in looking at CGC is discussion share,” said De Paoli. In analyzing two competing brands—in this case, Botox vs. Restalyne—BrandIntel measured the distribution of consumer discussion across the two brands and examined relevant comments in aggregate. “Say there are 100 comments about these brands and 60 of them are about Botox,” explained De Paoli. “Then a 60% discussion share is assigned to Botox.”

Sentiment Score

Another key idea is sentiment score. BrandIntel’s human analysts evaluate comments and assign them a value between one and five: one is the most negative and five is the most positive value. Three is considered an average or neutral score. The values for a given comment are averaged to yield a sentiment score.

Figure 3 (next page) is a graphic representation of both sentiment score and discussion share for Botox vs Restalyne CGC. Through the 2005 to 2007 period, there was a greater discussion share for Restalyne, but the overall Botox positive sentiment score progressively increased while Restalyne’s remained the same, at about 3.1 to 3.2. Discussion share for Restalyne has increased since 2005, but sentiment is not as positive as it is for Botox.

Currently, discussion about Botox is more than 60% positive. Consumer awareness of the product has increased. Thus, interest and acceptance have trended upward. According to a recent BrandIntel report, a notable percentage of online consumers

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Definitions

Sentiment: Positive or negative attitude toward a product/brand/service, as expressed by consumers

Sentiment scale: Using a set of attributes relevant to a product/brand/service, BrandIntel analyzes Internet discussion on multiple dimensions. Sentiment toward an attribute is assigned a score from 1 to 5, with 3 indicating neutral sentiment (i.e., a score above 3 represents positive sentiment while a score below 3 represents negative sentiment).

Attribute: Characteristic or component of a product/brand/service to which BrandIntel assigns a sentiment score rating the physical and emotional value of mentions about the attribute

Intent to use: Whether or not the consumer is intending to use/try/experience the product/brand/service

Acceptor sentiment: Positive consumer attitudes for a select group of attributes (intent to use, satisfaction, appeal, recommendation)

Rejecter sentiment: Negative consumer attitudes for a select group of attributes (intent to use, satisfaction, appeal, recommendation)

indicate interest in either beginning or continuing Botox treatments.

“As more people became familiar with Botox over time, its sentiment score improved,” said De Paoli, “whereas the sentiment score for Restalyne stayed in the neutral area. This indicates that while people may be using Restalyne, they are not really attached or committed to it. This is an opening for Botox to capture more of the market.”

Impact of Advertising on CGC

Direct-to-consumer (DTC) advertising of pharmaceuticals may be viewed as a double-edged sword. On one edge consumers learn about specific drugs, but the other edge is the negative impact on the doctor-patient relationship. In many cases, patients come to doctors thinking they know exactly what medication they want for their condition, based on advertising—and it may not be the best one, according to the physician.

Does DTC also influence consumer-generated content? “We don’t necessarily see a direct relationship between DTC advertising and consumer discussion,” said De Paoli. “Consumers may not discuss a specific ad, but this doesn’t mean a DTC ad campaign has no effect on conversation. Instances have occurred when news of a newly released Pharmaceutical has generated a coincident shift in conversation.”

Gaming the System

Blog contributors may sometimes pose as “ordinary” consumers, but are actually employ-ed by ad agencies with a stake in the conversation (i.e., agencies that represent the brand). There is the possibility, therefore, that pharmaceutical marketers may directly influence CGC in these online forums.

De Paoli explained that the BrandIntel methodology mitigates the influence of interested parties in the discussion and analysis of CGC. “Using human data analysts helps identify and filter out these kinds of unnatural content. Analysts examine a large volume of

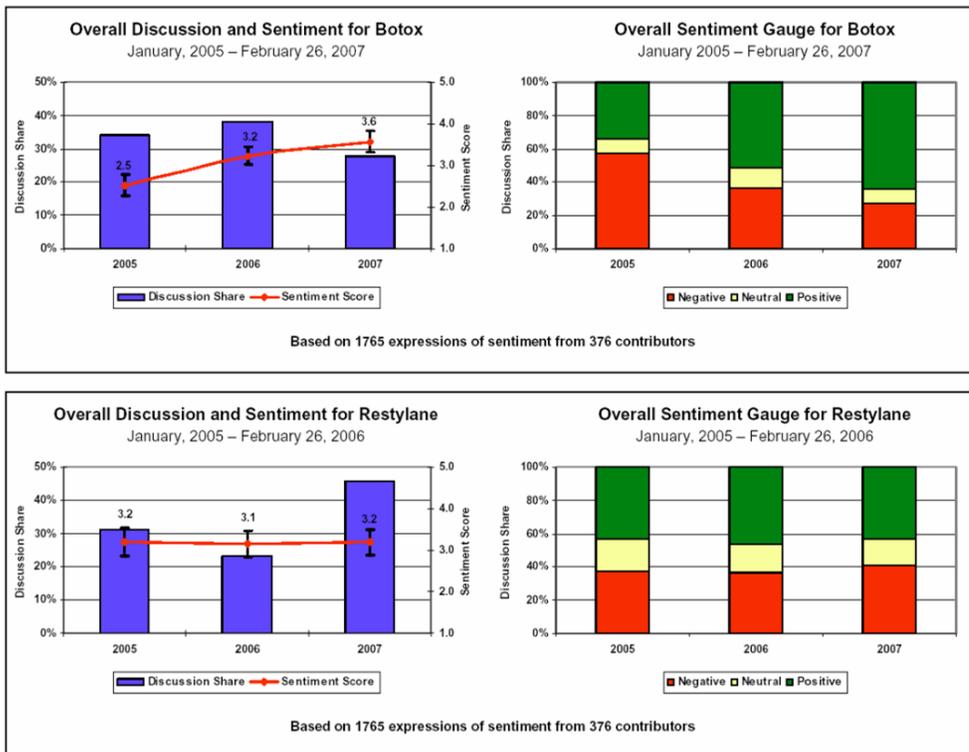


Figure 3: Botox vs. Restalyne—Discussion share and sentiment score

conversation threads and can identify what's natural and what's not, knowing to look for certain 'triggers' that identify phonies. Participants in online conversations may also be adept at spotting phony comments."

CGC Thought Leaders

Some consumer comments may be more influential than others. Should they be weighted more than others in analyzing sentiment? For example, if RevolutionHealth.com, a highly regarded Web 2.0 consumer health site, has favorable consumer comments about a specific drug, should those comments count for more than comments found elsewhere?

"The concept of influencers frequently comes up in client conversations," admits De Paoli. "Each comment we analyze is often identified with a unique user name. This means it's possible to tell which individuals may be contributing more than others, and if they contribute across different sites."

Monitoring Adverse Events in Conversations

FDA regulations require that all pharmaceuticals have ISI (important safety information), which may include "black box" warnings if the drug may have significant adverse events (AEs). The FDA's recent enhanced focus on AEs means that pharmaceutical companies are hesitant to get actively involved in consumer feedback, especially in the peer-to-peer Web 2.0 arena.

"We monitor adverse events on a regular basis for clients, claims De Paoli. "Stringent FDA guidelines dictate that we pay careful attention to this type of information."

Engagement is the Future

BrandIntel focuses exclusively on listening to online consumer conversations and does not engage in these conversations. "What we've learned from listening," notes De Paoli, "can be used by our pharmaceutical clients who want to engage in online conversation about their products. We see this happening more frequently in the future."

Indeed, BrandIntel clients in other industries have started to engage consumers online. Interestingly enough, few pharmaceutical companies have followed suit. While it's true that pharma companies are characterized by special limitations, some are nevertheless starting to work within these boundaries. It will be interesting to see to what extent they will expand their involvement in this clearly developing trend.

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