

Is GMail better than Hotmail? User Opinions Matter

Consumers today not only consume media, increasingly they create and share it, especially on the Web. Social media is now a mainstream phenomenon in which critical word-of-mouth moves quickly and virally. 25% of all Internet users now publish content online. 40% read blogs regularly; 120,000 blogs are created daily in the U.S¹. Knowing who is saying what about stocks, brands, campaigns or businesses online is now considered crucial business intelligence.

Product Managers, for example, can utilize social media and glean information from a wide variety of review documents² to monitor and evaluate the response to new products and protect their brands online. A product manager at Google responsible for the firm's web-mail product GMail, for example, finds significant value in quickly summarizing responses from customers, reviewers, the business community – thought leaders and the public - as answers to two primary questions - What are positive and negative user opinions on GMail? Is GMail better than Hotmail?³

Nielsen BuzzMetrics⁴, a widely used measurement standard in Consumer-Generated Media, that helps companies, brands and business professionals better understand the influence and impact of such media on products, issues, reputation and image, employs data mining applications rooted in sentiment analysis and extraction. Text mining of locally available user feedback also matter for many businesses. Clarabridge⁵, a Virginia-based text mining software firm, helps businesses derive insights by mining and aggregating opinions from customer feedback documents such as customer feedback forms, e-mails, call-center notes, and survey responses.

Yahoo! Finance, a leading financial information portal, now carries a Community Sentiment section on its home page, where top bullish/bearish “stocks everyone is talking about” are prominently listed. Collective Intellect, a social media intelligence startup that provides such data to Yahoo! and more than 60 hedge funds, gathers stock news from major message boards and then compares bearish and bullish message

activity in the past 24 hours against 30-day averages.

¹ CollectiveIntellect (<http://www.collectiveintellect.com/marketingPR.php>)

² Mining the Peanut Gallery: Opinion Extraction and Semantic Classification of Product Reviews (<http://www.kushaldave.com/p451-dave.pdf>)

³ Opinion Mining, Extraction, Summarization and Spam Detection (<http://www.cs.uic.edu/~liub/FBS/sentiment-analysis.html>)

⁴ Nielsen BuzzMetrics (<http://www.nielsenbuzzmetrics.com/>)

⁵ Clarabridge (<http://www.clarabridge.com>)



The potential return of utilizing sentiment analysis (opinion extraction and opinion summarization from user-generated media in particular) for product managers, content managers, public relations professionals, market researchers and investor relations professionals is huge. Text analytics can extend reach, lower costs, and improve reaction time in dealing with sentiment information, that is locked in a variety of forms of human communications (blogs, social networks, message boards and traditional media). Workers have limited capacity and so computers are used for what they're good at: processing large volumes of data fast.

Recent academic work has also employed hybrid techniques that combine data mining and econometrics to decompose user reviews into segments that evaluate the individual characteristics of a product (e.g., image quality and battery life for a digital camera). Specifically, weights that customers place on each individual product features, implicit evaluation score that customers assign to each feature, and how these evaluations affect the revenue for a given product have been estimated.⁶

The challenge though is in being able to reliably index unstructured Internet data, topic-by-topic, in real time, and filter the content into actionable intelligence. Automated tools need to reliably discern facts and feelings in light of not only abbreviations, bad spelling, and fractured grammar, but also sarcasm, irony, slang, idiom, and personality in user generated content. How can software judge the impact of a posting such as the following one taken verbatim from Dell's IdeaStorm.com, complete with misspellings and a buried subject, RAM – "Dell really... REALLY need to stop overcharging... and when i say overcharing... i mean atleast double what you would pay to pick up the ram yourself."⁷ It is not surprising then that web mining based decisive systems for stock movement, similar to Collective Intellect offerings, have been shown to have an accuracy of only about 60%⁸. Hybrid (inter-disciplinary) approaches that use statistical and linguistic processing for text analysis may be utilized to improve accuracy. For example, in analyzing Internet Movie DB comments, numerical rating information can provide hints at polarity and help improve sentiment-extraction accuracy. An *Alvin and the Chipmunks*

⁶ Show me the money!: deriving the pricing power of product features by mining consumer reviews: (<http://portal.acm.org/citation.cfm?id=1281192.1281202>)

⁷ Sentiment Analysis: Opportunities and Challenges (<http://www.b-eye-network.com/view/6744>)

⁸ Stock Broker P – sentiment extraction for the stock market (<http://library.witpress.com/pages/PaperInfo.asp?PaperID=14220>)

reviewer: “I refused to take my kids to that one myself – gave the movie 8 stars out of 10”. Similarly, a hotel guest who chose a Fair rating in a satisfaction survey is likely to have posted more complaints than praise in free-text response fields. Challenges also arise when aggregating of various polarities – some positive, some negative, and some neutral – and varying intensities.⁷