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SOCIAL MEDIA TECHNOLOGIES

By Bruce Lund

Governments are increasingly finding that monitoring social media is an essential component in keeping track of erupting political movements, crises, epidemics, and disasters, not to mention general global trends.

Today social media is an information torrent fed by countless sources that can originate from almost anywhere on the planet. Information shared from any Internet-connected computer or text-enabled phone communicating with a hosting/distribution service, such as Twitter or Facebook, can potentially be viewed by millions of people.

Absolute statistics on the use and growth of social media become obsolete overnight. But currently, Facebook has about 800 million active users, and approximately 70 percent of those users are outside the U.S.^{1,2} In terms of social media-enabled mobile devices, wireless carriers activate 350,000 phones running Google's Android operating system every day.³

What is driving social media content and consumption? A key factor is the low barrier to entry. Consumers don't need smart phones with monthly data plans or even e-mail accounts; they can post 140-character SMS messages via virtually any mobile phone made in the last decade. Where texting services have been shut down, companies such as Google have stepped in with voice-to-text-to-tweet services.

Advances in consumer technology have also been a factor. SMS mobile text messaging first became possible in the mid-1990s on a limited basis, and reached global critical mass by the middle of the last decade due to several factors, including increased mobile device support and marketing by mobile carriers. To this day, many social media services based on SMS, such as Twitter, limit their message size to the 140-byte length defined for SMS in the 1990s.

But mobile devices don't tell the whole story. What started in the earlier part of the last decade as limited conversations between computer users participating in web-based chat rooms (e.g., to discuss music or the pros and cons of their favorite type of car or laundry detergent) has increased to span virtually any mainstream and special interest topic imaginable. Marketers, political analysts, and reporters took early note, and have been following — and sometimes participating in — these conversations ever since.

While computers still play a role in chat rooms, blogs, wikis, and tweets, it is people with mobile phones who are driving social media's importance

¹ "The Revolution will Not Be Monetized." *IEEE Spectrum*, June 2011, p. 38.

² "Facebook F8: Redesigning and hitting 800 million users." *LA Times*, September 22, 2011.

³ "5 Technologies that Will Shape the Web." *IEEE Spectrum*, June 2011.



well beyond the initial application of interacting with friends (i.e., people who they actually know) or a few like-minded participants in a chat room. During this transition, a new sense of the word “friend” has entered the lexicon to accompany the growth.

While there are many personal reasons why individuals want to use social media, the ways that corporations and governments can use it are still evolving. In this issue of the *IQT Quarterly*, we’ll focus on what social media can offer government agencies.

The Role of Social Media Monitoring

Corporations are increasingly participating in social media conversations for reasons related to both marketing and customer service. This involvement can range from corporate-branded sites with their own chat rooms to Facebook pages to a company’s direct participation in real-time conversations on Twitter. Some of the most innovative applications from a technology perspective can be found in the social media monitoring space.

Who are the consumers and stakeholders in the social media monitoring and analysis marketplace? Other than the providers of the infrastructure used by social media (e.g., telecoms, Internet service providers, aggregators, hardware networking, storage providers, and handset makers), there are some key services that specialize in monitoring social media:

- **Listening Platforms/Brand Management Services.** Advertising agencies and consumer product companies use social media for brand management and sentiment analysis. Several listening platforms focus on providing major consumer brand companies (e.g., Microsoft, P&G) with information on views about products expressed in consumer forums, group or fan pages on consumer sites,

and on Twitter. Example service providers include IQT portfolio companies NetBase and Visible Technologies.

- **News and Intelligence Services.** News organizations have monitored social media for several years for early indicators of emerging political unrest. Other services monitor social media for public health awareness. Researchers from Southeastern Louisiana University said they have been able to forecast future influenza rates with high accuracy by monitoring Twitter messages, and the U.S. Geological Survey is evaluating the use of tweets for localizing seismic events. Such applications may eventually be adopted by government agencies to track epidemics, disasters, and emerging political movements on a global scale.

What Social Media Companies Can Offer

Social media gives individuals the ability to reach communities across the globe with little latency (perhaps 30 seconds or less from origin to visibility). However, to ingest and store Twitter feeds alone requires a data storage and analysis infrastructure to service up to 100 million new tweets per day (approx. 1,000/sec.).⁴ Many of the real-time social media search companies also offer feeds from Facebook, Digg, foursquare, Flickr, and others.

Key reasons to monitor social media as close to real-time as possible include:

- Improving the analysis of potential indicators of societal change as well as informing predictive analysis.
- Understanding the source and direction of trending topics by measuring how ideas spread in social networks.

⁴ The information content of 140-byte messages in Chinese, Japanese, or Korean is inherently greater than those messages in Western languages, even when accounting for the multiple bytes required for Asian-language character encodings, since an individual character in such an Asian language can equate to an entire word in English. Thus, they’re denser.



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- Providing faster situational awareness and early warning when disasters such as earthquakes and hurricanes occur.

As with commercial news organizations, government agencies need to gain insight into trending topics and discussions in social media outlets. Specifically, they need to access, search, rank, and analyze large and exponentially-growing data sets from social media platforms as a part of open source research from a number of viewpoints and all-source analysis in multiple languages.

Future Considerations

We are likely to see changes in the business side of social media over the next few years.

- **Company Consolidation:** Consolidations in the social media monitoring marketplace have included the acquisition of BuzzMetrics (by Nielsen in 2006), Ellerdale (by Flipboard in 2010), Kosmix (by Wal-Mart in 2011), and Radian6 (by Salesforce.com in 2011). Not all consolidations are fruitful; News Corp bought MySpace seven years ago — at the time the world's fastest-growing social network — for \$580 million, then sold it in 2011 for \$35 million.

MySpace's loss of users and advertisers coincided with the rise of Facebook over the same period.

- **Role of Large Search Providers:** Large companies such as Google, Microsoft (Bing), and Yahoo! offer access to major social media channels, as does Twitter itself.
- **Integration into the Core:** Instead of relying on a dedicated "app" or branded web-based portal to access social media services, users will increasingly interact with social media via invisible services within their devices' operating systems. This core-level social media enablement of devices will give marketers unprecedented reach to potential audiences, allowing them to facilitate meetings with colleagues or exploit up-to-the-minute crowd-sourced reviews of restaurants, among other things.

IQT has made several investments in the social media space, and we will continue to refine our social media investment strategy to focus on providing relevant social media data and technologies to our government customers. We will keep exploring the social media landscape, looking for ways these technologies can be used to effectively address government challenges. **Q**

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