Social Listening and Intelligence: The Next Generation
IIEX Health
April 29, 2015
A 12 Year Legacy of Top Social Data Quality, Research and Consulting

- **Mission**: Provide the world’s best social insights and integrate them into their organizations for maximum impact
- Provide data, tools, research and consulting to drive actionable insights across the organization
- Top overall score (5 out of 5) for consulting and research, as well as data processing and sentiment analysis. Forrester Wave Q1 2014
- Dataweek Top Innovator in Social Data Mining for its ability to “provide near human level precision at the speed and scale that only software can achieve.”
- Over 12 years experience working with leading brands, including pharma/healthcare
Listening 1.0: Who Offers a “Listening” Tool?


Source: http://wiki.kenburbary.com/social-media-monitoring-wiki
But Most Of Them Are The Same

Enter your keyword or boolean query into the tool, it searches its list of feeds and then you generally get back charts and tables showing:

1. Volume (of you, your competitors, your category)
2. Venues/Authors
3. General topics
4. Automated influence
5. Basic sentiment

That seems pretty easy, right?
It can be, if all you want to really know is what are people saying about be right now?
## Dirty Secret of Most Social Data

### Current State:

- Imprecise – average sentiment accuracy is 60%
- Analyst bias
- Low recall (record level)
- No sample frame
- “One size fits all”
- “Same old metrics”
- High irrelevancy (often 70-75%)
- Don’t know who is speaking
- “Garbage in, garbage out”

Data quality remains an issue. When asked about their satisfaction with general data quality, 74% of respondents reported positive results. But when we dug deeper and asked about the specifics of the data, many changed their tunes. In fact, the five responses showing the most dissatisfaction all centered on data: the ability to weed out spam; the accuracy of the tool’s automated sentiment analysis; influencer identification tools; multilingual and international capabilities; and the tool’s integration capabilities. These data challenges make a direct call to CI teams to get involved and bring their past data management experience to the table.

– Forrester Research
The truth is that for too long, much of social data has been a “coin flip”

Greater insights must begin with better data
Bad Data = False Conclusions

Does Anne Hathaway News Drive Berkshire Hathaway's Stock?
Recently, researchers at CMU and McGill recognized the issue

Far from being unfixable, however, miscalculations in social-media analyses can already be fixed using methods developed to fix similar problems in studies in epidemiology, statistics and machine learning.

- ComputerWorld

But they also recognized the solution
Yet many market researchers continue to leverage bad data for insight.

60% precision + 20% relevancy + Low signals = Problems
The Next Generation: Precise, Meaningful and Predictive
New Machine/Deep Learning create new breakthroughs

- **Use Cases**
  - Product Innovation / R&D
  - Marketing / Social Strategy
  - Corp. Compliance
  - HR
  - Media Planning
  - Campaign Effectiveness & Tracking
  - Campaign Development
  - SEO / SEM
  - Brand Protection
  - Customer Service
  - Crisis Management
  - Brand Monitoring

- **Levels**
  - Social Monitoring
  - Social Intelligence
  - Custom enrichment and tuning to the brand / product
  - Custom classifiers
  - Standard classifiers
  - Customer Intelligence / Action
Relevancy helps separate signal from noise

Category Exploration: % Relevant Acne Conversation

- All Acne Mentions: 100%
- Relevant Acne Mentions: ~57%
- Acne Sufferer Mentions: >1%
- Not-Relevant: “Gonna order a acne tee, plaid pants, & loafers for my birthday.”
- Spam: “Whitening Cream, Acne Series, Acne Treatment Aman tanpa efek, Alami, glowing, bebas jerawat recommended.”

Relevant mentions and voices can act as a panel for companies looking to identify the questions and issues that consumers have.

- “Has anyone used Aveeno baby...to help with baby acne? Does anyone that uses this in general think it's better than j&j or noticed a difference?”
- “are you sure that's accuttane? It worked so well for me. Cleared my face from having SEVERE cystic acne”
- “I need to find some new face scrubs and masks. Cause obviously the ones I been using just don't work anymore”

All acne mentions n=469,000; relevant acne mentions n=262,000, acne sufferer mentions n=3,200.
Source: Converseon analysis of public online records.
To get there, you have to go beyond “booleans”

- Relevance feedback allows you to be in control
- The best boolean query achieved only 15% relevancy
- Machine learning trained custom classifier raised relevancy to 85% in less than an hour
### Recall of relevant sentiment incidents

<table>
<thead>
<tr>
<th>Industry Standard Sentiment Algorithm</th>
<th>Converseon Sentiment</th>
</tr>
</thead>
<tbody>
<tr>
<td>51%</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Sentiment precision

<table>
<thead>
<tr>
<th>Industry Standard Sentiment Algorithm</th>
<th>Converseon Sentiment</th>
</tr>
</thead>
<tbody>
<tr>
<td>52%</td>
<td>75%</td>
</tr>
</tbody>
</table>

#### Precision & Recall (Signals)

**Other industry tools assign only one sentiment per post:**

“...amp energy drink snowboard, brand new. I won this in a contest, but don’t need it, so I’m letting it go cheap. The board has the amp energy drink logo on it, but no other logo so I’m not sure who made it. I think it’s a 156. The board is also signed by the Amp Energy Drink team riders, including Jack Mitrani, Keir Dillon, and more. The board...”

**Our classifiers assign three incidents for this post:**

“...amp energy drink snowboard, brand new. I won this in a contest, but don’t need it, so I’m letting it go cheap.”

“The board has the amp energy drink logo on it, but no other logo so I’m not sure who made it.”

“The board is also signed by the Amp Energy Drink team riders, including Jack Mitrani, Keir Dillon, and more.”

#### Examples of incorrectly categorized sentiment:

“Holy crap I was so tired! Thank God for Amp Energy Drink. #AmpItUp #Jr.Nation”

Classified as NEUTRAL by industry standard sentiment tool.

Classified as POSITIVE by Conversation Analyzer.

“This amp energy drink nasty af”

Classified as NEUTRAL by industry standard sentiment tool.

Classified as NEGATIVE by Conversation Analyzer.
“New” metrics via custom classifiers unlock deeper insight and “tune” to your category/brand
Now we can align language

Word Cloud of Messages about RLS

Day
» Lack of sleep is a common complaint even during the day, as patients often discuss how tired they are because of last night’s RLS. Most do not complain about other day time symptoms.

“Very disturbed nights sleep with restless legs syndrome.”
Patient

Night
» Patients complain about lack of sleep, uneasiness in legs, arms and anticipate being tired the next day.

“How frustrating - 4:15 and my restless leg syndrome will not let me sleep! sure makes for a long day tomorrow!”
Patient

‘Sleep’ and ‘night’ are two of the most common words in messages about RLS.

Thought Starter:
Online messaging needs to address how it helps people sleep and then highlight other advantages.
Isolate unmet needs

Family Members / Friends Motivations for Writing Messages about Parkinson’s

<table>
<thead>
<tr>
<th>Motivations to Write</th>
<th>% of Motivations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share Personal Story/Update</td>
<td>32%</td>
</tr>
<tr>
<td>Death</td>
<td>17%</td>
</tr>
<tr>
<td>Ask for Prayers</td>
<td>12%</td>
</tr>
<tr>
<td>Share Memories</td>
<td>11%</td>
</tr>
<tr>
<td>Show Support</td>
<td>9%</td>
</tr>
<tr>
<td>Ask Questions</td>
<td>6%</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>9%</td>
</tr>
</tbody>
</table>

n=139 records.
Source: Converseon analysis, October 2012.

“Monday was a long day I was up for around 28 hours just slept some and hopefully will get a few more hours. My dad had surgery for his parkinson's and so far things seem ok.”
Family Member/Friend, facebook.com, 09-21-2012

“My heart is heavy today as my uncle passed away. He suffered from Parkinson's disease for a long time. Am glad he is no longer sick but he will be greatly missed by his kids, grandkids and the rest of us who loved him So much.”
Family Member/Friend, facebook.com, 09-21-2012

“Please pray for my cousin Karen Dees and her Husband Cannon. They found out Cannon has Parkinson's.”
Family Member/Friend, facebook.com, 09-21-2012
Map the Patient Journey (including emotion)

New classifiers unlock deeper, more actionable insights such as those Based on Plutchik’s Wheel of Emotion
And understand “who” is talking

- Compiles a comprehensive view of an individual’s digital footprint across online personas
- Analyzes all public content that an individual has posted via social media channels
- Understands the type of conversations a particular person is having publicly online
- Identifies the public venues where an individual engages
- Understands the interests and life events of customers and prospects, driving more effective engagement
- Maps network connections
- Helps sampling frame by matching social media profiles to known populations from customer lists
Through Social Segmentation and “Always On” Social Panels

- Provided Database
- Social Profile Identification
- Interest Collection & Matching
- Appended Database
- Analysis & Reporting

Provided database is uploaded for analysis

Individuals are matched across social sites

Interests are matched or generated based on an individual’s:

- Profile Interests (e.g. what their profile says)
- Message Interests (e.g. what they post)

The database is then appended with Profile Data (e.g. No. of Tweets) and Interest Data.

Individuals in the database are analyzed for their interest, influence, and behavior.
### Interests Types Mentioned/Followed (by volume) (% of total – Segment 1 vs. US general population)

<table>
<thead>
<tr>
<th>Category</th>
<th>Segment 1</th>
<th>US general population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music</td>
<td>99%</td>
<td>1%</td>
</tr>
<tr>
<td>Style &amp; Fashion</td>
<td>71%</td>
<td>8%</td>
</tr>
<tr>
<td>Arts &amp; Entertainment</td>
<td>60%</td>
<td>11%</td>
</tr>
<tr>
<td>Hobbies &amp; Interest</td>
<td>56%</td>
<td>13%</td>
</tr>
<tr>
<td>Sports</td>
<td>54%</td>
<td>14%</td>
</tr>
<tr>
<td>Science</td>
<td>42%</td>
<td>14%</td>
</tr>
<tr>
<td>News</td>
<td>39%</td>
<td>14%</td>
</tr>
<tr>
<td>Technology</td>
<td>31%</td>
<td>14%</td>
</tr>
<tr>
<td>Education</td>
<td>31%</td>
<td>14%</td>
</tr>
<tr>
<td>Travel</td>
<td>30%</td>
<td>14%</td>
</tr>
<tr>
<td>Society</td>
<td>29%</td>
<td>14%</td>
</tr>
<tr>
<td>Food &amp; Drink</td>
<td>28%</td>
<td>14%</td>
</tr>
<tr>
<td>Business</td>
<td>27%</td>
<td>14%</td>
</tr>
<tr>
<td>Shopping</td>
<td>25%</td>
<td>14%</td>
</tr>
<tr>
<td>Law, Gov't &amp; Politics</td>
<td>20%</td>
<td>14%</td>
</tr>
<tr>
<td>Health &amp; Fitness</td>
<td>18%</td>
<td>14%</td>
</tr>
<tr>
<td>Automotive</td>
<td>18%</td>
<td>14%</td>
</tr>
<tr>
<td>Religion &amp; Spirituality</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>Pets</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>Careers</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>Home &amp; Garden</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>Politics</td>
<td>13%</td>
<td>11%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>13%</td>
<td>11%</td>
</tr>
<tr>
<td>Personal Finance</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td>Special Projects</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Family &amp; Parenting</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

### Source: Converseon Analysis (January 1, 2014-December 31, 2014).
Social Data is Now Predictive

Converseon, in partnership with Professor Wendy Moe and David Schweidel, conducted analysis of social conversation versus offline brand tracking.

Simple average sentiment scoring using regression analysis showed almost no correlation (.002).

But after cleansing the conversation of offers, advertising and other clutter, and applying weighting to the conversation based on influencer and venue, the researchers were able to find a strong correlation of .80.

"Data quality counts….Look for a (tool) that uses machine learning and entity level analysis."

Forrester Research, Social Predictive Analytics on the Horizon, April 2015.
We are at the beginning of a new era

Characteristics

- Limited Complexity
- Free tools
- Experimental
- People working in their spare time
- "Dictionary Based"
- Easy to understand
- Difficult to expand to different languages
- Directional
- Declarative
- Heuristic
- Qualitative
- Siloed
- Higher precision
- Embraces language evolution
- Domain specific
- Trainable
- Adaptable
- Customizable
- Quantitative/Predictive
- Integrated
- Modeled

Business Value

- Experimental
- Reactive/Limited
- Crisis Comm
- PR
- Campaign tracking
- Enterprise
  - Business Intelligence
  - Marketing Mix Modeling
  - Brand Tracking
  - Product Development, etc.
Where we can now mainstream Social Data

Advanced Enrichment

- Patient Journey
- Innovation
- Brand Tracking
- Product Launch, Unmet Needs, Segmentation, Outliers, etc
Parting thoughts

- New technologies and models are creating breakthrough results
- It’s the big picture but also the small (people) level
- Leading brands are indeed beginning to truly mainstream this data across the organization, globally
- It’s important to seek a “single truth”
- If you already have a listening platform, it can be further enriched
- Ensure you understand the quality of your data – precision, recall and relevancy (as well as ability to customize)
- And understand how people, rather than researchers, articulate benefit and performance theme
- Consider “Social Panels” for “Always On” intelligence
- Integrate this data both broadly and specifically
How can you access?

- If you have an application in need of social data, it is available through a REST API

- Converseon provides a full range of research and consulting products to clients looking for turnkey solutions

- If you have a basic listening tool and want to do additional processing on the data, a simple-to-use “Conversus” app is available (see booth for demo)

- If you are interested in marketing mixed modeling, we can plug data into your model or make the WOMMA model available (in partnership with Keller Fay and Analytics Partners)

- If you want to integrate more deeply into other applications, such as brand tracking, our consulting and research group is available to assist