

# Beyond Sentiment

## New Dimensions for Social Media

A Panel Discussion of Trends and Ideas

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## KAPS Group: General

- Knowledge Architecture Professional Services – Network of Consultants
- Partners – SAS, SAP, IBM, FAST, Smart Logic, Concept Searching
  - Attensity, Clarabridge, Lexalytics,
- Strategy – IM & KM - Text Analytics, Social Media, Integration
- Services:
  - Taxonomy/Text Analytics development, consulting, customization
  - Text Analytics Fast Start – Audit, Evaluation, Pilot
  - Social Media: Text based applications – design & development
- Clients:
  - Genentech, Novartis, Northwestern Mutual Life, Financial Times, Hyatt, Home Depot, Harvard Business Library, British Parliament, Battelle, Amdocs, FDA, GAO, etc.
- Applied Theory – Faceted taxonomies, complexity theory, natural categories, emotion taxonomies

Presentations, Articles, White Papers – <http://www.kapsgroup.com>

## Introduction – Beyond Simple Sentiment

- Beyond Good and Evil (positive and negative)
  - Social Media is approaching next stage (growing up)
  - Where is the value? How get better results?
- Importance of Context – around positive and negative words
  - Rhetorical reversals – “I was expecting to love it”
  - Issues of sarcasm, (“Really Great Product”), slang language
- Granularity of Application
  - Early Categorization – Politics or Sports
- Limited value of Positive and Negative
  - Degrees of intensity, complexity of emotions and documents
- Addition of focus on behaviors – why someone calls a support center
  - and likely outcomes

## Introduction – Beyond Simple Sentiment

- Two basic approaches:
  - Statistical Signature of Bag of Words
  - Dictionary of positive & negative words
- Beware automatic solutions – Accuracy, Depth
- Essential – need full categorization and concept extraction to get full value from social media
  - Categorization - Adds intelligence to all other components – extraction, sentiment, and beyond
  - Categorization/extraction rules – not just topical or sentiment
- Combination with advanced social media analysis
  - Opens up whole new worlds of applications

## New Dimensions for Social Media

- New Taxonomies – Appraisal
  - Appraisal Groups – Adjective and modifiers – “not very good”
  - Four types – Attitude, Orientation, Graduation, Polarity
  - Supports more subtle distinctions than positive or negative
- Emotion taxonomies
  - Joy, Sadness, Fear, Anger, Surprise, Disgust
  - New Complex – pride, shame, embarrassment, love, awe
  - New situational/transient – confusion, concentration, skepticism
- Beyond Keywords
  - Analysis of phrases, multiple contexts – conditionals, oblique
  - Analysis of conversations – dynamic of exchange, private language

## New Applications in Social Media

- Expertise Analysis
  - Experts think & write differently – process, chunks
  - Categorization rules for documents, authors, communities
- Applications:
  - Business & Customer intelligence, Voice of the Customer
  - Deeper understanding of communities, customers – better models
  - Security, threat detection – behavior prediction, Are they experts?
  - Expertise location- Generate automatic expertise characterization
- Behavior Prediction–TA and Predictive Analytics, Social Analytics
- Crowd Sourcing – technical support to Wiki's
- Political – conservative and liberal minds/texts
  - Disgust, shame, cooperation, openness

## New Applications in Social Media Behavior Prediction – Telecom Customer Service

- Basic Rule
  - (START\_20, (AND,
  - (DIST\_7, "[cancel]", "[cancel-what-cust]"),
  - (NOT, (DIST\_10, "[cancel]", (OR, "[one-line]", "[restore]", "[if]")))))
- Examples:
  - customer called to say he will **cancell** his **account** **if** the does not stop receiving a call from the ad agency.
  - cci and **is upset that he has the asl charge** and **wants it off** **or** her is going to **cancel** his act
  - ask about the contract expiration date as she wanted to **cxl** teh **acct**
- Combine sophisticated rules with sentiment statistical training and Predictive Analytics and behavior monitoring

## **New Directions in Social Media Conclusions**

- Social Media Analysis requires a hybrid approach
  - Software, text analytics, human judgment
  - Contexts are essential
- Text Analytics needs new techniques and structures
  - Smaller, more dynamic taxonomies
  - Focus – verbs, adjectives, broader contexts, activity
- Value from Social Media Analysis requires new structures
  - Appraisal taxonomies, emotion taxonomies Plus
  - Better models of documents and authors – multi-dimensional
- Result:
  - Enhanced sentiment analysis / social media applications
  - Develop whole range of new applications



# Questions?

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