

MEASURE MEDIA: EMOTIONAL SPECTRUM, INTENSITY, AND ACTION INDICATORS

Sentiment Analysis Symposium

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PRINCIPLES OF EVALUATION

- ◉ Measurement must be ultimately tied to outcomes rather than outputs.
 - Number of press releases is an output.
 - Change in public perception is an outcome.
- ◉ Outcomes must reflect reality.
 - “Quantified” is not necessarily a synonym for “accurate.”
- ◉ Analysis must guide action.
 - “Interesting” is not necessarily a synonym for “useful.”

ANALYSIS OF EMOTIONAL SPECTRUM

- ◉ Can be based on emotions or specific perceptions
- ◉ Can use existing or customized frameworks
 - PANAS-X (Positive And Negative Affect Schedule)
 - STAS (State-Trait Anger Scale)
 - Desired perceptions (values, mission, credibility, integrity)
- ◉ This tells us what matters to audiences.

ANALYSIS OF INTENSITY

- ◉ Best measured in volume impact and intensity of commentary
- ◉ Volume impact
 - Volume x prominence x credibility
 - Prominence = display and circulation
 - Credibility will vary by audience (*Wall Street Journal*, *The Guardian*)
- ◉ Intensity
 - Parts of Speech (POS)
 - Adjectives, adverbs, profanity
 - Intensity plus objectivity
 - Objectivity measured by source and article metadata (e.g. editorial versus news)
 - A more objective source's intensity is generally more influential.

CONCEPTS + INTENSITY

BOY SCOUTS ADMISSION OF GAY SCOUTS

Articles referencing	Articles	Major subconcepts
Justice	4,075	Fairness, equality
Morality	3,591	Values, ethics
Efficacy	2,807	Personal freedom, appropriate level of control
Trust	2,769	Admiration, loyalty
Happiness	1,532	Joy, relief
Anger	1,108	Frustration
Fear	913	Values under attack, "gay agenda"
Sadness	904	Feeling hurt at exclusion, regret at change
Distaste	344	Disgust, natural, unnatural



ANALYSIS OF ACTION INDICATORS

- Two kinds of action

- Responder action, such as vote, donate, purchase, boycott
 - What do people do (or say they will do) in response to situation?
- Advocated action, such as apologize, refund, compensate
 - What do people want us to do?

- Can analyze in conditional and future forms as well

- If-then
- Likelihoods
- Can be a form of crowd-sourced predictive analytics

CONFEDERATE FLAG IN S. CAROLINA

- ◉ Who should do something?
 - Government
 - Backers of the flag
 - Opponents of the flag
- ◉ What should/will they do?
 - Government - should move the flag to a museum, leave it up, take it down
 - Backers - will boycott, protest, put up their own, vote based on legislator actions
 - Opponents - will boycott, protest, file suit, vote based on legislator actions
- ◉ Rhetoric does not always lead to action but is indicative of attitude
 - Protestors against marriage equality threatened to move to Canada after Supreme Court ruling.

DISADVANTAGES OF APPROACH

- ◉ Requires initial or ad hoc customization for domain or situation
 - Terminology that's sector or domain specific
 - In most popular culture contexts, "sick" is positive.
 - Pollution means different things in religious and environmental contexts
 - Others have to respond to specific issues
 - Indiana Religious Freedom Restoration Act and business climate in Indiana
 - Jared Fogle and Subway
- ◉ Heavily reliant on semantic analysis
 - "Bollocks" vs "the dog's bollocks"

BENEFITS OF APPROACH

- ◉ Mostly bypasses questions of irony/sarcasm
 - Let's start WWII!./This will prevent WWII./They want WWII.
- ◉ Underlines the issues that need to be addressed
- ◉ Provides the language framework for communicating about topics
- ◉ Can be deeply enriched with metadata
 - Geographic, demographic, attitudinal

BENEFITS, CONT'

- ◉ Relatively easy to integrate with new research findings
 - New study on effective communication in nonprofit fundraising or factors that induce Millennials to invest
- ◉ Can be done at any level of technical sophistication
 - Anything from fully integrated text analytics system to bag of words to word counts to pen and paper

DISCUSSION TIME