What does the public say? A computational analysis of regulatory comments

Vlad Eidelman
Strata Data Conference
Sept 25, 2019
You care about the government and regulations
Industry cares about the government and regulations

Source: McKinsey Report
Policymaking process - Legislation

Congress writes legislation
- Spontaneous
- Uncertain
- Seasonal
- Closed to public

Becomes Statutory Law
Policymaking process - Regulation

Executive oversees Administrative Agencies

- Regulations promulgated to **implement legislation**
- Continuous
- Open to public

Becomes Administrative Law

Legislative Branch
- Legislation
- Statute/Code

Executive Branch
- Prop. Rule, Comments, Final
Everyone participates

Administrative Procedure Act of 1946, 5 U.S.C §553 Rulemaking

(b) General notice of proposed rule making shall be published in the Federal Register ... The notice shall include—

(1) a statement of the time, place, and nature of public rule making proceedings;
(2) reference to the legal authority under which the rule is proposed; and
(3) either the terms or substance of the proposed rule or a description of the subjects and issues involved. . . .

(c) After notice required by this section, the agency shall give interested persons an opportunity to participate in the rule making through submission of written data, views, or arguments with or without opportunity for oral presentation. After consideration of the relevant matter presented, the agency shall incorporate in the rules adopted a concise general statement of their basis and purpose.
Notice-and-Comment Rulemaking

Patient Protection and Affordable Care Act: Notice of Proposed Rulemaking

**Comment:** Several commenters supported the clarifications proposed in Part 144. In particular, commenters supported the clarifications concerning coverage sold through associations, noting that they would ensure such coverage complies with the market reform protections of the Affordable Care Act.

**Response:** Based on the comments received, we are finalizing the proposed provisions in § 144.101 and § 144.102 of the proposed rule without modification.

**Comment:** A few commenters asked for clarification about how to determine whether a group policy should be treated as large group or small group coverage for purposes of applying the PHS Act requirements when employer group size fluctuates between the definition of large employer and small employer.

**Response:** We intend to issue future guidance on counting employees for determining market size of a group health plan.
Why analyze comments

Public, interest groups, trade associations, corporations, governments *explicitly state their position* on the rule

Public and organizations *want to understand and impact* the direction of rule

Agencies *need to consider* relevant material

If relevant comments not considered and incorporated, could result in legal action
Challenges: Increasing Participation

Comments by date from 2000

Millions

- Cumulative
- Annual
The USDA should amend the Animal Welfare Act regulations to prohibit public handling of big cats, bears, and primates, regardless of the animal's age. This practice is unsafe for the public, harmful to the animals, and undermines conservation efforts.

Please take swift action to prohibit public contact and close encounters with big cats, bears, and primates.
Challenges: Authorship

The USDA should amend the Animal Welfare Act regulations to prohibit public handling of big cats, bears, and primates, regardless of the animal's age. This practice is unsafe for the public, harmful to the animals, and undermines conservation efforts. Please take swift action to prohibit public contact and close encounters with big cats, bears, and primates.
Problem Definition

Given a public comment on a rule determine:

**who** it’s from

if the author **supports** the rule

and **why**
Data

Collect all proposed rules, final rules and comments from regulations.gov (and FCC)

Approximately **850k notices and rules and 10M comments** released (37M comments with FCC)

Not all submitted comments released
Number of dockets since 2009 (by month)

Dockets are folder containing rules
60-75% of dockets receive no comments
Increase in average and max comments per docket
Author Extraction

Problem:
Most comments don’t have organization metadata

Millions of unique strings in author field

Often mention other organizations within comment text

Solution:
Named entity recognition + parsing + entity resolution

Split into organization and individual authors
Organizations

Mostly organizations: Energy, Labor, SBA

About 50/50: SSA, OMB, Treasury, HUD

Mostly public: State, VA, NLRB, HHS
Author Networks

2k organizations with >20 comments

Environment + Energy

Identify issues that matter to these orgs
Author Networks

Doctors
+
Insurance
+
Hospitals
Problem: Identify opinion expressed in comment text

Solution:

3 human subject matter experts reviewed and defined 16 claim types

Bootstrapped annotations semi-automatically through weak supervision
- Employ rule-based labeling functions using discourse, subjectivity, and other lexical cues

Train variety of ML classifiers
Claim Type Examples

**Burdensome**: “ignores the major adverse economic impacts”

**Lacks Flexibility**: “one deficiency to trigger recompetition is overly harsh”

**Insufficient Time**: “six months is not an adequate timeframe”

**Conflict of Interest**: “could be given a competitive advantage”

**Disputed Information**: “there is no evidence to support the hypothesis”

**Legal Challenge**: “will lead to endless litigation”

**Overreach**: “ignores Congressional intent”

**Req Clarification**: “language is ambiguous”

**Lacks Clarity**: “should be clear instruction”

**Seeks Exclusion**: “give religious organizations the freedom”

**Too Broad**: “believe the rule is overly broad”

**Too Narrow**: “consider expanding its definition”

**Explicit Oppose**: “Please do not go forward with the proposed rule.”

**Likely Oppose**: “Rural programs do not benefit from this rule at all.”

**Explicit Support**: “I am writing to urge you to make the proposed rule final.”

**Likely Support**: “We appreciate USDA’s willingness to help state agencies maximize the audit funds”
1. Determine whether a span is argumentative

On behalf of the American Hotel & Lodging Association (AH&LA), the sole national association representing all sectors and stakeholders in the U.S. lodging industry...

The lodging industry is one of the nation’s largest employers....

Our industry’s strong growth, sales, and employment base are key reasons that lodging has helped lead our nation’s economic recovery with 52 steady months of growth....

"It is our view that this position is based on faulty reasoning because many employers already conduct significant recruitment

We are concerned, however, that the IFR will be so costly that it challenges many of our members survival due to the increased costs, paperwork burdens and administrative hurdles now imposed by the rule.
1. Determine whether a span is argumentative

2. Classify claim type

"It is our view that this position is based on faulty reasoning because many employers already conduct significant recruitment.

We are concerned, however, that the IFR will be so costly that it challenges many of our members survival due to the increased costs, paperwork burdens and administrative hurdles now imposed by the rule."
Stance Detection

1. Determine whether a span is argumentative
2. Classify claim type
3. Assign overall stance

"It is our view that this position is based on faulty reasoning because many employers already conduct significant recruitment.

We are concerned, however, that the IFR will be so costly that it challenges many of our members survival due to the increased costs, paperwork burdens and administrative hurdles now imposed by the rule."
Docket Summary View

- Too broad - 3
- Too narrow - 33
- Outside scope of authority - 10
- Does not give sufficient time - 7
- Data or methodology questioned - 59
- Conflicting interests or interagency disagreement - 23
- Hardship description or mitigation request - 64
- Invites litigation or judicial review - 14
- Modifications or clarifications sought - 66
- Support - 193
- Opposition - 110
- Other - 86
Claims per Agency

Mostly organizations

Fewer overall comments

Wider number of claims
Claims per Agency

Mostly public

Higher overall number
Claims per Agency

Opposition heavy agencies vs more equal
Organizational vs Public Sentiment

Average Sentiment

Education
- Department of Education
- Department of Energy
- Department of Health and Human Services

Homeland
- Department of Homeland Security
- Department of Housing and Urban Development

Justice
- Department of Justice
- Department of Labor
- Department of Transportation

VA
- Department of Veterans Affairs
- Department of the Interior
- Department of the Treasury
- Election Assistance Commission
- Environmental Protection Agency
- Equal Employment Opportunity Commission
- Executive Office of the President

ExIm
- Export Import Bank of the United States
- Federal Acquisition Regulation
Org vs Public Sentiment

Federal Communications Commission
Federal Financial Institutions Examination Council
Federal Retirement Thrift Investment Board
Federal Trade Commission
General Services Administration
National Aeronautics and Space Administration
National Archives and Records Administration
National Credit Union Administration

NLRB
National Labor Relations Board
National Science Foundation
National Transportation Safety Board
Nuclear Regulatory Commission
Office of Management and Budget
Office of Personnel Management
Privacy and Civil Liberties Oversight Board
Small Business Administration
Social Security Administration
U.S. Copyright Office

State
U.S. Department of State
United States Courts

31
Conclusion

Regulatory comments contain a wealth of information

Companies, industry groups explicitly saying how regulations will affect them

Using computational tools to start to understand differences in opinions of organizations and the public across different types of rules and agencies

Lots of open questions
Team and References

- M. Livermore, O. Lam, and V. Eidelman. Political Shifts and Public Responses to Agency Action. APSA. 2019
- V. Eidelman and B. Grom. Argument Identification in Public Comments from eRulemaking. ICAIL. 2019
THANK YOU!

Vlad Eidelman
VP of Research

vlad@fiscalnote.com
@vladeidelman