





Natural Language Processing to understand **brand reputation** and **customer concerns** at scale

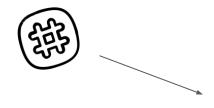




Thomas Kavanagh
December 2019
Metis Final Project

Monitoring opinion across multiple domains

hashtag monitoring



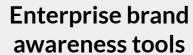
Customer-Brand Reputation?













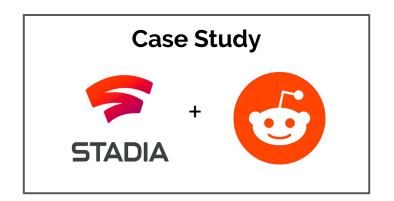


custom scrapers



industry experts

A Instant Focus Group - Branded Forums





Unique Brand Challenges:

- → Industry paradigm shift
- → Early adoption crucial
- → Hardware tribalism

Consumer Insight Goals



What are the driving **neutral topics** in the forum?

Can we drill down to **opinionated topics**?





Can **sentiment analysis** tools enhance our understanding of the discussion?

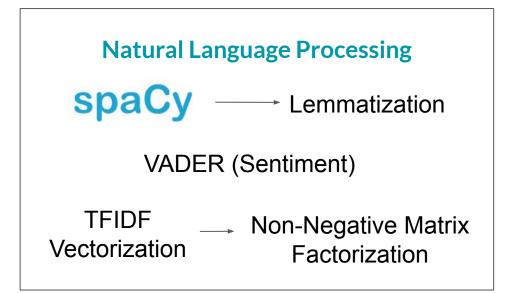
Can we segment customers according to topical affinity?



Toolsets

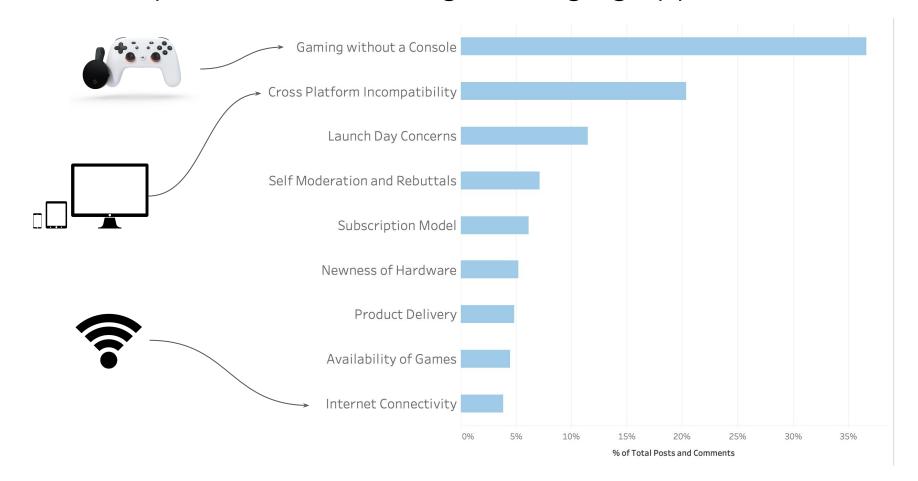


Feb '19 to Dec '19 40K Threads 240K Posts

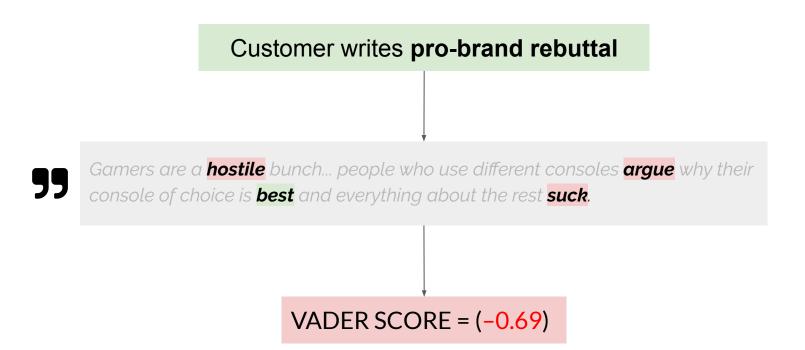


"Neutral" Topic Model
"Opinionated" Topic Model

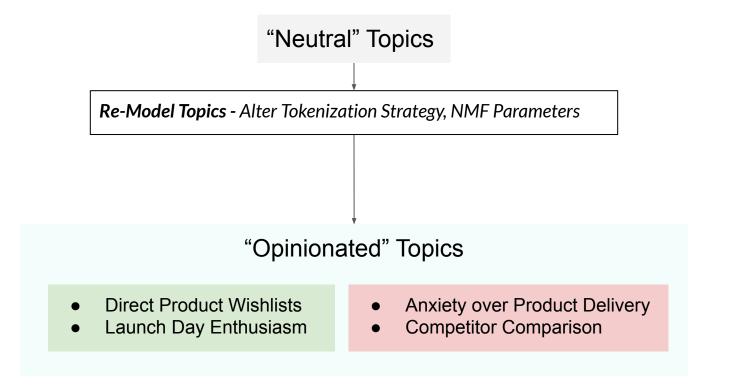
"Neutral" Topics uncover leading messaging opportunities



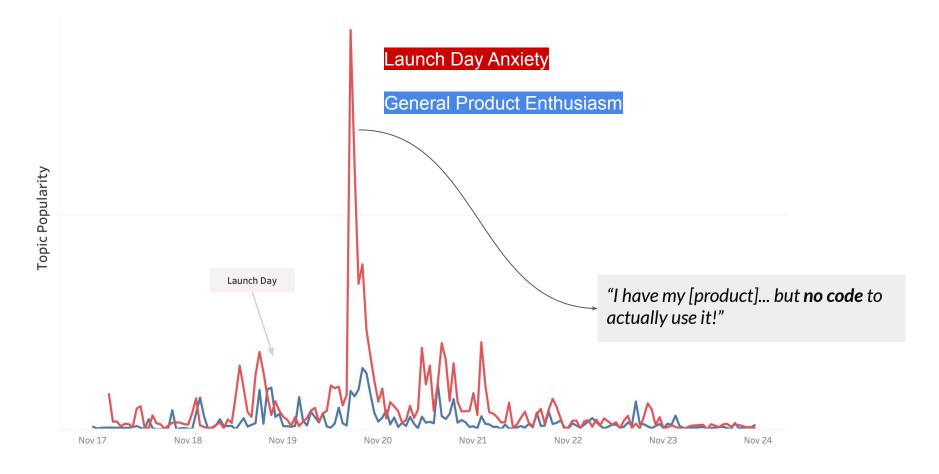
VADER sentiment... In "meta" discussions, There's a catch...



Evolved Approach: Topics as Customer "Opinions"



Topics Can Signal Discussion Anomalies



Branded Forums x NLP – Takeaways

"Neutral" Topics

- Understand brand's position in industry
- Identify consumer message opportunities

"Opinionated" Topics

- Identify customer pain points
- Alert brand to reputation-critical anomalies
- Segment customers according to topical engagement

Thank You

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