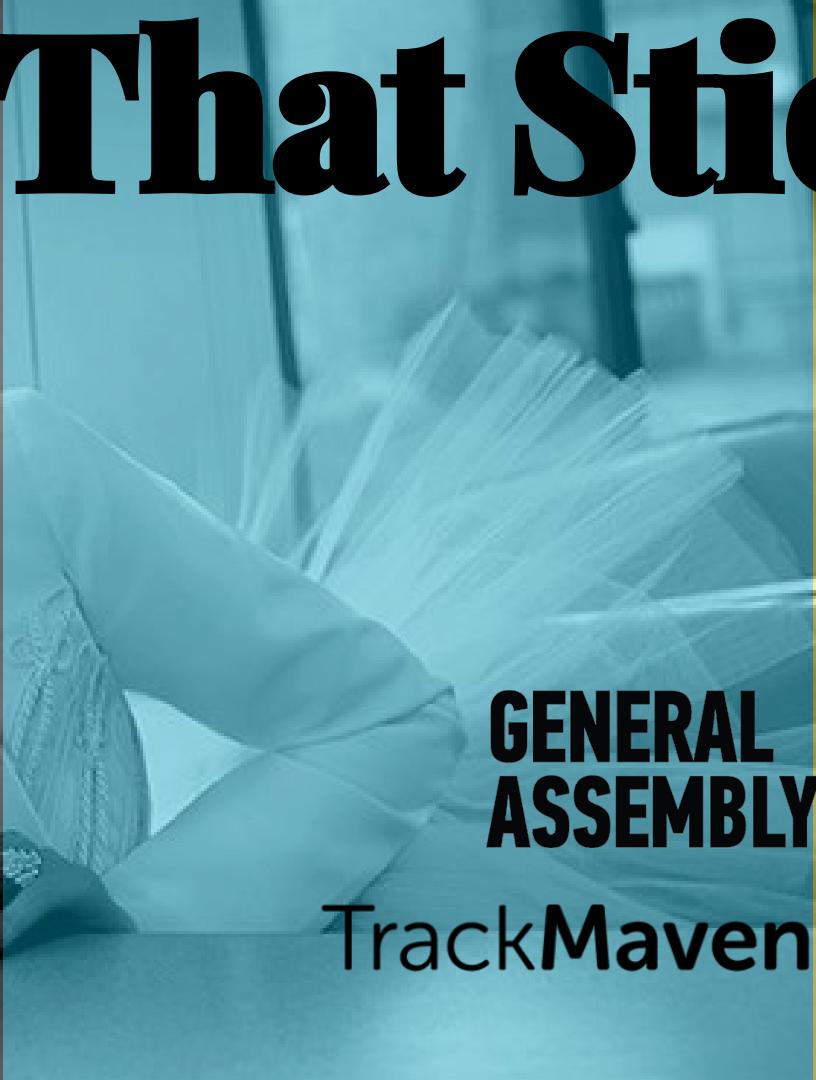


Features That Stick



**GENERAL
ASSEMBLY**



TrackMaven

Overview



CONDÉ NAST

- Introduction
- Initial Analysis
- Tools
 - Text Processing
 - Image Processing
- Recommendations

**Identify topics and image attributes
that most and least drive**

on 



5



20

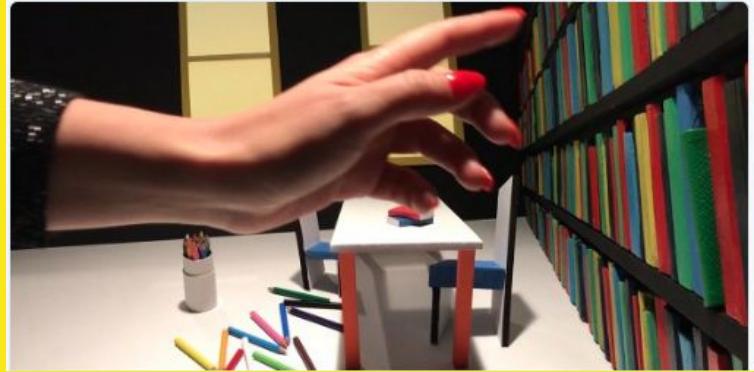
Text



Vogue Magazine • @voguemagazine • 2h

Who needs a gargantuan gift anyway, when there are miniature offerings aplenty? And what they lack in size, they make up for in impact.

Image



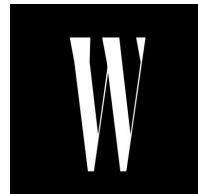
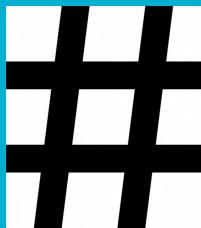
Text

9 Small Gift Ideas That Make a Big Impression

2017's most coveted curiosities, arranged in a tiny home to inspire your holiday gift list—and wish list.

vogue.com

Elements



Brands

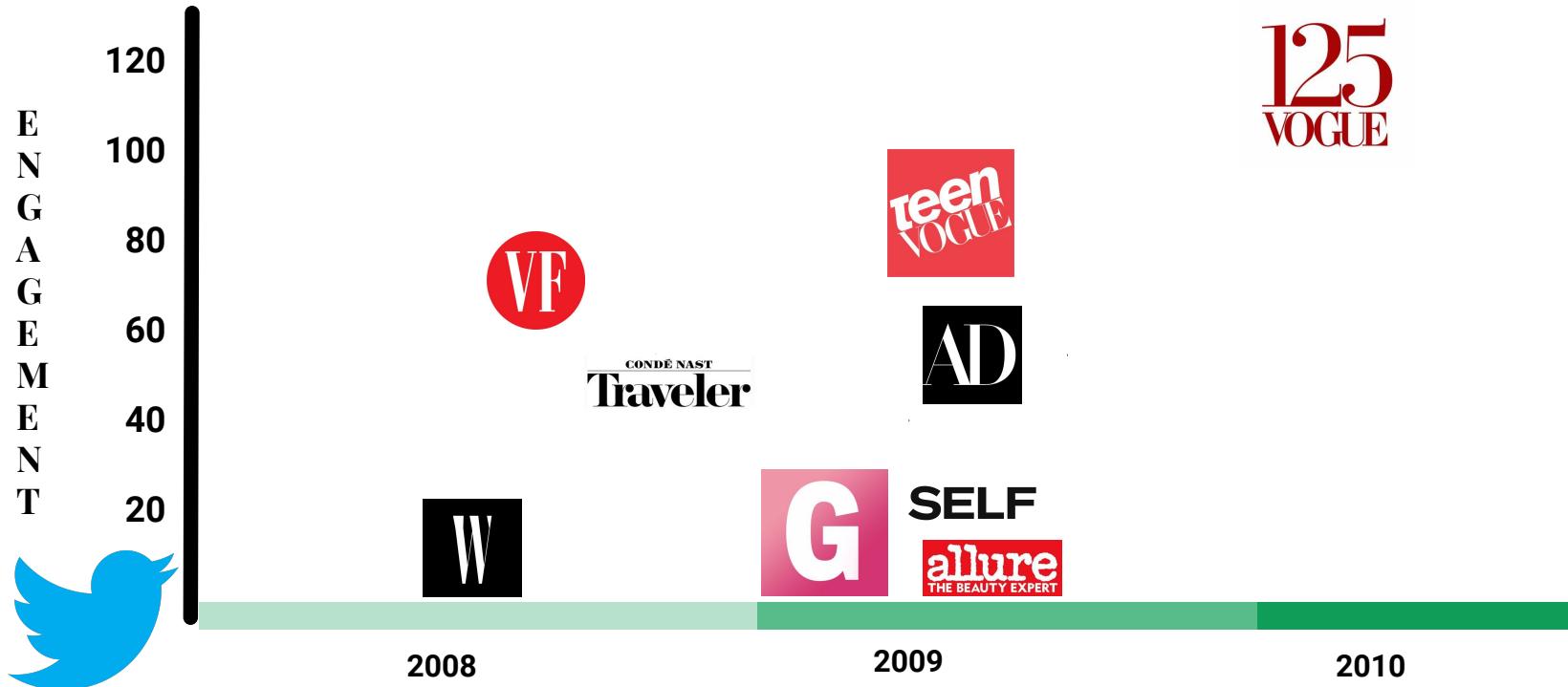
How do we quantify Engagement on Twitter?

- TrackMaven Engagement = **Favorites** + **Retweets**
 - **Favorites**: Shows preference; bookmarking for later
 - **Retweets**: Shared with user's audience; Increases tweet exposure
 - **Comments** (not provided): Starts a conversation

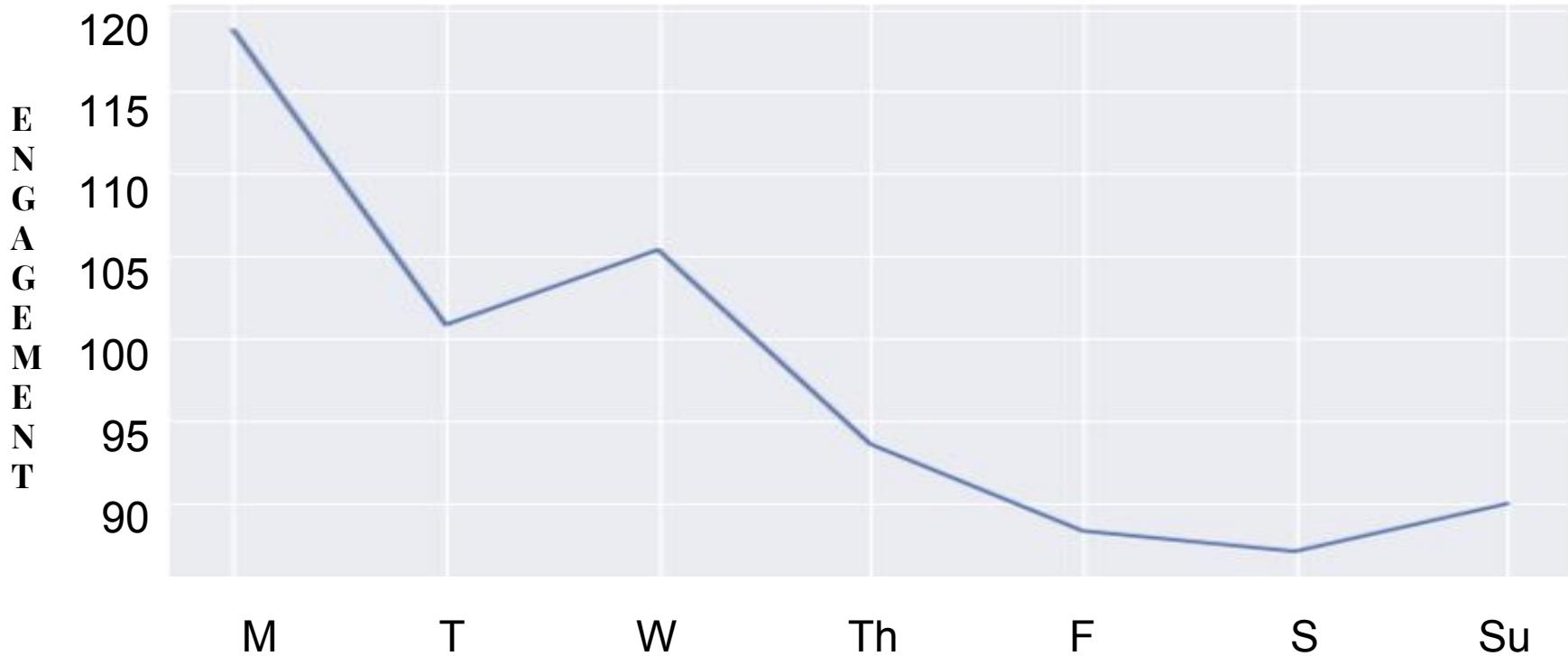
Time & Season

Where the brands stand now

Median Engagement per Tweet



Average engagement highest on Monday, lowest on Saturday

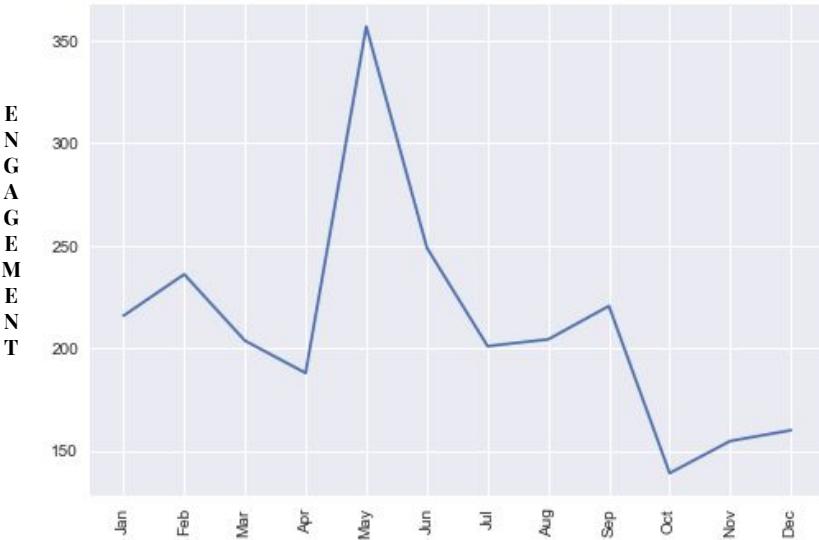


Average monthly engagement shows declining trend for 2016

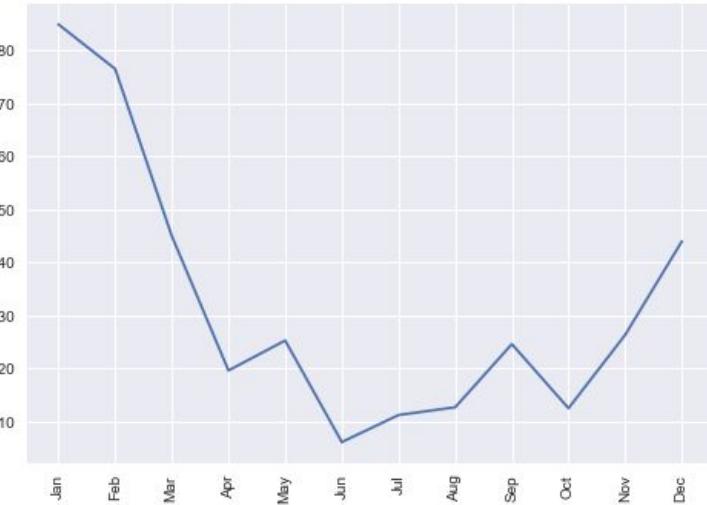


Monthly average engagement: difference between brands

Vogue

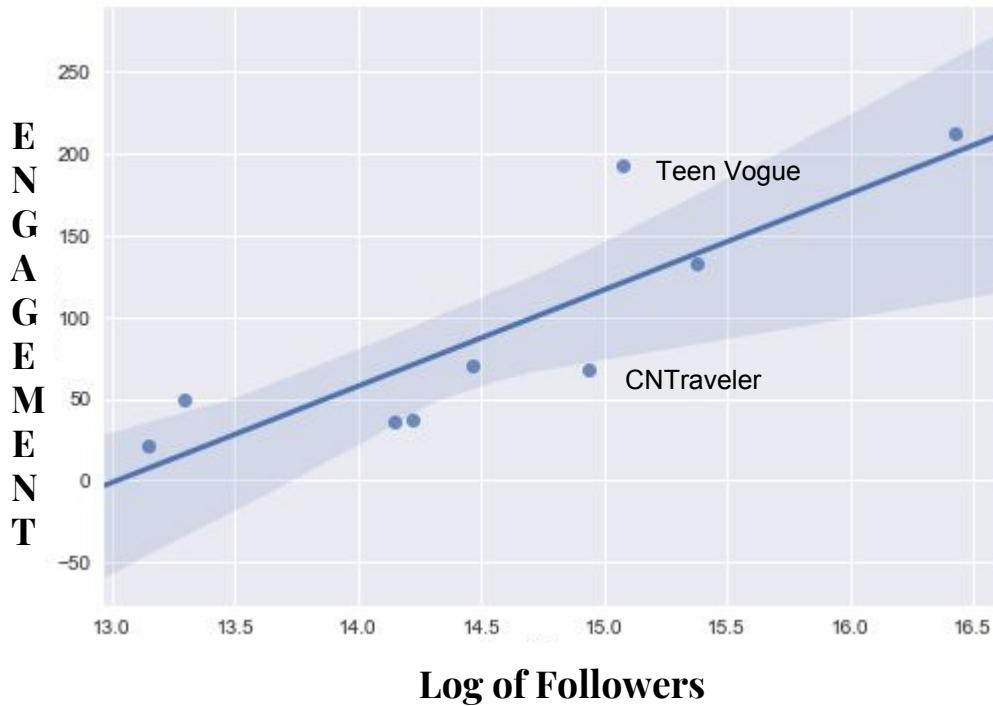


ENGAGEMENT



Vanity Fair

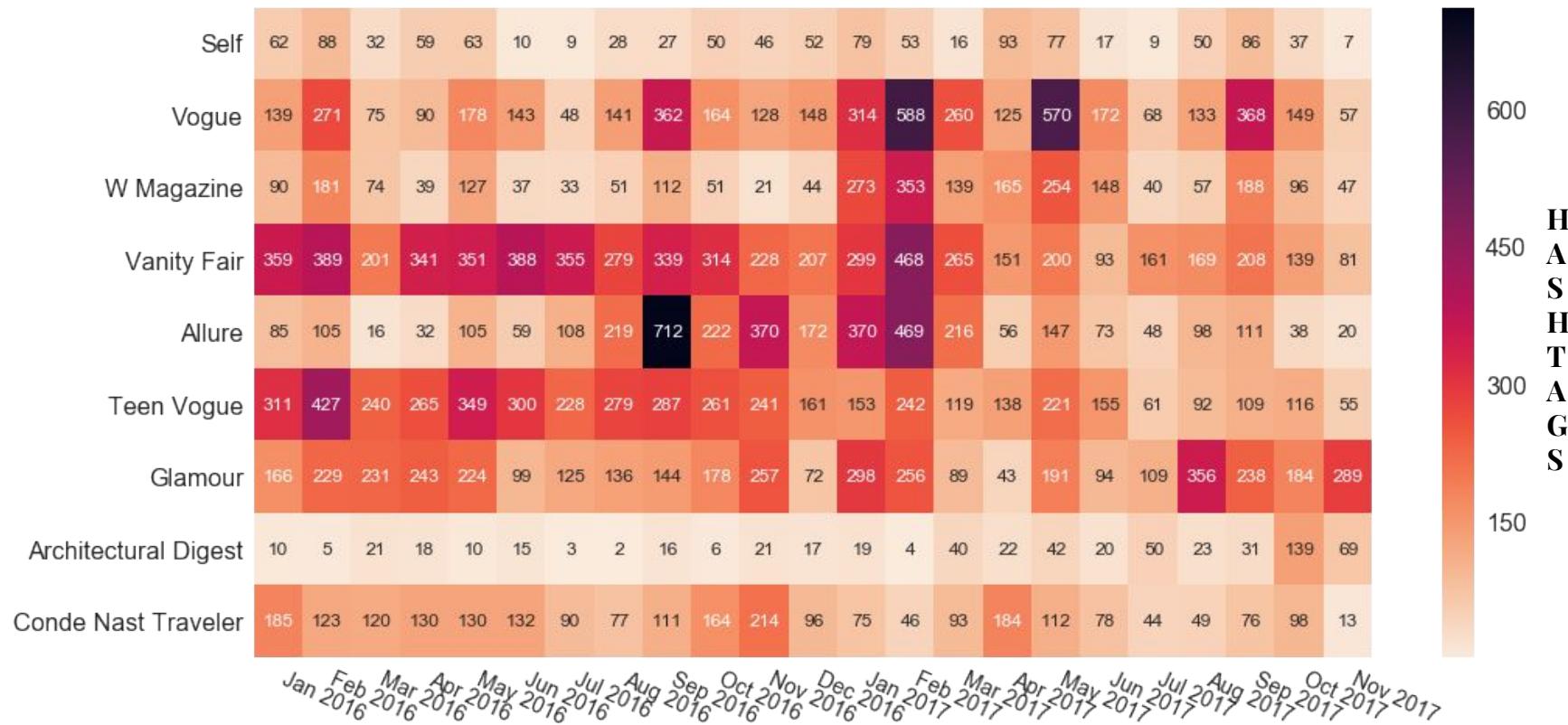
Relationship between engagement and follower count



A screenshot of a Twitter feed showing three tweets from different accounts. The first tweet is from 'Condé Nast Traveler' (@CNTraveler) dated Dec 8, with the caption 'Why planning for a trip is overrated' and a link to 'Why Planning for a Trip Is OVERRATED'. The second tweet is from 'Condé Nast Traveler' (@CNTraveler) with the caption 'The 15 best things to do in New York City this holiday season' and a link to 'cntrvrlr.co/60uc60l'. The third tweet is from 'Teen Vogue' (@TeenVogue) with the caption 'Dancing her way into history' and a heart and clapping hands emoji. The fourth tweet is from 'Teen Vogue' (@TeenVogue) with the caption 'She'll thank you when she's running the free world' and a clapping hands emoji.

#Hashtags

Hashtags: Some brands use them more than others



How do hashtags affect engagement?

Top Performers

#Vogue125
#73Questions
#GreaseLive
#VFOscarParty

#OITNB
#MadeByGoogle
#MAMurderer
#TonyAwards

Bottom Performers

Next: Comparing Top 10%
and Bottom 10% by
Engagement

Most Common Pairs of Words: Glamour Mag

Top 10% Engaging Tweets

Taylor Swift	91
Red Carpet	54
Blake Lively	47
Selena Gomez	43
Cover Star	34
Michelle Obama	33
Engagement Ring	28



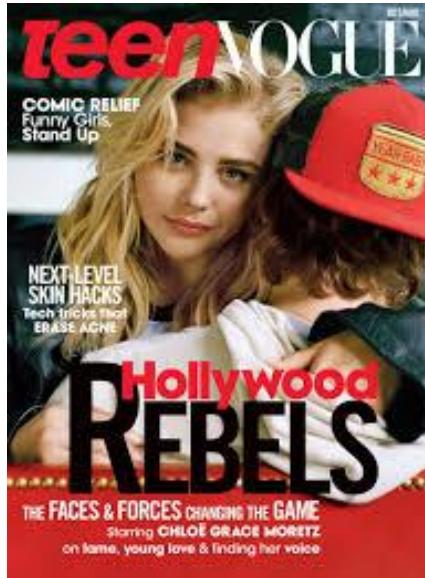
Bottom 10% Engaging Tweets

Donald Trump	72
Sex Toy	60
Kim Kardashian	42
Ivanka Trump	34
Taylor Swift	31
Bachelor Paradise	25
Yeast Infection	25

Most Common Pairs of Words: Teen Vogue

Top 10% Engaging Tweets

Justin Bieber	36
Selena Gomez	32
Donald Trump	32
Music Video	27
Red Carpet	24
New Song	23
Zayn Malik	17



Bottom 10% Engaging Tweets

Donald Trump	41
Need Know	32
Birth Control	23
Teen Vogue	17
Last Night	17
Social Medium	16
Look Like	15

Next: The Odds a Tweet has Above Median Engagement

Natural Language Processing: Logistic Regression

- Basic Features:
 - Time: (hour, weekday, month)
 - Media uploaded to Twitter?
 - Text only tweet?
 - Question asked?
 - Hashtag used?
- Link Titles
 - 1000 most common words/pairs
- Tweet text
 - 1000 most common words/pairs

NLP Model Output: Self Magazine

25 Best Features

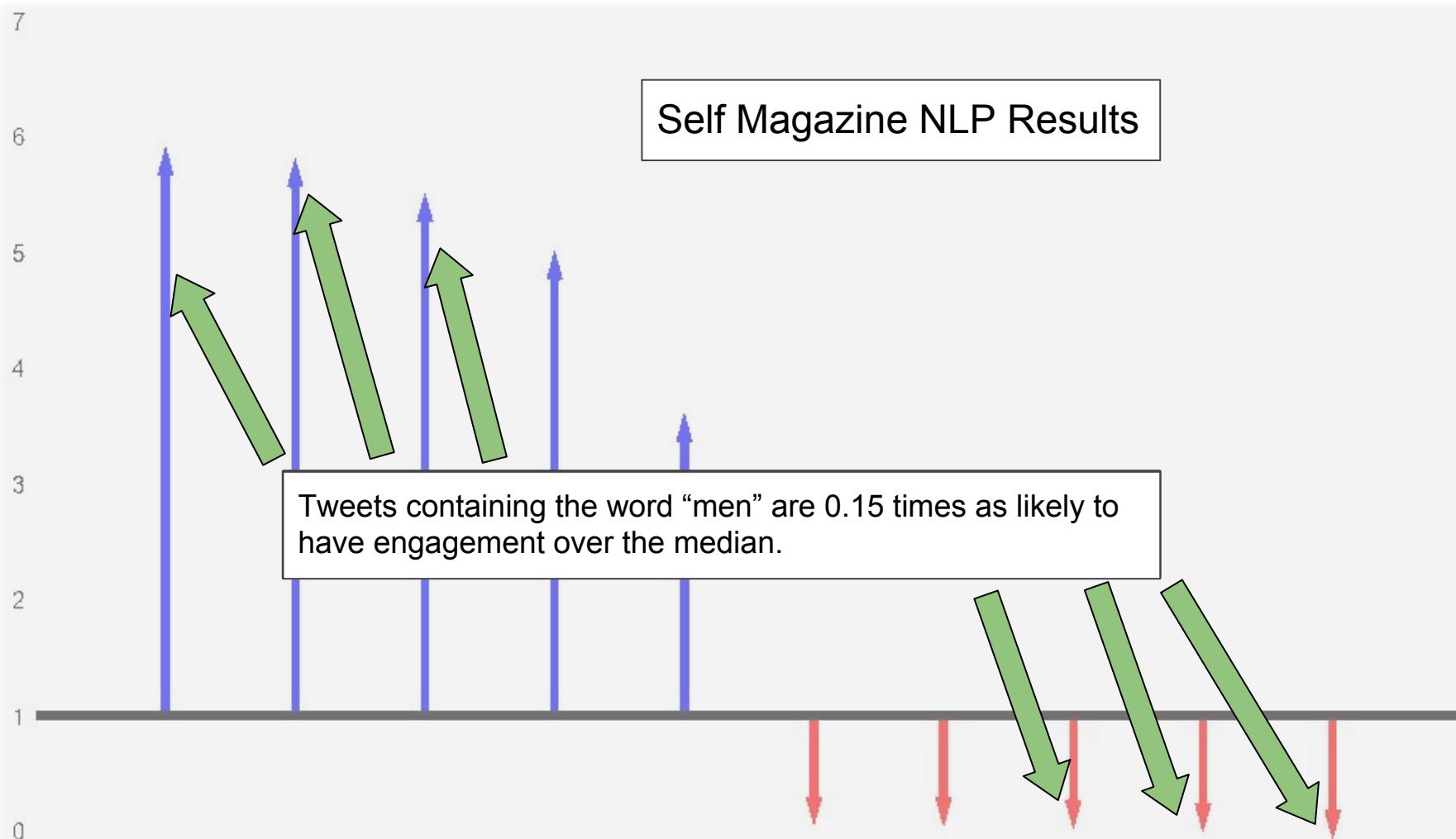
Text only posts	5.7
Ab (tweet)	5.6
Booty (tweet)	5.3
Day Self (link)	4.8
Beginner (link)	4.5
Weight (tweet)	4.1
High Protein (tweet)	3.4



25 Worst Features

Men (tweet)	0.15
Studio (link)	0.21
Subscription (link)	0.23
Selfstarterlife (tweet)	0.24
Vagina (link)	0.25
Divorce (link)	0.26
Std (tweet)	0.27

Self Magazine NLP Results



Best and Worst Features



Zayn
(link)

Add
Snapchat
(text)



Dakota
Johnson
(tweet)

Socialite
(link)



Wonder
Woman
(link)

Uber
(link)



Tarte
Cosmetics
(tweet)

Bloating
(tweet)



Selena
Gomez
(tweet)

Breast
(tweet)



Kendall
(tweet)

Sex,
Sexually
(link)



Top
Designer
(link)

Beyonce
(tweet)



Discovered
(tweet)

Gift
(link)

Natural Language Processing: Model Evaluation

Model Accuracy:

- 50% = random guessing
- Models (by brand) ~ 70% accurate
- Guidelines for social media content managers

Image Analysis

Amazon Rekognition

Methodology:

1. Use AWS Rekognition to generate image tags (text)
2. Use Latent Dirichlet Allocation to sort images into categories
3. See if categories affect the model when incorporated



—

Image Data: Latent Dirichlet Allocation (LDA)

Topic 0: Cloth, Coat, Face, Overcoat, Suit



Topic 1: Celebrity, Produce, Cup, Food, Mountain



Image Data: LDA

Topic 2: Celebrity, Carpet, Red, Premier



Topic 3 Hair, Afro, Hairstyle, Hat



Image Data: LDA

Topic 4: Plant, Flora, Jar, Pottery, Vase



Topic 5: Furniture, Text, Chair, Couch, Trademark



Image Data: LDA

Topic 6: Building, House, Architecture, Text, Town



Topic 7: Outdoor, Nature, Water, Sea, Ocean



Image Data: LDA

Topic 8: Room, Indoor, Furniture, Design, Interior

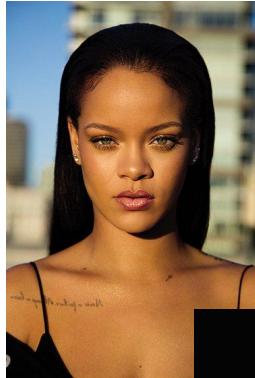


Topic 9: Vehicle, Transport, Car, Automobile



Image Data: LDA

Topic 10: Text, Music, Cosmetologist, Perform, Art



Topic 11: Text, Poster, Collage, Paper, Flyer

"here comes your crush act natural."

me:



Image Data: LDA

Topic 12: Cloth, Text, Footwear, Shoe



Topic 13: Woman, Female, Girl, Blonde, Celebrity



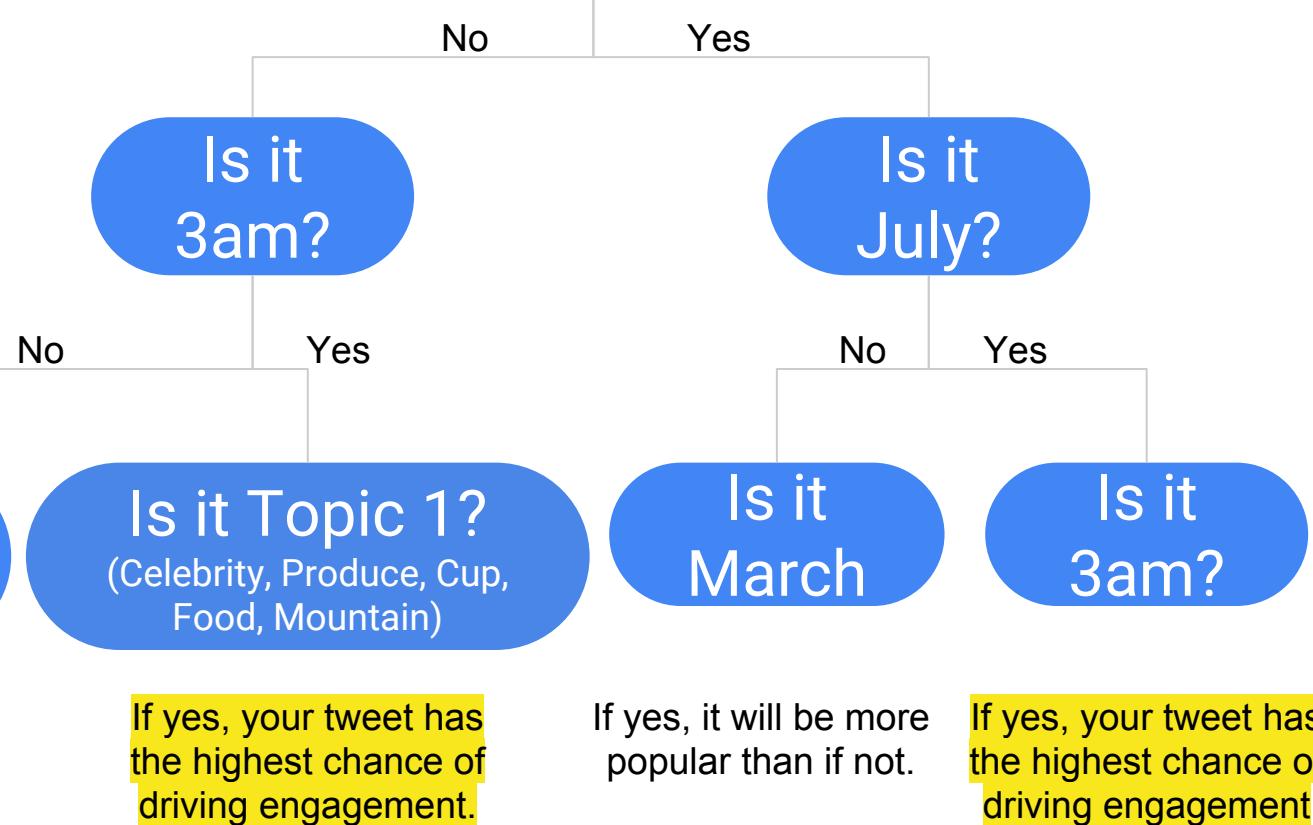
Image Data: LDA

Topic 13: Human, Person, People, Text, Crowd





Is it about Topic 2? (Red Carpet, Premier)



Recommendations for Increasing Engagement

- Image Recommendation
 - Vogue: Uploading an image makes tweet 8.8 times as likely to be above median
 - Wmag: 6.1 times as likely above median
 - ArchDigest: 8.6 times as likely above median
- Text Recommendation
 - Self Magazine: A Text-Only post will make tweet 5.7 times as likely above median
 - This strategy does not work for the other Brands
- Text Recommendation
 - Tweets with #hashtags are 1.7 times as likely to be above median engagement

An Example: Improving engagements on @Glamour

Do This:

Tweets: Include “Red Carpet”, “Engagement Ring”, “Need Know”, “Beauty”

Link Titles: Include the word “Official”, “Friend”, “Starbucks”

Images: Include Flora, Jar, Pottery, Vase (derived from image analysis)

Not This:

Tweets: do not cover “Reason”, “Party”, “Instagram”

Link Titles: do not cover “Best”, “Orgasm”, “Advice”

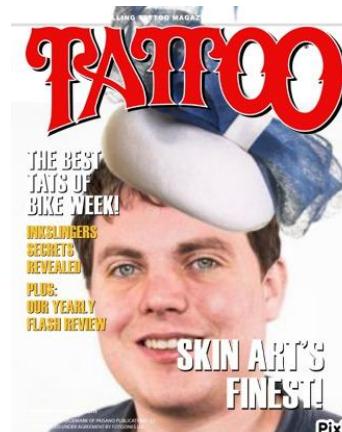
Images: do not include topic 5 (Furniture, Couch, Trademark) or topic 12 (Cloth, Text, Footwear)

7 - 16%

**By following guidelines, you can
increase median engagement by 7 - 16%**

Questions?

Our Team!



Dale

Diego

Natalie Matthew

Kyle