Using Data Analytics and Social Media to 'Measure' Off-the-Books Intangible Assets

-Gregory D. Saxton, PhD

ERVIN L. BLACK | MARK L. ZYLA

ACCOUNTING for GOODWILL and OTHER INTANGIBLE ASSETS

Exxon Mobil Corporation
Balance Sheet
(in millions)

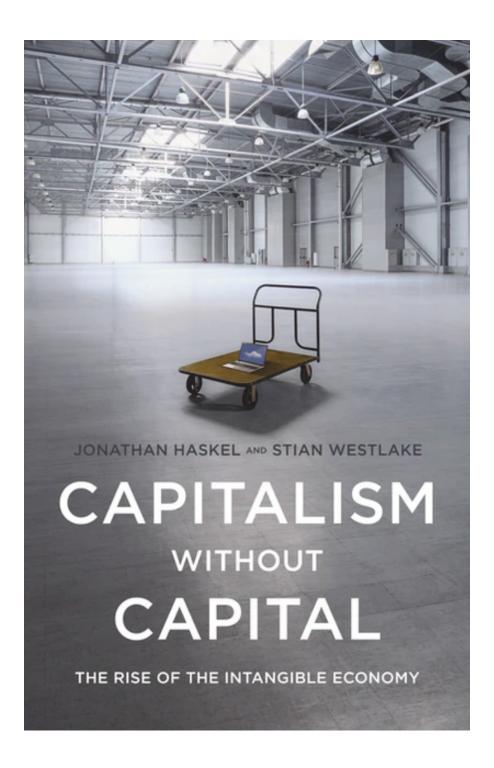|	Dec. 31, 2019	Dec. 31, 2018
Current assets		
Cash and cash equivalents	$ 3,089	$ 3,042
Notes and accounts receivable, less estimated doubtul amounts	$ 26,966	$ 24,701
Inventories		
Crude oil, products and merchandise	$ 14,010	$ 14,803
Materials and supplies	$ 4,518	$ 4,155
Other current assets	$ 1,469	$ 1,272
Total current assets	$ 50,052	$ 47,973
Investments, advances and long-term receivables	$ 43,164	$ 40,790
Property, plant and equipment, at cost, less accumulated depreciation and depletion	$ 253,018	$ 247,101
Other assets, including intangibles, net	$ 16,363	$ 10,332
Total assets	$ 362,597	$ 346,196

Apple Inc.

CONDENSED CONSOLIDATED BALANCE SHEETS (Unaudited)

(In millions, except number of shares which are reflected in thousands and par value)

	March 27, 2021	September 26, 2020
ASSETS:		
Current assets:		
Cash and cash equivalents	$ 38,466	$ 38,016
Marketable securities	31,368	52,927
Accounts receivable, net	18,503	16,120
Inventories	5,219	4,061
Vendor non-trade receivables	14,533	21,325
Other current assets	13,376	11,264
Total current assets	121,465	143,713
Non-current assets:		
Marketable securities	134,539	100,887
Property, plant and equipment, net	37,815	36,766
Other non-current assets	43,339	42,522
Total non-current assets	215,693	180,175
Total assets	$ 337,158	$ 323,888

META PLATFORMS, INC.
CONSOLIDATED BALANCE SHEETS
(In millions, except for number of shares and par value)

	December 31,	
	2021	**2020**
Assets		
Current assets:		
Cash and cash equivalents	$ 16,601	$ 17,576
Marketable securities	31,397	44,378
Accounts receivable, net	14,039	11,335
Prepaid expenses and other current assets	4,629	2,381
Total current assets	66,666	75,670
Equity investments	6,775	6,234
Property and equipment, net	57,809	45,633
Operating lease right-of-use assets	12,155	9,348
Intangible assets, net	634	623
Goodwill	19,197	19,050
Other assets	2,751	2,758
Total assets	$ 165,987	$ 159,316

JONATHAN HASKEL AND STIAN WESTLAKE

CAPITALISM
WITHOUT
CAPITAL

THE RISE OF THE INTANGIBLE ECONOMY

Patents

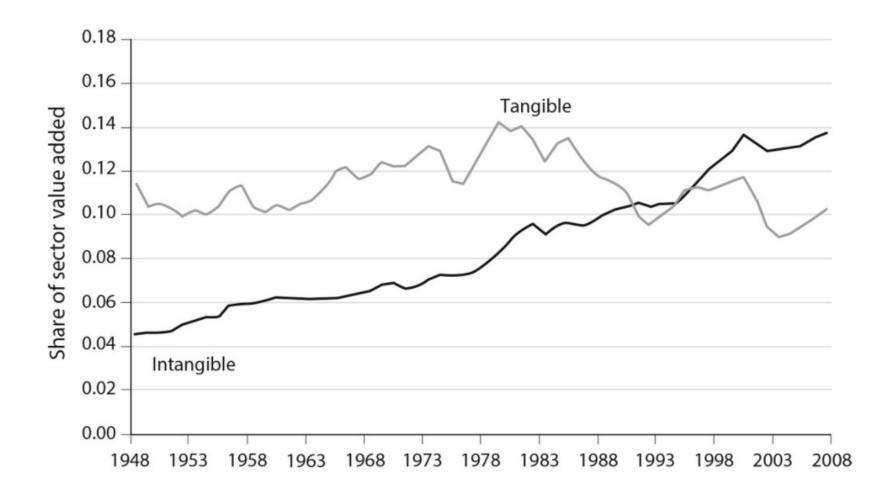**Trade Marks**

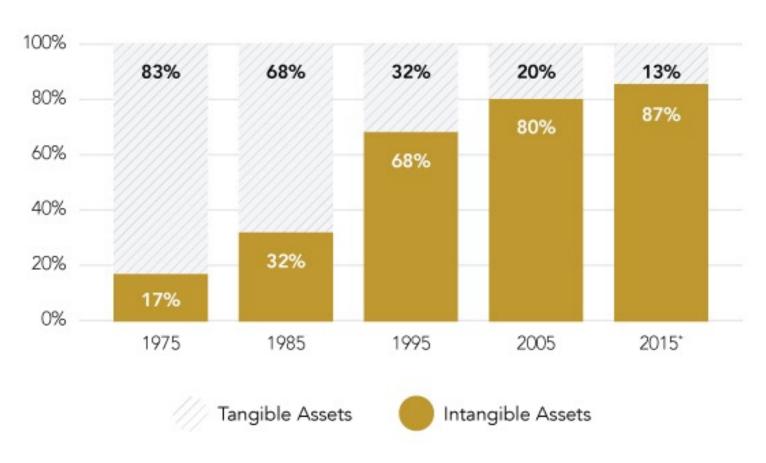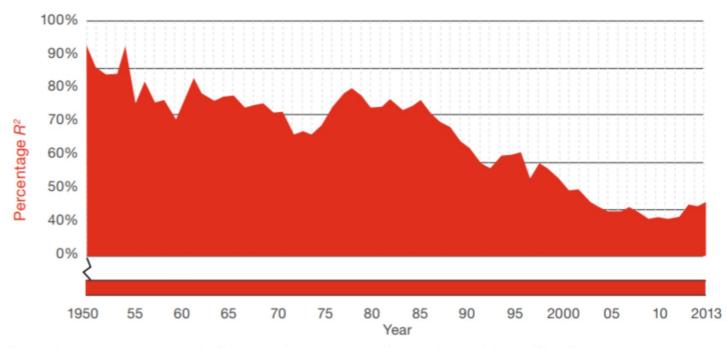**Design Rights**

Copyrights

Figure 2.1. Intangible and tangible investment over time, United States. Data are US business investment in intangible and tangible assets relative to US non-farm business sector output, including intangible output. Last datapoint is 2007. Source: Corrado and Hulten 2010, online data appendix.

COMPONENTS *of* S&P 500 MARKET VALUE

Bar chart showing components of S&P 500 market value by year.

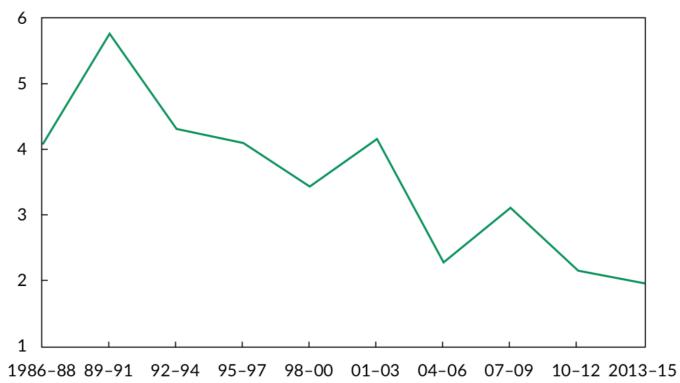| Year	Tangible Assets	Intangible Assets
1975	83%	17%
1985	68%	32%
1995	32%	68%
2005	20%	80%
2015*	13%	87%

Tangible Assets   Intangible Assets

Adjusted R^2 of regression of corporate market value on reported earnings and book value, 1950-2013

Source: The end of Accounting and the Path Forward for investors and Managers by Baruch Lev and Feng Gu

Figure 1. The Shrinking Gains from the Perfect Prediction of Consensus Hits and Beats

Abnormal Gains (%)

Patents

Trade Marks

Design Rights

Copyrights

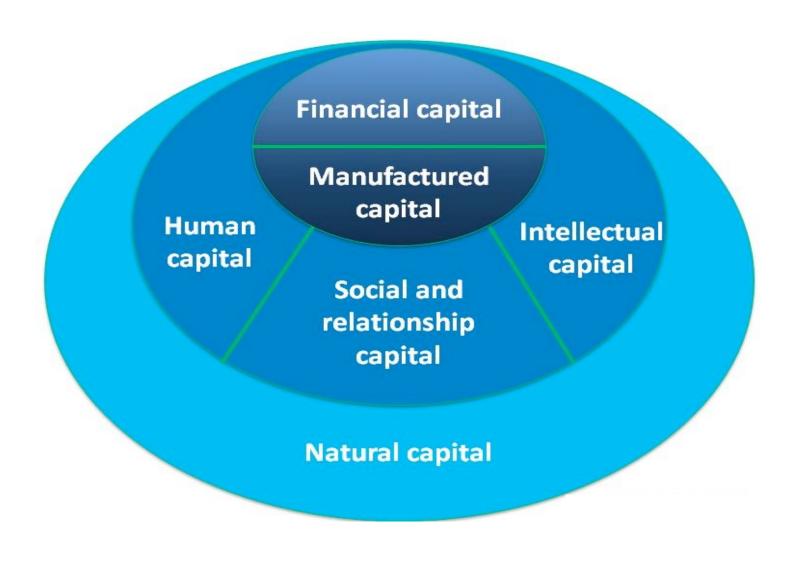|			
Patents	**Trade Marks**	**Design Rights**	**Copyrights**
Trade Secrets	**Organizational Knowledge**	**Proprietary Software Code**	**Brand & Reputation**
Critical Suppliers & Customers	**Research & Development**	**Strategy & Market Intelligence**	**Know-How**
Human Capital	**Social Capital**	**Reputation**	**Brand Equity**

\<IR\> and the Six Capitals

Brand Equity
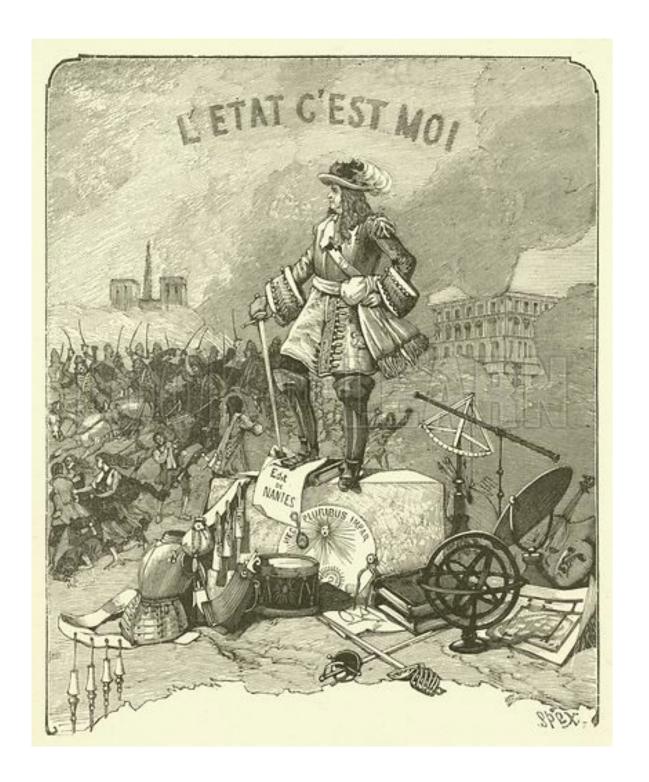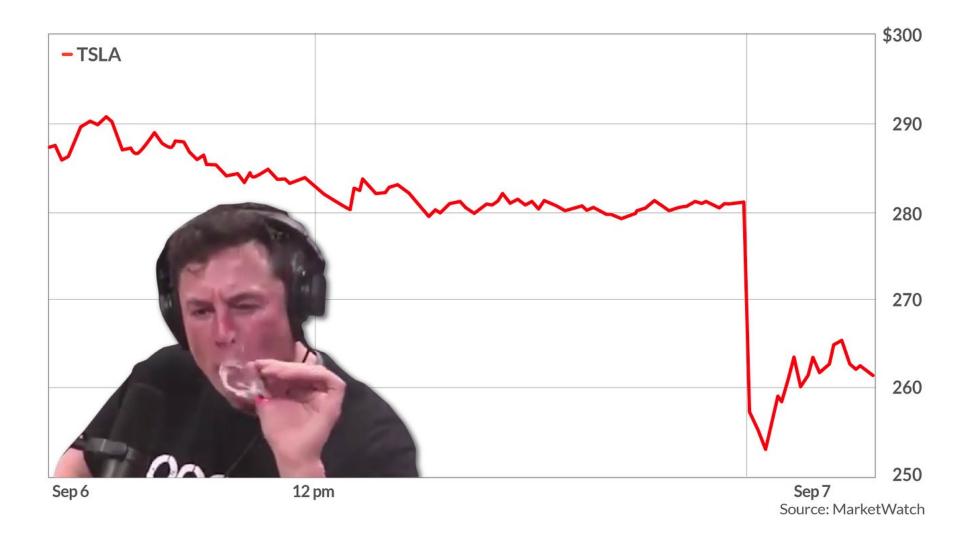
Reputation

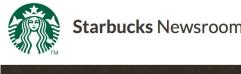

GIGAFACTORY TEXAS - OFFICE SPACE WITH FACTORY VIEW

ALL HAIL YOUR TECHNO KING

L'ETAT C'EST MOI

TSLA

$300

290

280

270

260

250

Sep 6   12 pm   Sep 7

Source: MarketWatch

July 9, 2018   **Coffee & Company**

Starbucks to Eliminate Plastic Straws Globally by 2020

Share

f t p in i

Downloads

Plastic straws to be replaced with new recyclable strawless lid and alternative-material straw options

Move builds upon a $10M commitment to develop a fully recyclable and compostable global cup solution

Marks significant milestone in the company's thirty-year history in sustainable innovations
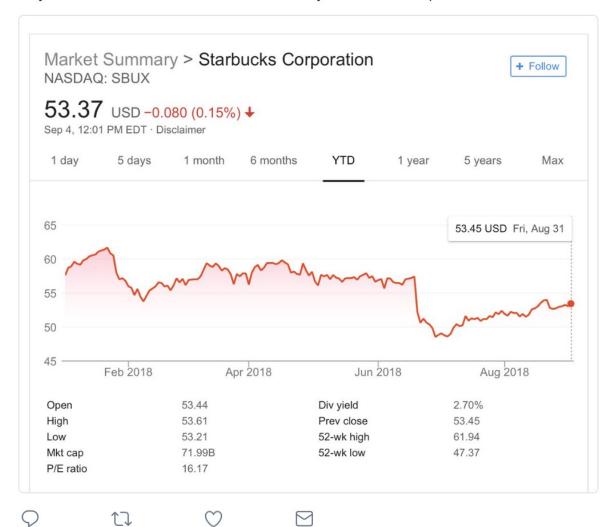
SEATTLE; July 9, 2018 – Today, Starbucks Coffee Company (NASDAQ: SBUX) announced it will eliminate single-use plastic straws from its more than 28,000 company operated and licensed stores by making a strawless lid or alternative-material straw options available, around the world. Starbucks, the largest food and beverage retailer to make such a global commitment, anticipates the move will eliminate more than one billion plastic straws per year from Starbucks stores.

Related Press Releases

June 19, 2018
Starbucks Announces Strategic Priorities to Accelerate Growth and Create Long-Term Shareholder Value

June 26, 2018
Starbucks to Expand Teavana into $1.2

Wednesday @genericpanic · Sep 4

and $3 blip drop in Nike stock is *nothing* $NKE

Look at starbucks $SBUX

April 12th hit from overt racism is almost non-existant,
July 9th **straw** debacle did hit but recovery is almost complete.

Market Summary > **Starbucks Corporation**
NASDAQ: SBUX

+ Follow

53.37 USD −0.080 (0.15%) ↓
Sep 4, 12:01 PM EDT · Disclaimer

| 1 day | 5 days | 1 month | 6 months | **YTD** | 1 year | 5 years | Max |

53.45 USD Fri, Aug 31

Open	53.44	Div yield	2.70%
High	53.61	Prev close	53.45
Low	53.21	52-wk high	61.94
Mkt cap	71.99B	52-wk low	47.37
P/E ratio	16.17		

Selena Maranjian @SelenaMaranjian · Jul 12

Starbucks' Plastic **Straw** Ban Is More Important Than You Think @themotleyfool #stocks $**SBUX**, $MCD, $DNKN

Starbucks' Plastic Straw Ban Is More Important Than You Think @the…

The news was greeted cynically by some, but it should help improve the coffee chain's sagging reputation.

fool.com

Methods for Valuing Intangible Assets

▸ Four common methods for calculating total value of intangibles

▸ Market value methods:

   ▸ Method #1: Market and Book Values

   ▸ Method #2: Intangible to Tangible Asset Ratio

▸ ROA methods

   ▸ Method #3: Calculated Intangible Value (CIV)

▸

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(In millions, except for number of shares and par value)

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Facebook's Book Value vs. Market Value

Share Price	# of Shares	Market Value
$209.84	2.722B	$571.18B

Book Value (A-L)	# of Shares	Book value/share
$124.88B	2.722B	$45.88

Price-to-Book Ratio (Share Price / Book value per share)		
$4.57		

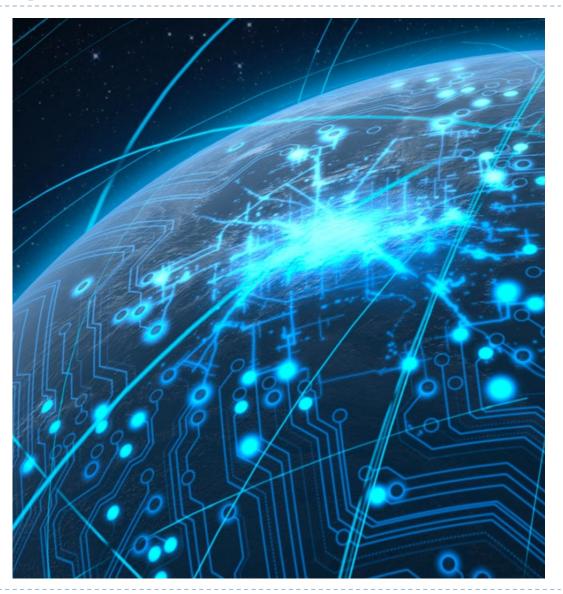## Are intangibles really MV-BV = 446.3B?

Better Method

- Identify *strategic* intangible assets for your company
- Model causal relations in business model → focus on *value creation*
  - e.g., <IR>, Value Reporting Foundation, CICA's *Total Value Creation*
- Conceptualize each intangible asset individually
- Develop measurement plan for each intangible
- Gather, prepare, and manipulate data
  - Capture *dynamically*
- Implement and communicate
  - e.g., with a *dashboard*
- Because of the dynamic and unstructured nature of the data, this is much harder than with tangible assets and requires different skills
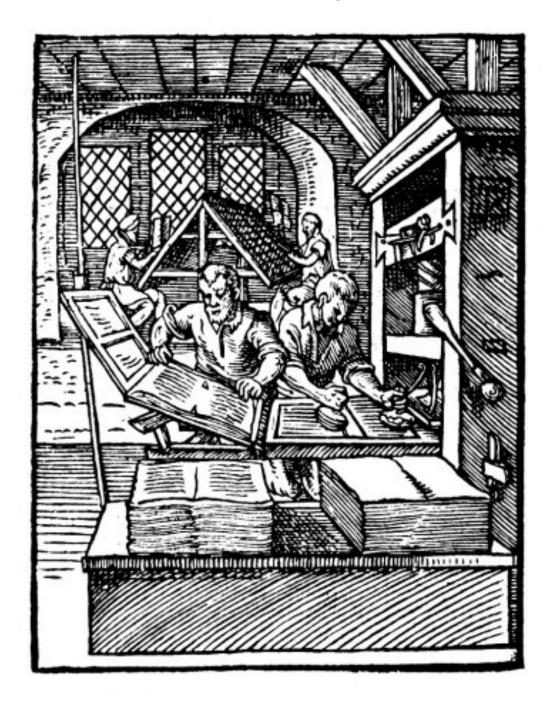
Importance of Big Data

"Big Data is the new oil. The companies, governments, and organizations that are able to mine this resource will have an enormous advantage over those that don't."
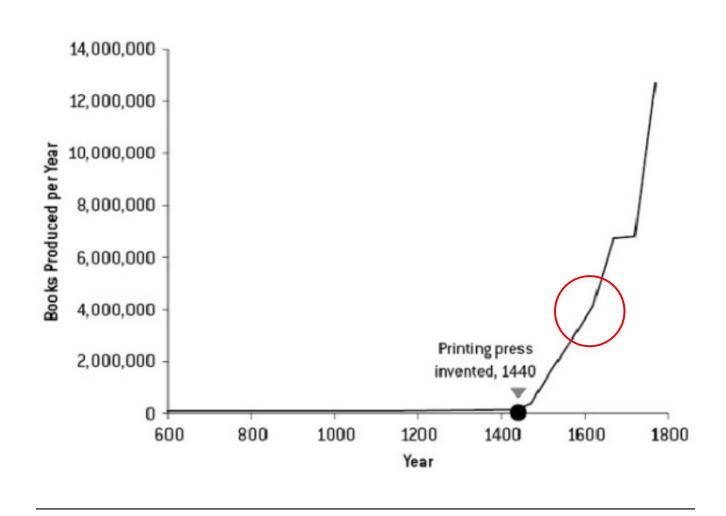
- Deloitte, 2012

The Printing Press
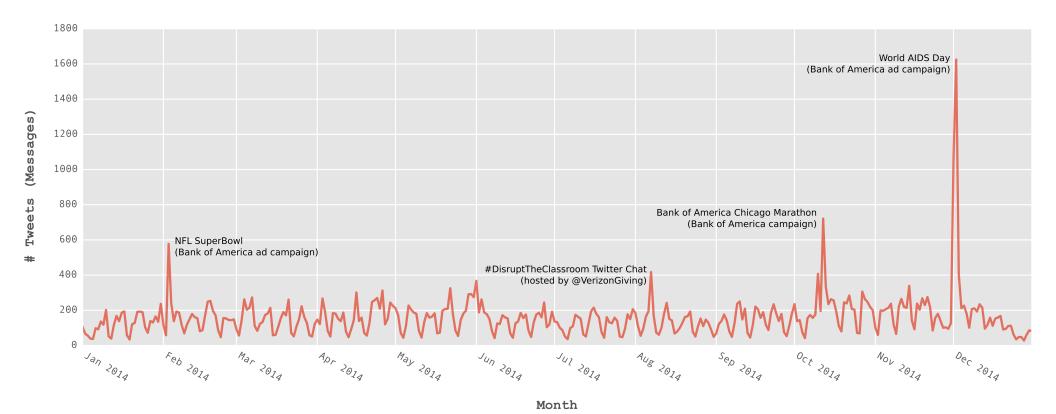
European Book Production Over Time
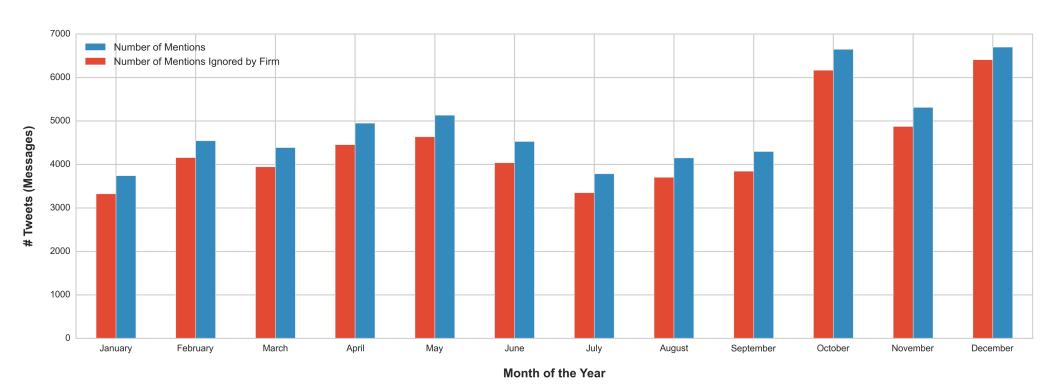
DYNAMIC AND TEMPORAL DATA

Daily Mentions of 42 Firm CSR Twitter Accounts

 # Tweets (Messages) — y-axis: 0, 200, 400, 600, 800, 1000, 1200, 1400, 1600, 1800

Month — x-axis: Jan 2014, Feb 2014, Mar 2014, Apr 2014, May 2014, Jun 2014, Jul 2014, Aug 2014, Sep 2014, Oct 2014, Nov 2014, Dec 2014

Annotations:
- NFL SuperBowl (Bank of America ad campaign)
- #DisruptTheClassroom Twitter Chat (hosted by @VerizonGiving)
- Bank of America Chicago Marathon (Bank of America campaign)
- World AIDS Day (Bank of America ad campaign)

Public Mentions and Firm Replies by Month

 # Tweets (Messages) (y-axis)

Month of the Year (x-axis)

Legend:
- Number of Mentions
- Number of Mentions Ignored by Firm

Public Mentions and Firm Replies by Day of the Week
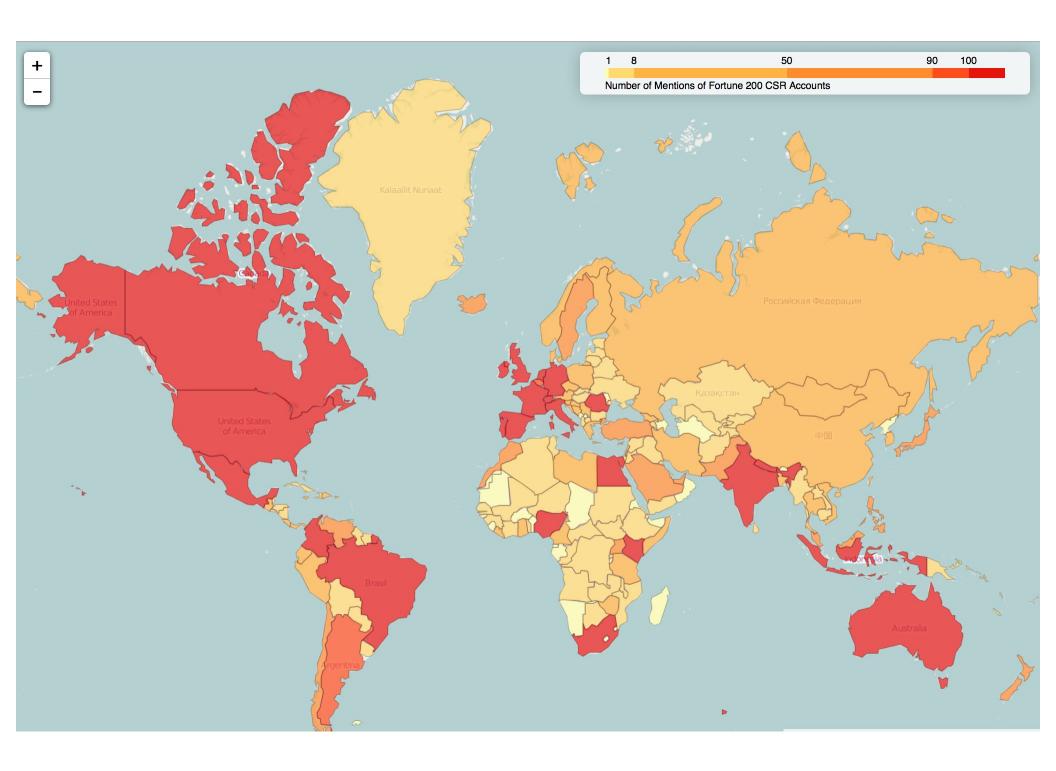
Public Mentions and Firm Replies by Hour of the Day

 # Tweets (Messages)

Legend:
- Number of Mentions
- Number of Mentions Ignored by Firm

Hour of the Day (EST)
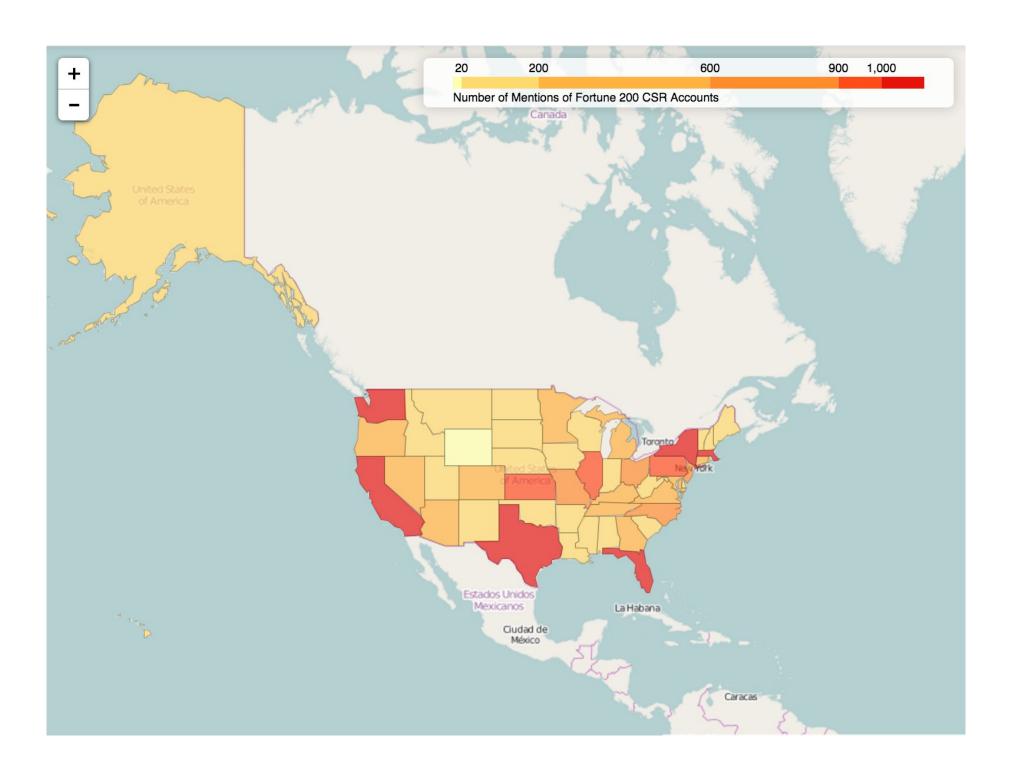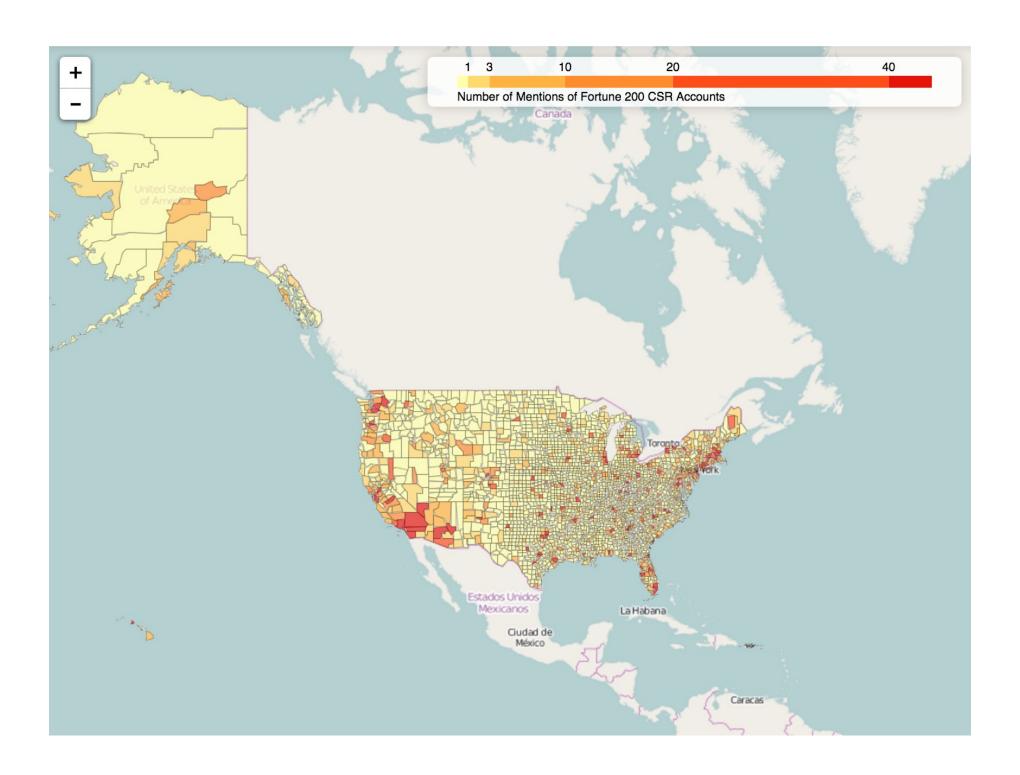
Public Mentions and Firm Replies by Second of the Minute

Legend:
- Number of Mentions
- Number of Mentions Ignored by Firm

Y-axis: # Tweets (Messages), ranging from 700 to 1400

X-axis: Second of the Minute, ranging from 0 to 50

GEOGRAPHICAL DATA

Number of Mentions of Fortune 200 CSR Accounts

1   8   50   90   100

Number of Mentions of Fortune 200 CSR Accounts

20   200   600   900   1,000

Number of Mentions of Fortune 200 CSR Accounts

1 3   10   20   40
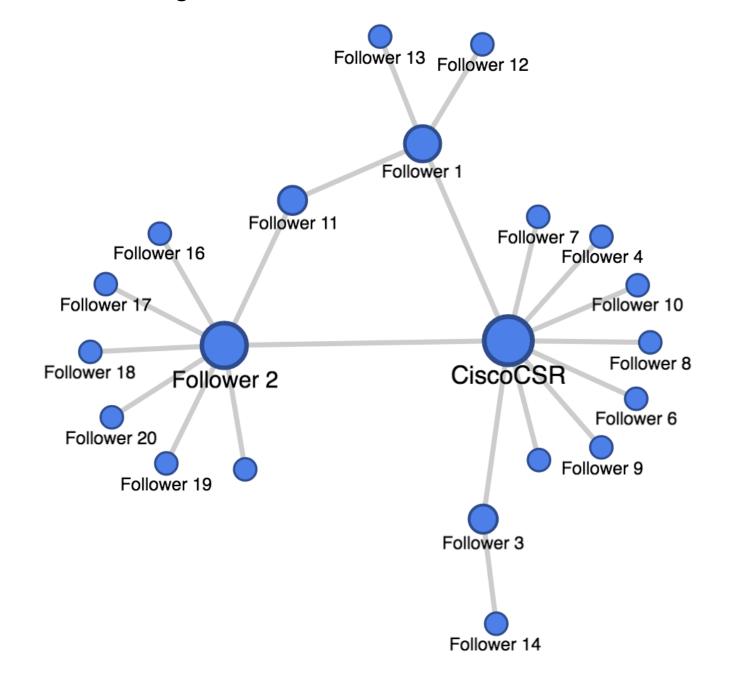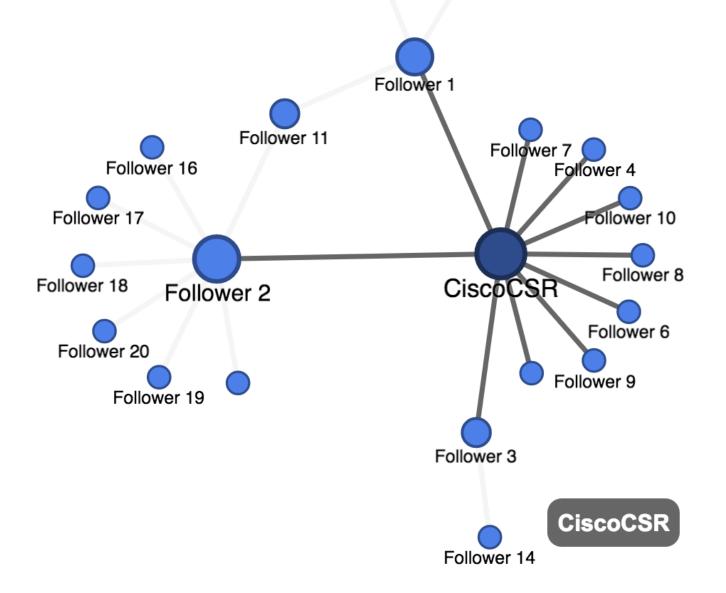
Awareness

(Retweets)
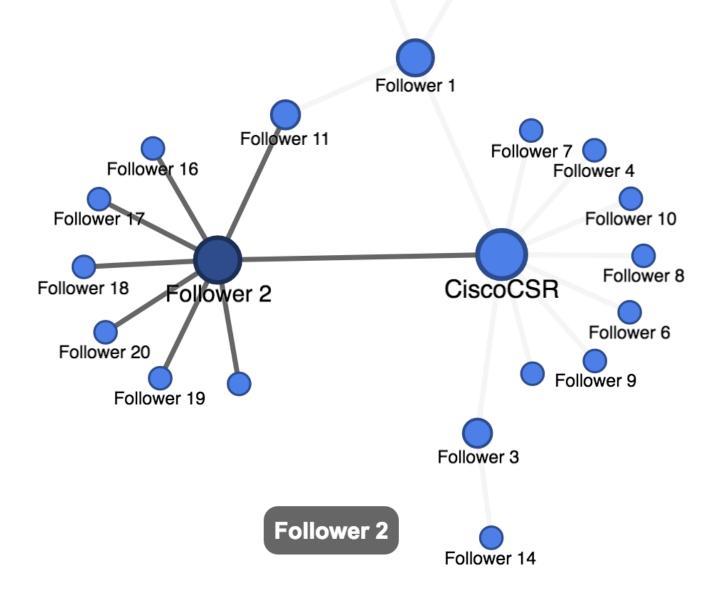
Key Skill: Understanding Networks

Follower 13　Follower 12

Follower 1

Follower 11

Follower 16

Follower 7
Follower 4

Follower 17

Follower 10

Follower 18

CiscoCSR

Follower 8

Follower 2

Follower 6

Follower 20

Follower 9

Follower 19

Follower 3

Follower 2

Follower 14
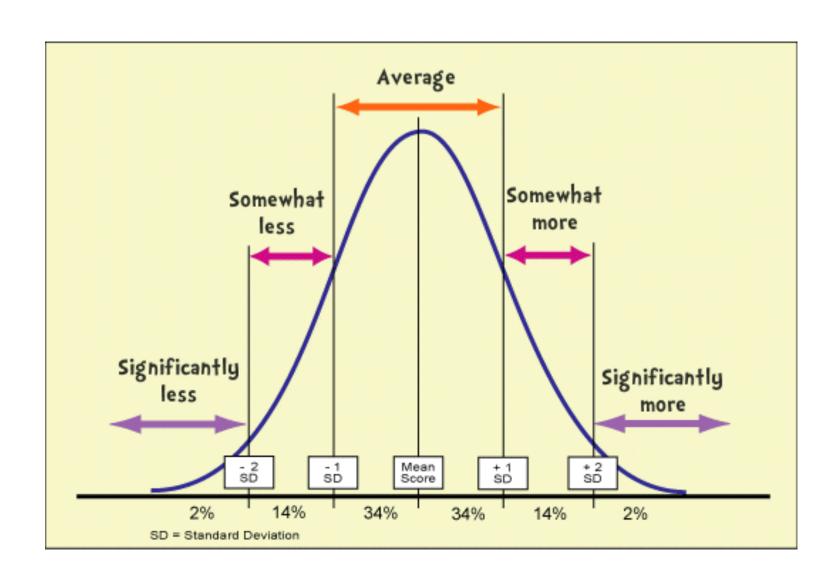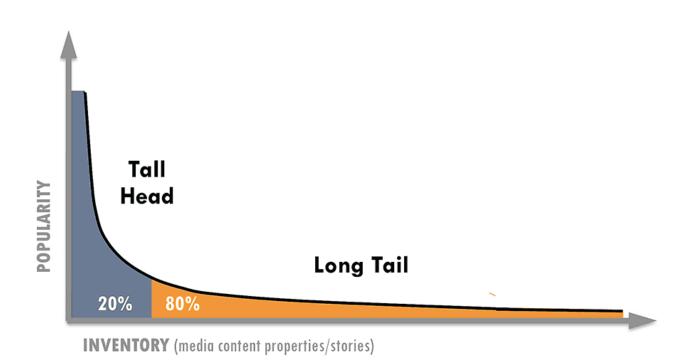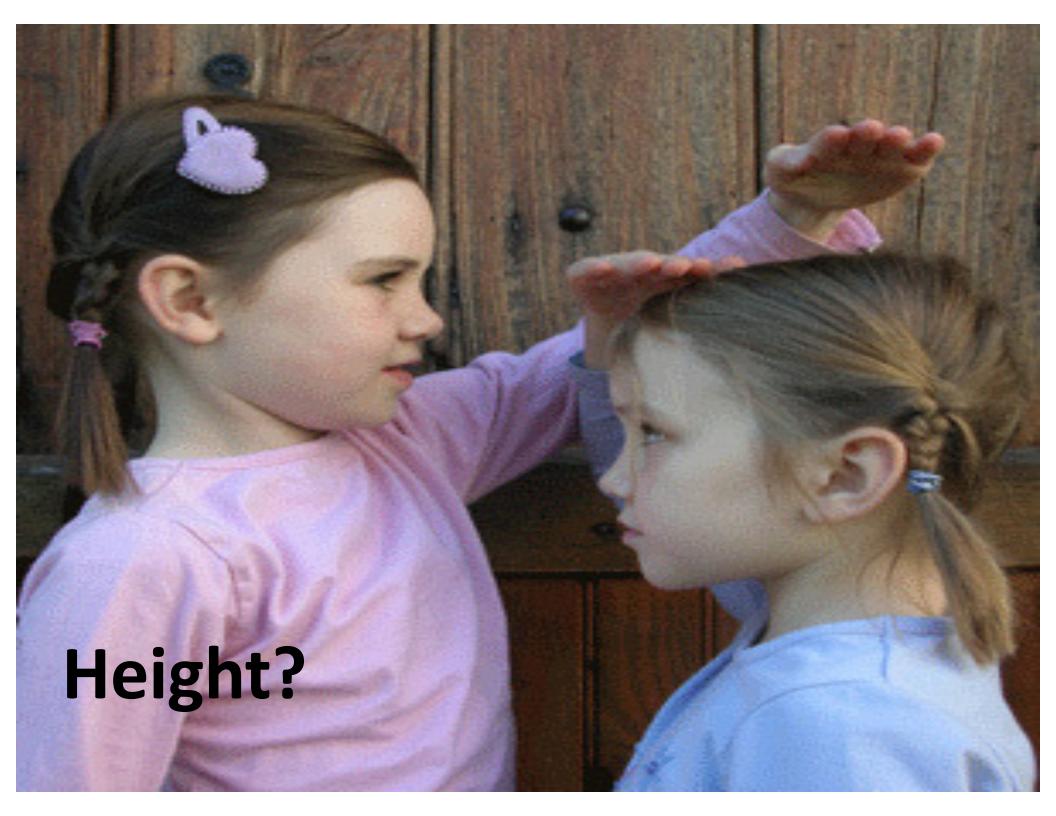
Normal Distribution
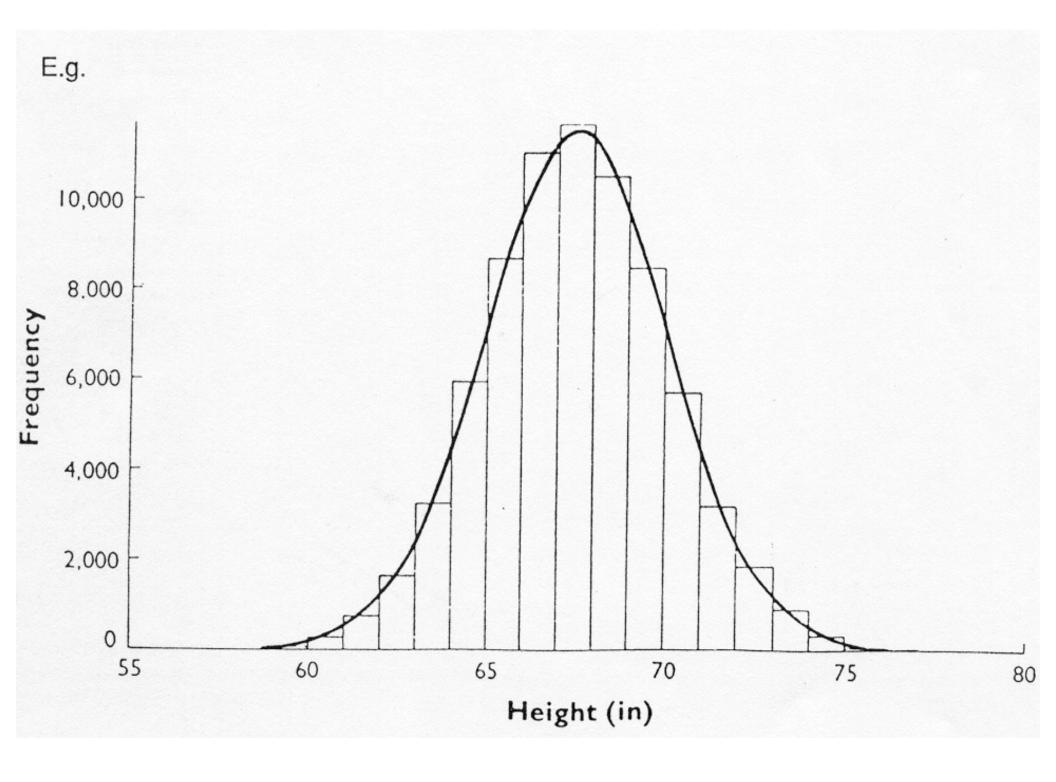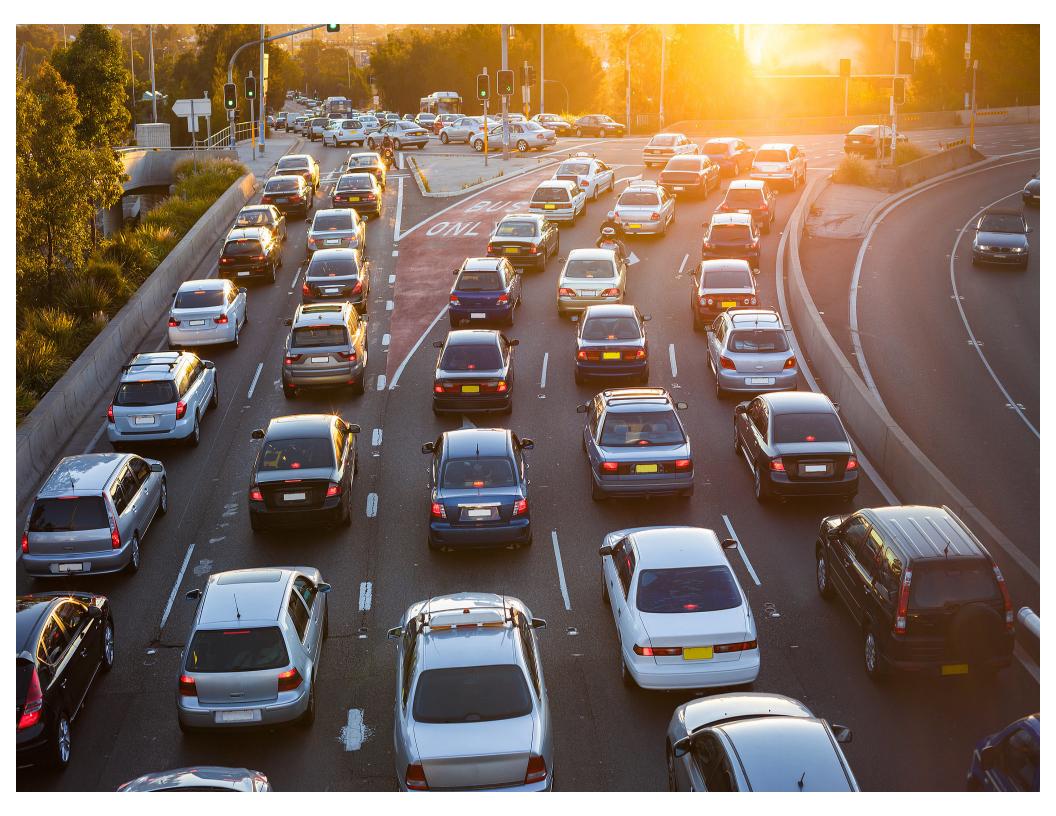
Power Law Distribution

POPULARITY

Tall
Head

Long Tail

20% 80%

INVENTORY (media content properties/stories)

Power Law or Normal?

Height?

E.g.

Years Worked?

Employees of a Cereal Factory

Mean = 10.2 yr
SD = 4.1 yr

Frequency (y-axis): 0, 25, 50, 75, 100, 125, 150, 175, 200, 225

Years worked (x-axis): 1 through 20

Bar values:
1: 15
2: 36
3: 55
4: 69
5: 84
6: 99
7: 109
8: 137
9: 151
10: 182
11: 200
12: 164
13: 127
14: 106
15: 91
16: 66
17: 51
18: 42
19: 25
20: 11

I.Q. ?

IQ Histogram

Number of persons

IQ Points

Your GRE Score

MATH — **VERBAL**

GMAT Raw Score (Math)	Old Scale	Percentile	GRE Score	Percentile	Old Scale	GMAT Raw Score (Verbal)
51	800	99	**170**	99	800	46
50	800	96	**168**	98	730	45
50	800	94	**166**	96	680	44
49	780	88	**164**	93	650	41
48	770	86	**162**	89	620	40
47	750	82	**160**	84	590	38
46	730	77	**158**	77	560	35
44	710	69	**156**	69	530	34
42	680	65	**154**	64	500	32
40	650	56	**152**	51	460	29
37	620	49	**150**	42	430	27
35	580	40	**148**	36	410	25
32	540	32	**146**	28	380	23
29	490	22	**142**	21	360	21
25	450	16	**140**	16	330	19
22	390	10	**138**	10	310	17
18	340	06	**136**	06	290	14
14	280	03	**134**	04	280	13
11	250	01	**132**	02	260	10
10	210	01	**130**	01	240	09

Percentage of testers by score

Math axis: 12%, 10%, 8%, 6%, 4%, 2%, 0%

Verbal axis: 0%, 2%, 4%, 6%, 8%, 10%, 12%

Physics 5B Final Exam Scores

Number of Pages per Book?

Number of Books Sold?

Sales Distribution Curve - Top 500
Smashwords Bestsellers

Period: May 1, 2012 through March 31, 2013
Left axis: Dollars Sold. Bottom axis: Sales rank for individual titles, listed in descending sales order

#1 is 37x #500

#50 is 7x

x= #500

Blog Popularity?
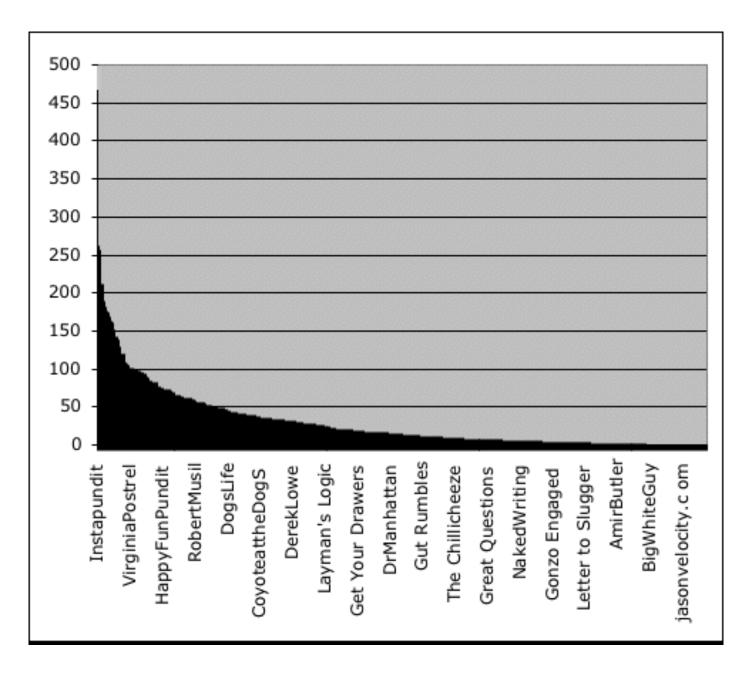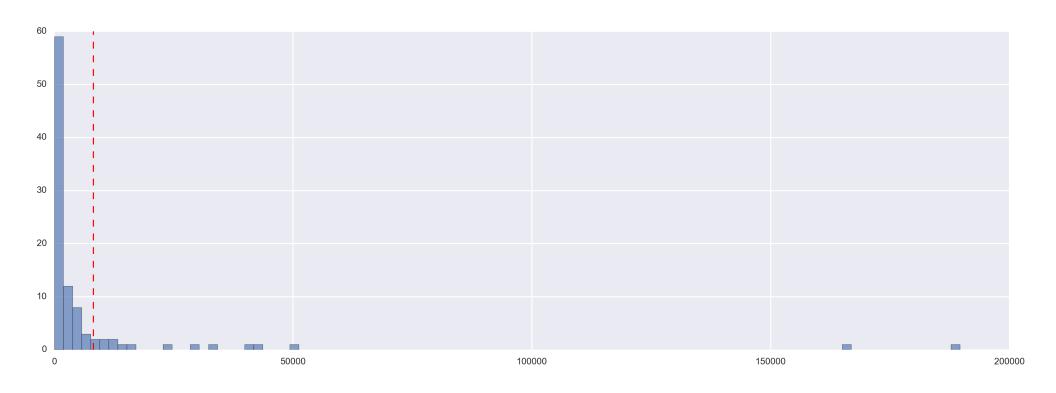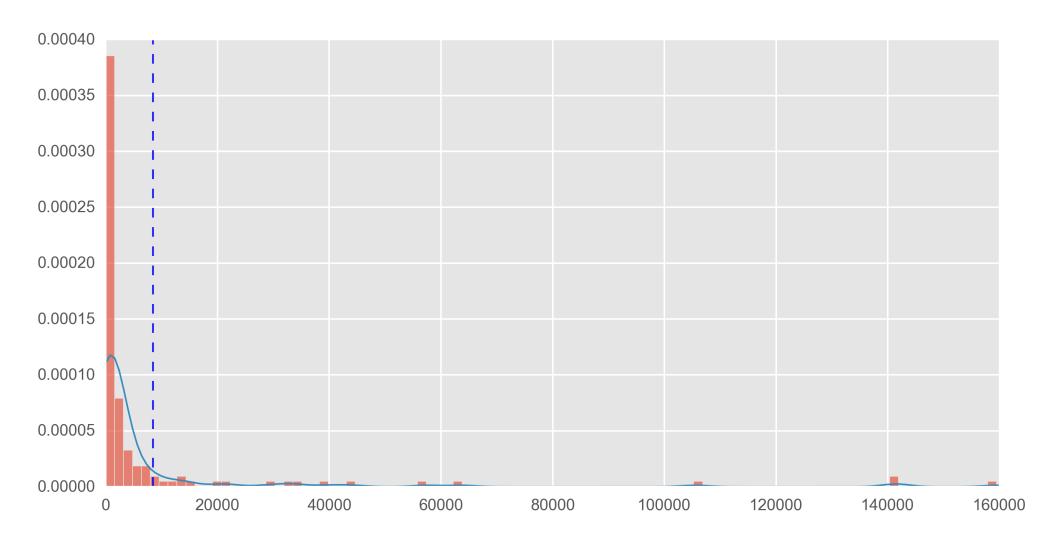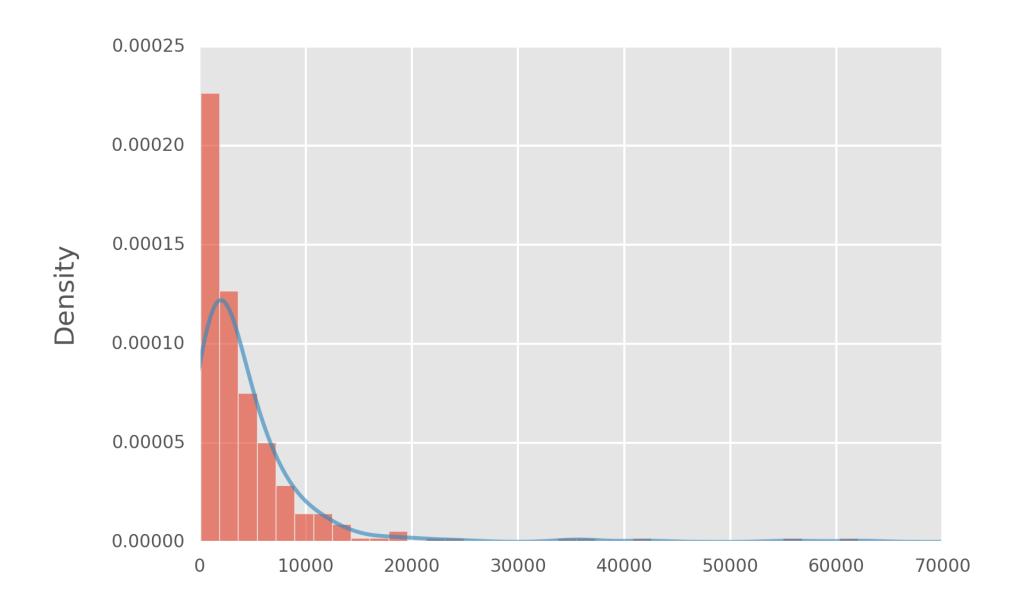
Figure 1. 433 weblogs arranged in rank order by number of inbound links.
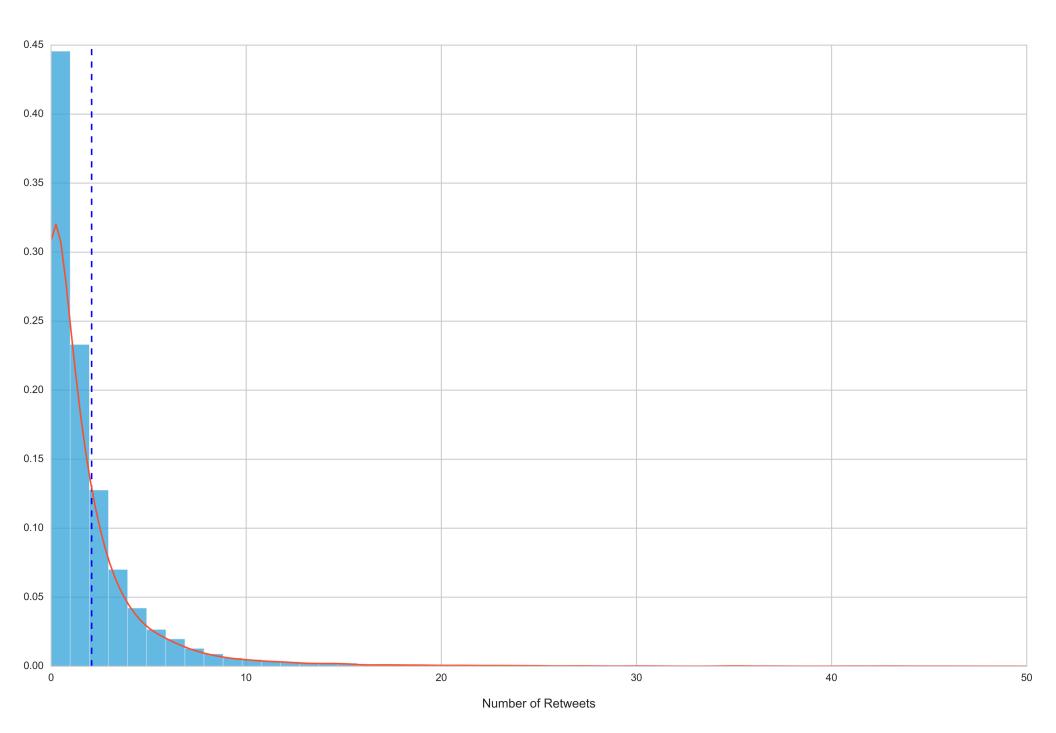
Followers of Twitter accounts of 100 Organizations of the *NPTimes 100* list

Followers of 135 Mining Firm Twitter Accounts

Number of Tweets Sent by 135 Mining Firm Twitter Accounts

Number of Retweets

Windy City Hoops

Story | Updates 5 | Comments 73 | Funders 707 | Gallery 18
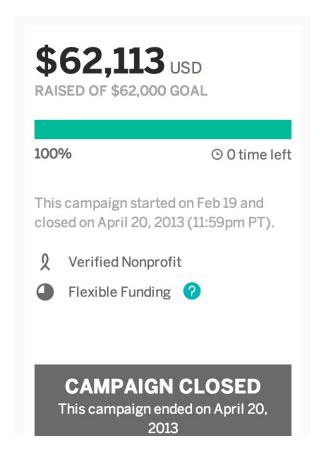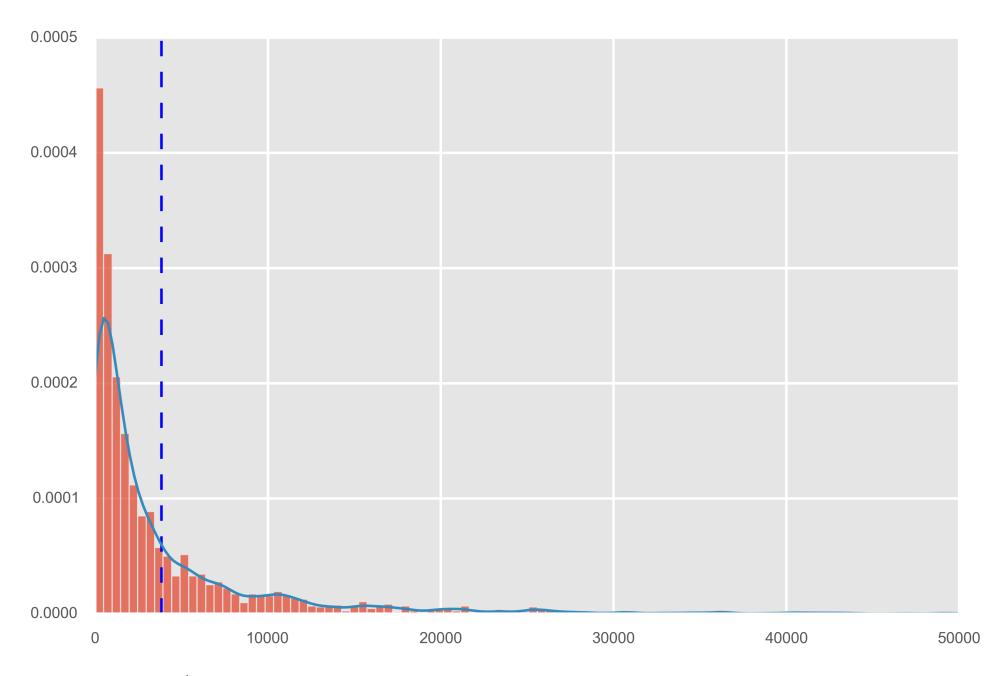
#ChiHoops Update

0:00 / 0:59

YouTube

$62,113 USD

RAISED OF $62,000 GOAL

100%   ⏱ 0 time left

This campaign started on Feb 19 and closed on April 20, 2013 (11:59pm PT).

🎗 Verified Nonprofit

◔ Flexible Funding ?

CAMPAIGN CLOSED
This campaign ended on April 20, 2013

$ Amounts Raised in 2,730 Indiegogo Crowdfunding Campaigns

Potato Salad

by Zack Danger Brown

Home   Updates 17   Backers 6,276   Comments 967

📍 Columbus, OH   🏷️ Food

6,276
backers

$61,147
pledged of $10 goal

13
days to go

Back This Project
$1 minimum pledge

This project will be funded on Sat, Aug 2
2014 9:47 PM SGT.

Project by

Zack Danger Brown
Columbus, OH

f **Share**   🐦 **Tweet**   <> Embed   ⭐ Remind me

NONPROFIT
ADVOCACY
IN A SOCIAL
MEDIA AGE
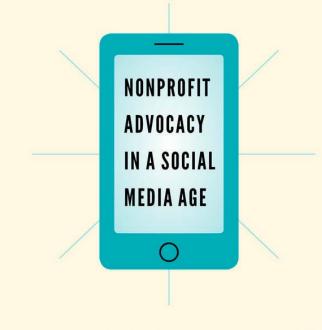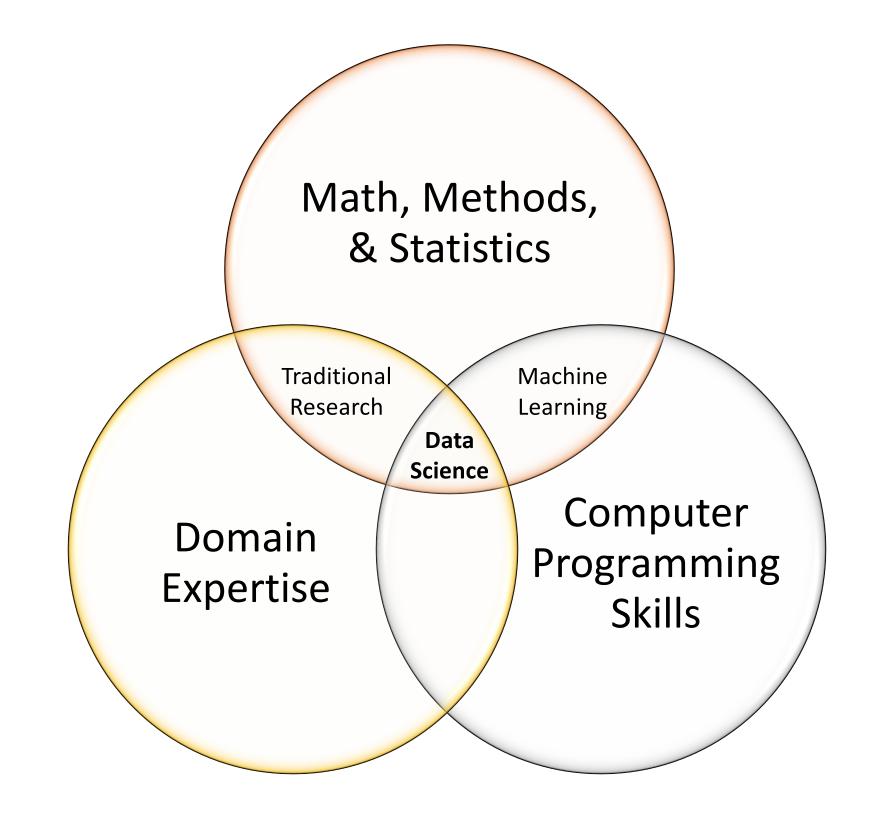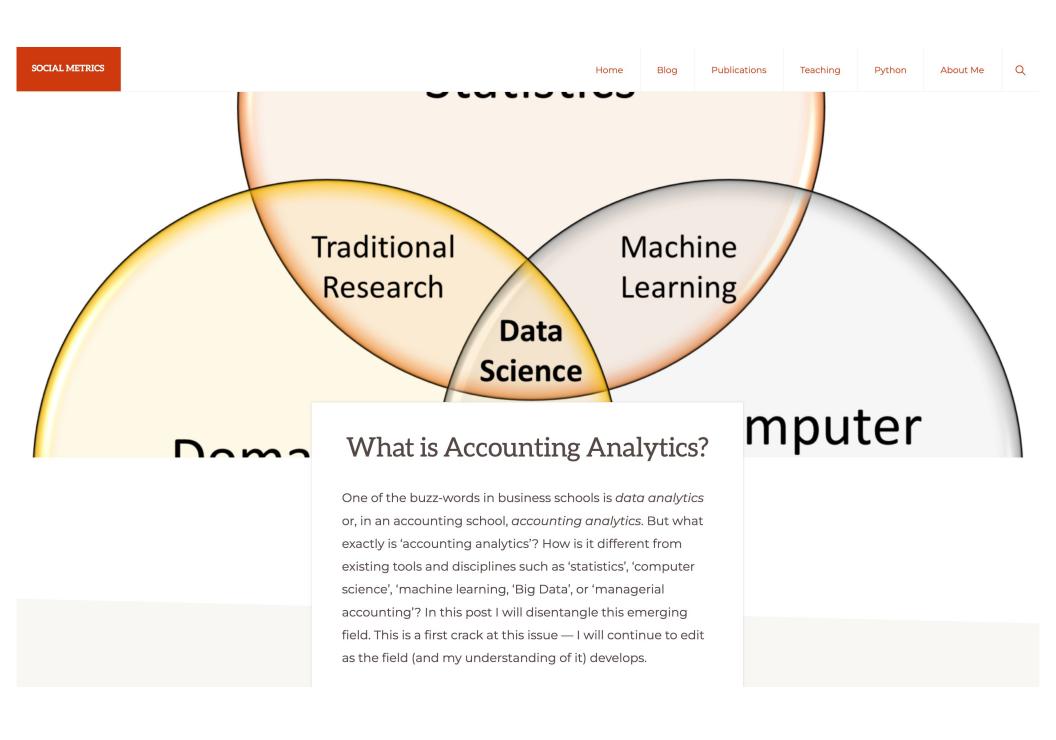
THE QUEST FOR ATTENTION

CHAO GUO & GREGORY SAXTON

An Accounting Analytics Approach

Using Data Science to Measure Reputation and other Intangibles

Statistics

Traditional
Research

Machine
Learning

Data
Science

Doma

mputer

What is Accounting Analytics?

One of the buzz-words in business schools is *data analytics* or, in an accounting school, *accounting analytics*. But what exactly is 'accounting analytics'? How is it different from existing tools and disciplines such as 'statistics', 'computer science', 'machine learning, 'Big Data', or 'managerial accounting'? In this post I will disentangle this emerging field. This is a first crack at this issue — I will continue to edit as the field (and my understanding of it) develops.

Accounting & Data Analytics

DATA ANALYTIC APPROACHES TO NONPROFIT ACCOUNTING AND CSR

LEARN MORE

Overview of Method

▸ Identify *strategic* intangible assets for your company

▸ Model causal relations in business model → focus on *value creation*

▸ Conceptualize each intangible asset individually

▸ Develop measurement plan for each intangible

▸ Gather, prepare, and manipulate data

▸ Implement and communicate
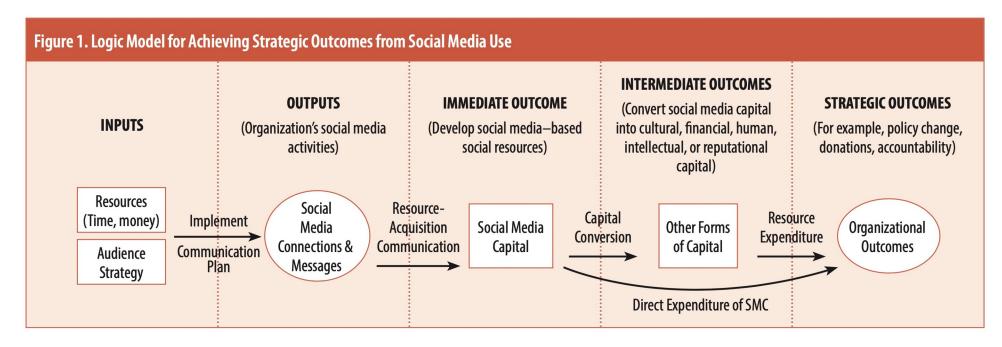
Key Skill: Modeling Cause-and-Effect Relationships for Your Intangibles

Social Capital

Figure 1. Logic Model for Achieving Strategic Outcomes from Social Media Use
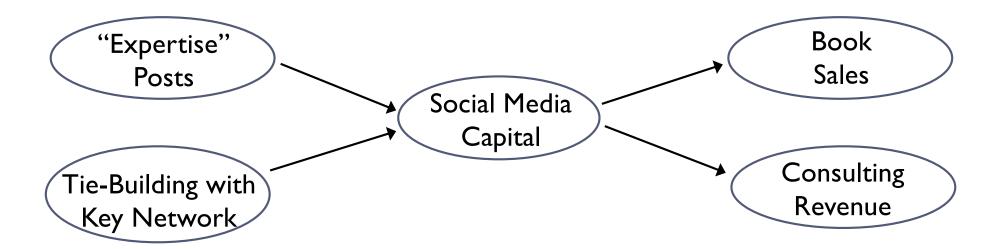
From "Social Media Capital for Nonprofits: How to Accumulate It, Convert It, and Spend It," by Chao Guo and Gregory D. Saxton, *The Nonprofit Quarterly,* Winter 2016.

Example: YouTuber

```
┌─────────────────────┐        ┌─────────────────┐        ┌─────────────────┐
│  Attention-Grabbing  │  ───►  │  Social Media    │  ───►  │  YouTube Ad      │
│       Videos         │        │     Capital      │        │     Revenue      │
└─────────────────────┘        └─────────────────┘        └─────────────────┘
```

Example: Fashion Blogger
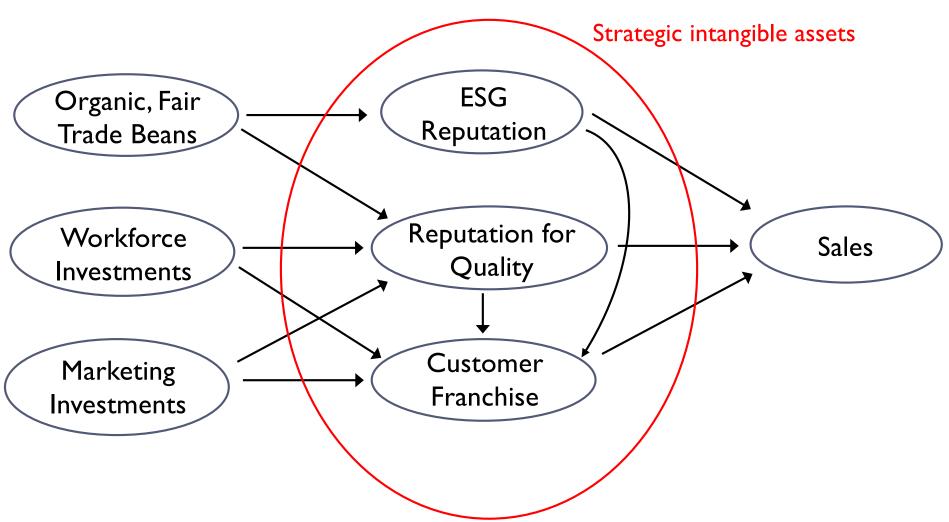
Example: Instagram Influencer with no Plan

What is this influencer's social capital *worth*?

Example: Coffee Shop

Strategic intangible assets

Organic, Fair Trade Beans

Workforce Investments

Marketing Investments

ESG Reputation

Reputation for Quality

Customer Franchise

Sales
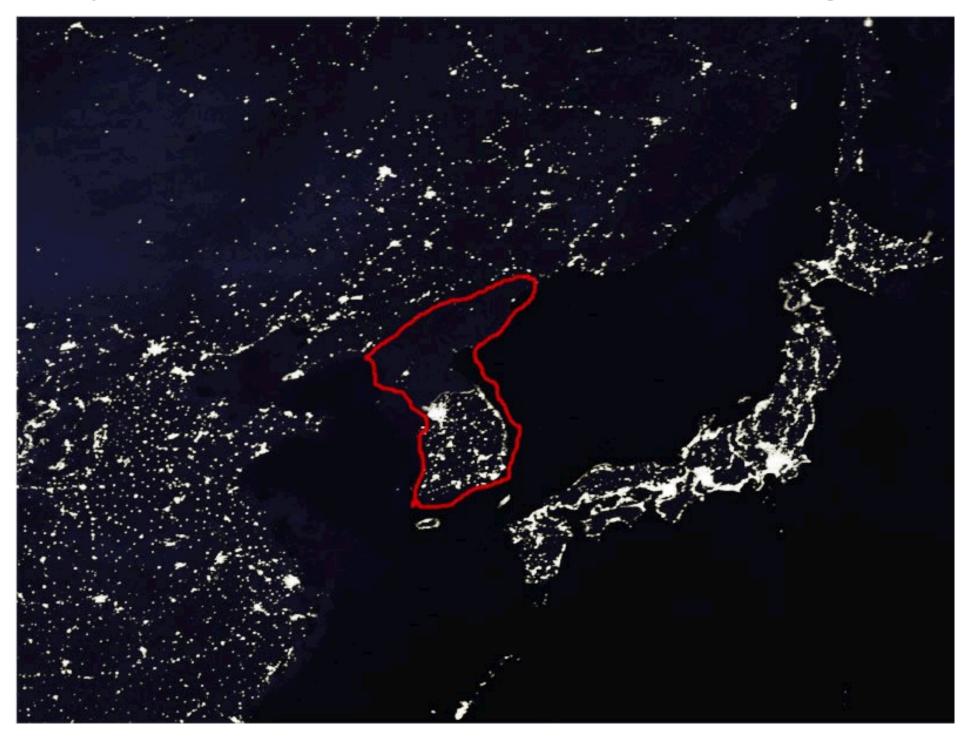
We have our model – now we have to develop *measures*
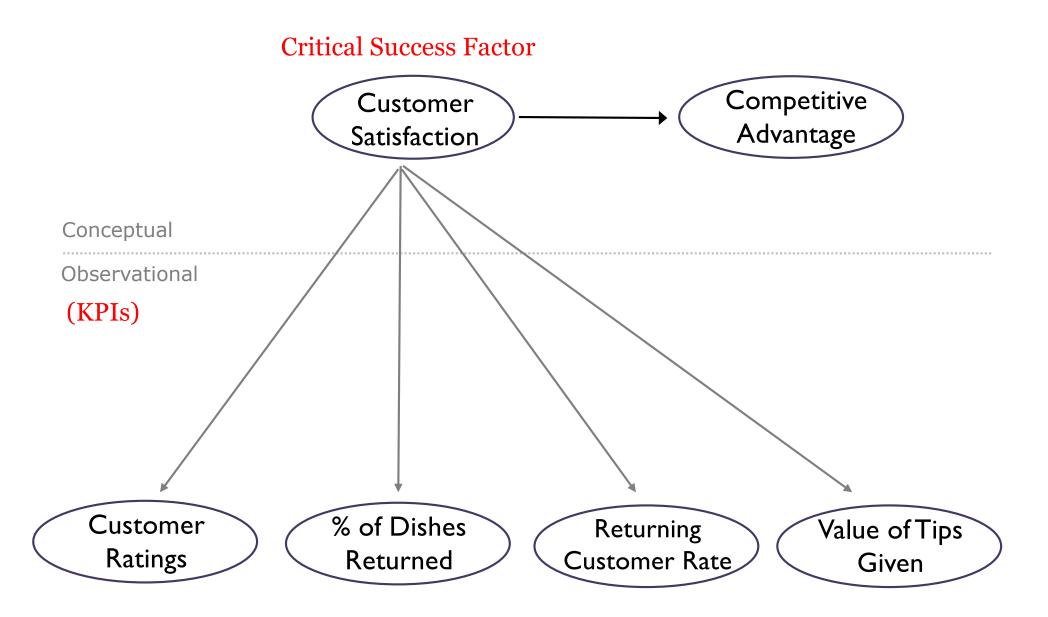
What is this a Measure of?
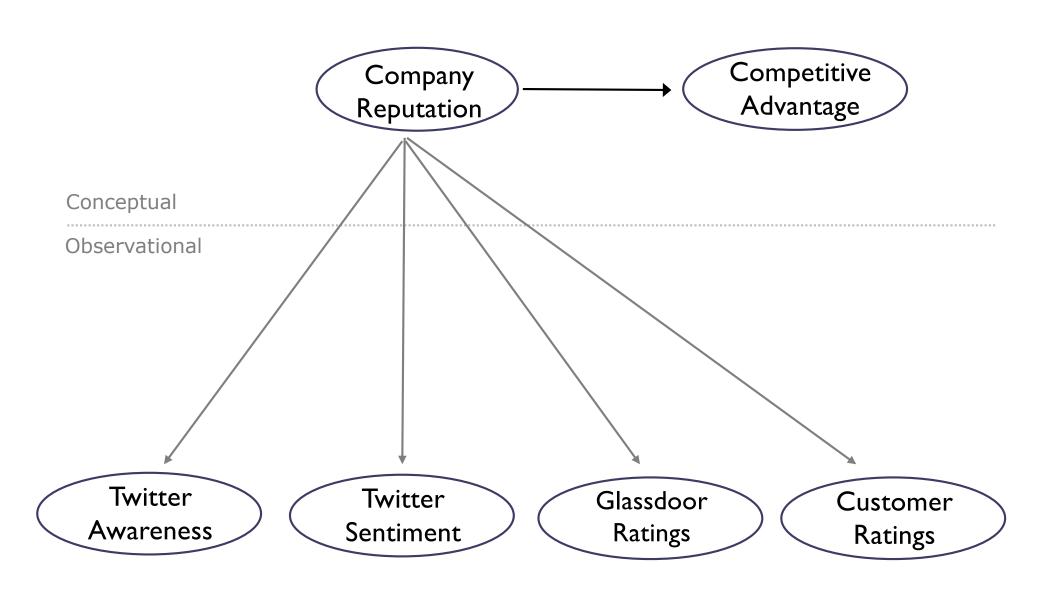
Can you tell where North Korea ends and South Korea begins?

Key Skills: Conceptualization and Measurement

Company Reputation → Competitive Advantage

Conceptual
Observational

Twitter Awareness
Twitter Sentiment
Glassdoor Ratings
Customer Ratings
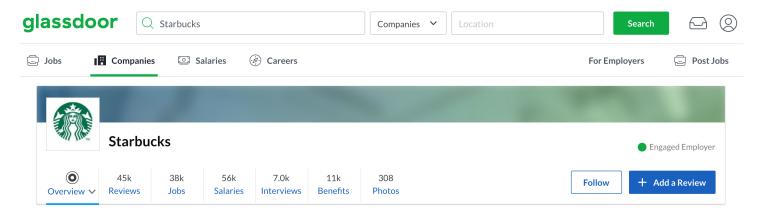
ACCESSING THE DATA:

APIs AND WEB SCRAPING

Web Scraping
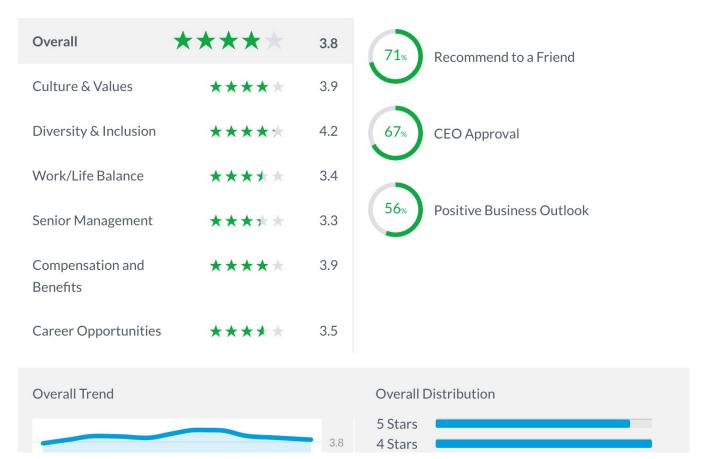
When you're not lucky, and there's no API

Starbucks

Companies

Location

Search

Jobs   Companies   Salaries   Careers   For Employers   Post Jobs

Starbucks

● Engaged Employer

Overview ⌄ | 45k Reviews | 38k Jobs | 56k Salaries | 7.0k Interviews | 11k Benefits | 308 Photos

Follow   + Add a Review

Starbucks Ratings and Trends

About Glassdoor ratings
Ratings may vary depending on what filters are applied, but ratings include reviews in all languages. Learn More

Overall	★★★★☆	3.8
Culture & Values	★★★★☆	3.9
Diversity & Inclusion	★★★★⯪	4.2
Work/Life Balance	★★★⯪☆	3.4
Senior Management	★★★⯪☆	3.3
Compensation and Benefits	★★★★☆	3.9
Career Opportunities	★★★⯪☆	3.5

71% Recommend to a Friend

67% CEO Approval

56% Positive Business Outlook

Overall Trend   3.8

Overall Distribution

5 Stars

4 Stars

Application Programming Interfaces

Accessing Social Media Data

tacos, cheap dinner, Max's | Toronto, ON, Canada | 🔍

For Businesses | Write a Review

Restaurants ⌄ | Home Services ⌄ | Auto Services ⌄ | More ⌄

Cluny Bistro & Boulangerie

★★★★☆ **588 reviews**

✓ Claimed • $$$ • **French, Wine Bars, Cocktail Bars** Edit

Closed 12:00 PM - 9:00 PM ⓘ Hours updated a few days ago

See 1804 photos

⭐ Write a Review | 📷 Add Photo | 📤 Share | 🔖 Save

Menu

Most mentioned dishes

(416) 203-2632 📞

Get Directions
35 Tank House Lane Toronto, ON
M5A 3C4 Canada ◈

Launching a New Generation of Global Problem Solvers

CISCO
Corporate Social Responsibility

#CiscoCSR

Cisco CSR
CISCO
Corporate Social Responsibility

TWEETS	FOLLOWING	FOLLOWERS	LIKES	LISTS
9,912	**653**	**9,218**	**744**	**10**

⚙ 👤⁺ Follow

Cisco CSR
@CiscoCSR

In a connected world, we're empowering a new generation of global problem solvers to speed the pace of social change. #CiscoCSR #socialgood

📍 San Jose, California
🔗 csr.cisco.com
📅 Joined February 2010

Tweets   Tweets & replies   Photos & videos

Cisco CSR @CiscoCSR · 3h
In FY16, we focus on the environment as part of our #CiscoCSR efforts. Check out our goals: cs.co/6016Be0ba

↩   🔁   ♡   •••   View summary

Cisco CSR @CiscoCSR · 21h
Thx @PatrickMoorhead for a great @Forbes article on #CiscoCSR. Read more about our

Who to follow · Refresh · View all

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EDF ✔ @EnvDefenseFund
👤⁺ Follow

2degrees @2degreesnetwork
👤⁺ Follow

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Problem Solvers

account-level data

CISCO
Corporate Social Responsibility

#CiscoCSR

TWEETS   FOLLOWING   FOLLOWERS   LIKES   LISTS
9,912   653   9,218   744   10

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account-level data

CISCO
Corporate Social Responsibility

#CiscoCSR

click here to see data on connections

message-level data

TWEETS	FOLLOWING	FOLLOWERS	LIKES	LISTS
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JSON Format – Tweet Object

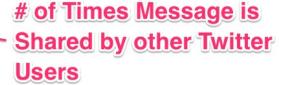{"contributors": null, "truncated": false, "text": "Thx @PatrickMoorhead for a great @Forbes article on #CiscoCSR. Read more about our efforts: https://t.co/RSSxO1ZB2G https://t.co/xZaT84Tuen", "is_quote_status": false, "in_reply_to_status_id": null, "id": 707691051608379393, "favorite_count": 7, "source": "Sprinklr", "retweeted": false, "coordinates": null, "entities": {"symbols": [], "user_mentions": [{"id": 14927543, "indices": [4, 20], "id_str": "14927543", "screen_name": "PatrickMoorhead", "name": "Patrick Moorhead"}, {"id": 91478624, "indices": [33, 40], "id_str": "91478624", "screen_name": "Forbes", "name": "Forbes"}], "hashtags": [{"indices": [52, 61], "text": "CiscoCSR"}], "urls": [{"url": "https://t.co/RSSxO1ZB2G", "indices": [92, 115], "expanded_url": "http://cs.co/6018BetGe", "display_url": "cs.co/6018BetGe"}], "media": [{"expanded_url": "http://twitter.com/CiscoCSR/status/707691051608379393/photo/1", "display_url": "pic.twitter.com/xZaT84Tuen", "url": "https://t.co/xZaT84Tuen", "media_url_https": "https://pbs.twimg.com/media/CdI5QwGWAAElN1b.jpg", "id_str": "707691051402788865", "sizes": {"small": {"h": 190, "resize": "fit", "w": 340}, "large": {"h": 573, "resize": "fit", "w": 1024}, "medium": {"h": 336, "resize": "fit", "w": 600}, "thumb": {"h": 150, "resize": "crop", "w": 150}}, "indices": [116, 139], "type": "photo", "id": 707691051402788865, "media_url": "http://pbs.twimg.com/media/CdI5QwGWAAElN1b.jpg"}]}, "in_reply_to_screen_name": null, "id_str": "707691051608379393", "retweet_count": 4, "in_reply_to_user_id": null, "favorited": false, "user": {"follow_request_sent": null, "has_extended_profile": false, "profile_use_background_image": true, "default_profile_image": false, "id": 114851156, "profile_background_image_url_https": "https://pbs.twimg.com/profile_background_images/689868925249667072/Bkbx1AA0.jpg", "verified": false, "profile_text_color": "8BDE94", "profile_image_url_https": "https://pbs.twimg.com/profile_images/2785561024/a0d413ceb4db43996831508c02327886_normal.png", "profile_sidebar_fill_color": "A7E67C", "entities": {"url": {"urls": [{"url": "http://t.co/8stYTWf4Vk", "indices": [0, 22], "expanded_url": "http://csr.cisco.com", "display_url": "csr.cisco.com"}]}, "description": {"urls": []}}, "followers_count": 9227, "profile_sidebar_border_color": "FFFFFF", "id_str": "114851156", "profile_background_color": "1987C4", "listed_count": 403, "is_translation_enabled": false, "utc_offset": -28800, "statuses_count": 9921, "description": "In a connected world, we\u2019re empowering a new generation of global problem solvers to speed the pace of social change. #CiscoCSR #socialgood", "friends_count": 653, "location": "San Jose, California", "profile_link_color": "1987C4", "profile_image_url": "http://pbs.twimg.com/profile_images/2785561024/a0d413ceb4db43996831508c02327886_normal.png", "following": null, "geo_enabled": true, "profile_banner_url": "https://pbs.twimg.com/profile_banners/114851156/1454427516", "profile_background_image_url": "http://pbs.twimg.com/profile_background_images/689868925249667072/Bkbx1AA0.jpg", "screen_name": "CiscoCSR", "lang": "en", "profile_background_tile": false, "favourites_count": 753, "name": "Cisco CSR", "notifications": null, "url": "http://t.co/8stYTWf4Vk", "created_at": "Tue Feb 16 20:23:06 +0000 2010", "contributors_enabled": false, "time_zone": "Pacific Time (US & Canada)", "protected": false, "default_profile": false, "is_translator": false}, "geo": null, "in_reply_to_user_id_str": null, "possibly_sensitive": false, "lang": "en", "created_at": "Wed Mar 09 22:14:29 +0000 2016", "in_reply_to_status_id_str": null, "place": null, "extended_entities": {"media": [{"expanded_url": "http://twitter.com/CiscoCSR/status/707691051608379393/photo/1", "display_url": "pic.twitter.com/xZaT84Tuen", "url": "https://t.co/xZaT84Tuen", "media_url_https": "https://pbs.twimg.com/media/CdI5QwGWAAElN1b.jpg", "id_str": "707691051402788865", "sizes": {"small": {"h": 190, "resize": "fit",

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```

Sentiment in Public Replies

- Human coding combined with supervised machine learning
  - Support Vector Machine (SVM) algorithm

Positive Reply

Bank of America @BankofAmerica · 17 Mar 2014
We're working w/ @CAFoodBanks @FeedingAmerica @UnitedWaysCA to provide critical services around the #CA drought go.bofa.com/rtc8

↩   ↻ 14   ♡ 10   ⋯

CAFB
@CAFoodBanks

⚙   👤+ Follow
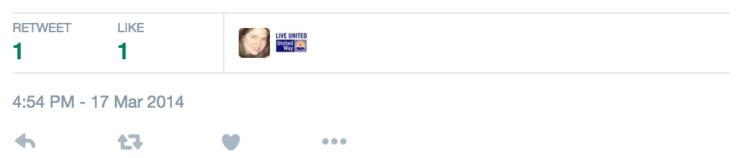
@BofA_Community @FeedingAmerica @UnitedWaysCA So proud to partner with you and bring some much-needed relief!

RETWEET	LIKE	
1	1	LIVE UNITED United Way

4:54 PM - 17 Mar 2014

↩   ↻   ♥   ⋯

Neutral Reply

Bank of America @BankofAmerica · 17 Mar 2014
We're working w/ @CAFoodBanks @FeedingAmerica @UnitedWaysCA
to provide critical services around the #CA drought go.bofa.com/rtc8

↩   ⟲ 14   ♥ 10   •••

Two Men And A Truck
@TwoMenTulsa   ⚙   👤+ Follow

@BofA_Community @CAFoodBanks
@FeedingAmerica @UnitedWaysCA Are people
only donating canned goods?

9:10 AM - 17 Mar 2014

↩   ⟲   ♥   •••

Negative Reply

Hit the road Jack
@JackAnderson75

⚙   👤+ Follow

@BofA_Community @CAFoodBanks
@FeedingAmerica @UnitedWaysCA Trying to
improve your crappy image?

9:14 AM - 17 Mar 2014

↩   ⟲   ♥   •••

Frequency of Sentiment Categories in 5,247 Replies

Sentiment

■ **Positive**   ■ **Negative**   ■ Neutral

15.9% 2.9K +15%   **17.0%** 3.1K +35%   **67.1%** 12.4K -18%

Twitter Data Analysis Dashboard

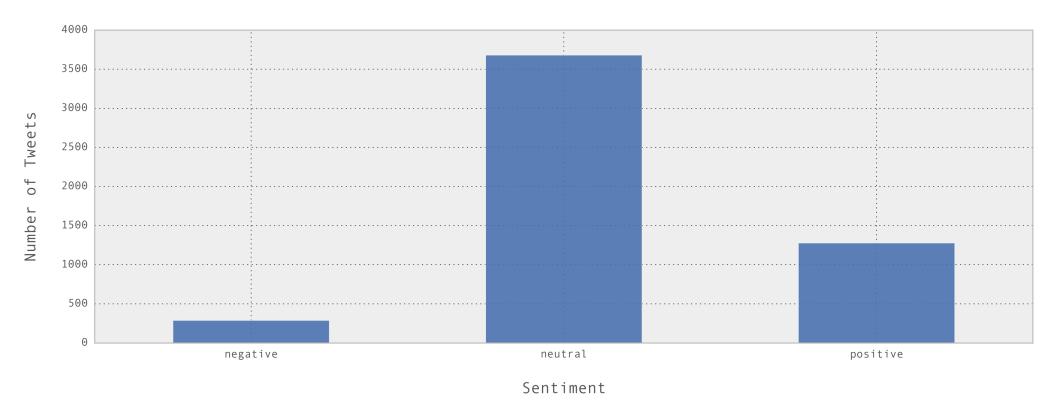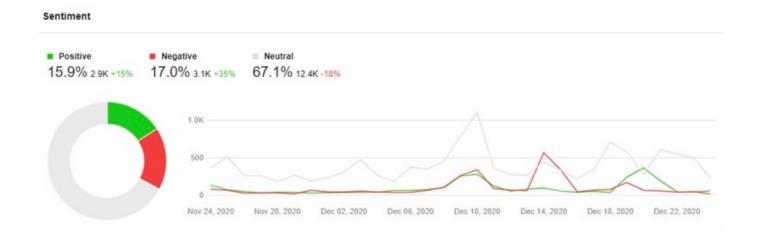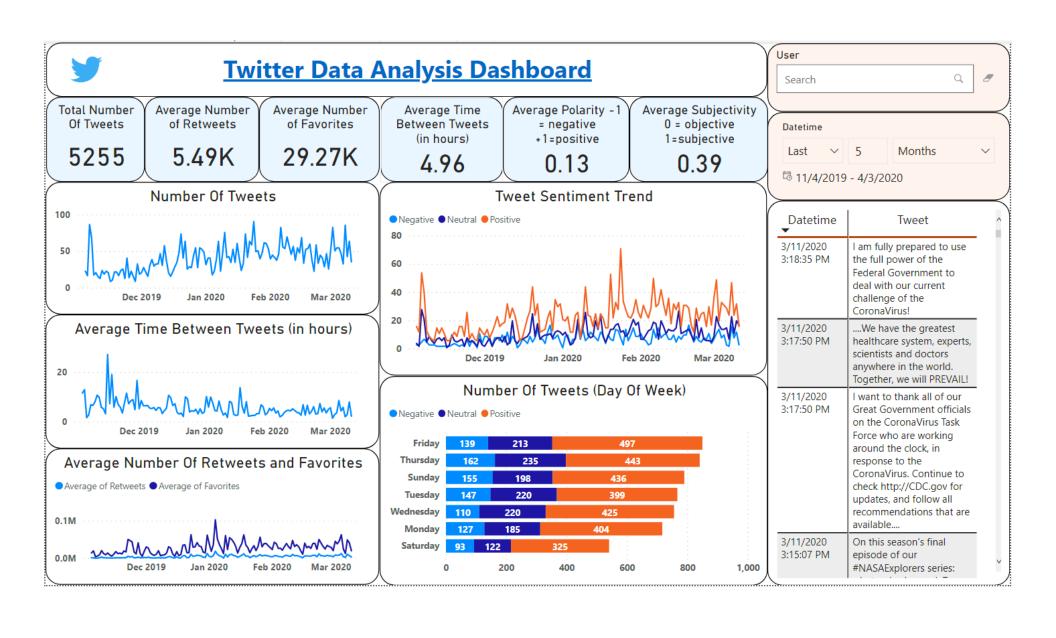| Total Number Of Tweets	Average Number of Retweets	Average Number of Favorites	Average Time Between Tweets (in hours)	Average Polarity -1 = negative +1=positive	Average Subjectivity 0 = objective 1=subjective
5255	5.49K	29.27K	4.96	0.13	0.39

Number Of Tweets

Average Time Between Tweets (in hours)

Average Number Of Retweets and Favorites

- Average of Retweets
- Average of Favorites

Tweet Sentiment Trend

- Negative
- Neutral
- Positive

Number Of Tweets (Day Of Week)

- Negative
- Neutral
- Positive

Day	Negative	Neutral	Positive
Friday	139	213	497
Thursday	162	235	443
Sunday	155	198	436
Tuesday	147	220	399
Wednesday	110	220	425
Monday	127	185	404
Saturday	93	122	325

Datetime	Tweet
3/11/2020 3:18:35 PM	I am fully prepared to use the full power of the Federal Government to deal with our current challenge of the CoronaVirus!
3/11/2020 3:17:50 PM	....We have the greatest healthcare system, experts, scientists and doctors anywhere in the world. Together, we will PREVAIL!
3/11/2020 3:17:50 PM	I want to thank all of our Great Government officials on the CoronaVirus Task Force who are working around the clock, in response to the CoronaVirus. Continue to check http://CDC.gov for updates, and follow all recommendations that are available....
3/11/2020 3:15:07 PM	On this season's final episode of our #NASAExplorers series:

Key Takeaways

▸ Power laws
▸ Network view
▸ Linking intangibles to business model → modeling
▸ Mapping concepts to measures
▸ Multiple measures and dimensions
▸ Distinguish between *expenses* and *value-creating investments* if you want to measure performance and assess growth potential.
  ▸ e.g., disclose investments in strategic (intangible) assets in MD&A
▸ Goal: measure and disclose future value streams
  ▸ *Forward-looking* rather than backward-looking
▸ Challenges: data access, format, volume, variety, etc.
▸ Knowing/learning what is possible
  ▸ You can't rely on computer science staff
  ▸ Be an "analytics translator"

▸