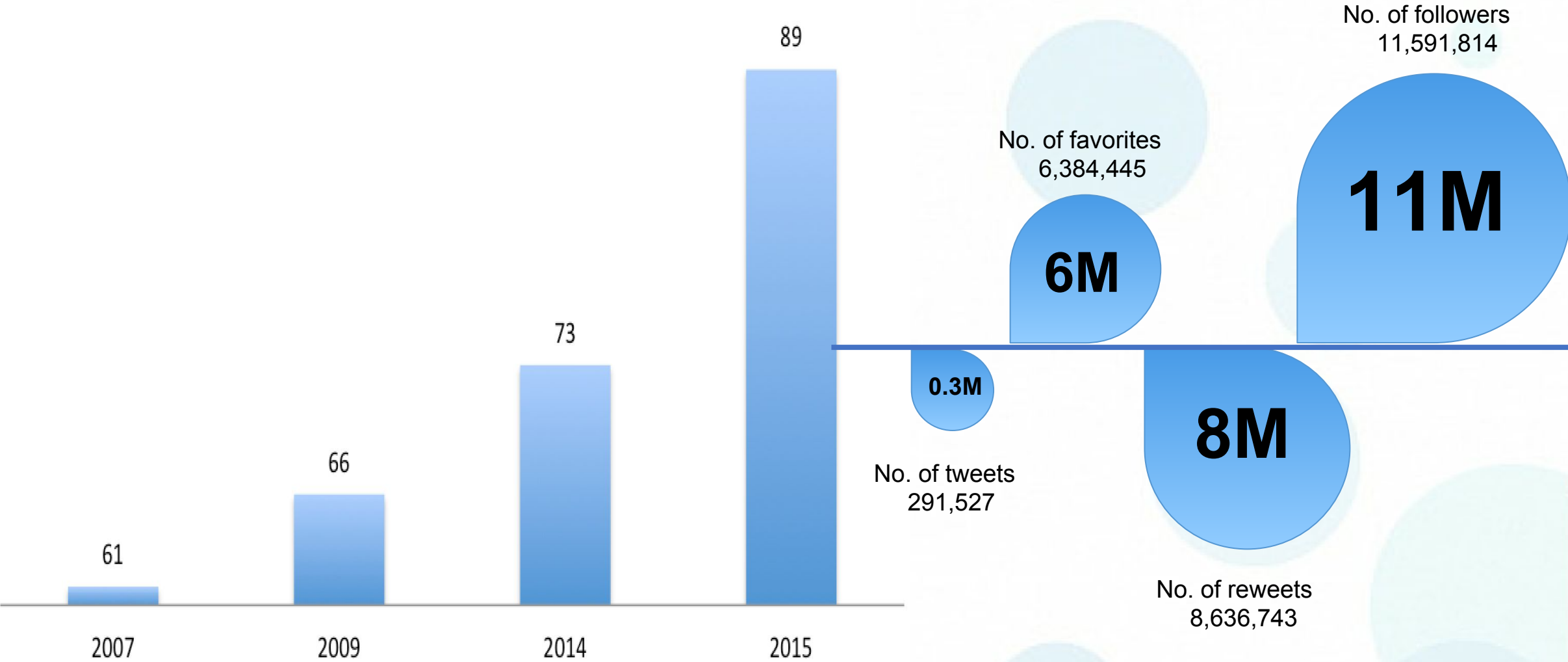# Movie Promotions on Twitter

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Luyun Zhao ◆ Sicun Huang ◆ Thibault Doutre

Number of Official Movie Twitter Accounts Over Time

61 — 2007

66 — 2009

73 — 2014

89 — 2015

No. of tweets
291,527

0.3M

No. of favorites
6,384,445

6M

No. of reweets
8,636,743

8M

No. of followers
11,591,814

11M

Data Sources

Top Grossing Movies of 2015

Rank	Movie	Release Date	Distributor	Genre	MPAA	2015 Gross	Tickets Sold
1	Star Wars Ep. VII: The Force Awakens	12/18/2015	Walt Disney	Adventure	PG-13	$742,208,942	88,043,765
2	Jurassic World	6/12/2015	Universal	Action	PG-13	$652,198,010	77,366,311
3	The Avengers: Age of Ultron	5/1/2015	Walt Disney	Action	PG-13	$459,005,868	54,449,094
4	Inside Out	6/19/2015	Walt Disney	Adventure	PG	$356,461,711	42,284,900
5	Furious 7	4/3/2015	Universal	Action	PG-13	$351,032,910	41,640,914
6	American Sniper	12/25/2014	Warner Bros.	Drama	R	$347,897,084	41,268,930
7	Minions	7/10/2015	Universal	Comedy	PG	$336,045,770	39,863,080
8	The Hunger Games: Mockingjay - Part 2	11/20/2015	Lionsgate	Thriller/Suspense	PG-13	$274,185,395	32,524,957
9	The Martian	10/2/2015	20th Century Fox	Thriller/Suspense	PG-13	$225,910,757	26,798,429
10	Cinderella	3/13/2015	Walt Disney	Drama	PG	$201,151,353	23,861,370
11	Spectre	11/6/2015	Sony Pictures	Action	PG-13	$197,833,291	23,467,768
12	Mission: Impossible - Rogue Nation	7/31/2015	Paramount Pictures	Action	PG-13	$195,042,377	23,136,699
13	Pitch Perfect 2	5/15/2015	Universal	Comedy	PG-13	$183,785,415	21,801,354
14	Ant-Man	7/17/2015	Walt Disney	Action	PG-13	$180,202,163	21,376,294
15	Home	3/27/2015	20th Century Fox	Adventure	PG	$177,397,510	21,043,595
16	Hotel Transylvania 2	9/25/2015	Sony Pictures	Comedy	PG	$168,774,344	20,020,681
17	Fifty Shades of Grey	2/13/2015	Universal	Drama	R	$166,167,230	19,711,415
18	The SpongeBob Movie: Sponge Out of Water	2/6/2015	Paramount Pictures	Comedy	PG	$162,994,032	19,334,997
19	Straight Outta Compton	8/14/2015	Universal	Drama	R	$161,058,685	19,105,419
20	San Andreas	5/29/2015	Warner Bros.	Adventure	PG-13	$155,190,832	18,409,351
21	Mad Max: Fury Road	5/15/2015	Warner Bros.	Action	R	$153,636,354	18,224,953
22	The Rocky Horror Picture Show	9/26/1975	20th Century Fox	Musical	R	$140,219,772	16,633,424
23	The Divergent Series: Insurgent	3/20/2015	Lionsgate	Action	PG-13	$130,179,072	15,442,357
24	The Peanuts Movie	11/6/2015	20th Century Fox	Comedy	G	$128,763,058	15,274,384
25	Kingsman: The Secret Service	2/13/2015	20th Century Fox	Action	R	$128,261,724	15,214,913
26	The Good Dinosaur	11/25/2015	Walt Disney	Adventure	PG	$114,766,932	13,614,108
27	Spy!	6/5/2015	20th Century Fox	Comedy	R	$110,825,712	13,146,585
28	Trainwreck	7/17/2015	Universal	Comedy	R	$110,038,130	13,053,158
29	Creed	11/25/2015	Warner Bros.	Drama	PG-13	$103,122,271	12,232,772
30	Daddy's Home	12/25/2015	Paramount Pictures	Comedy	PG-13	$93,889,861	11,137,587

the-numbers.com
2015 top-grossing-movies

IMDb

IMDB
Movie Ratings

Twitter Archiver
Search API

Twitter
REST API

Questions

1. What are the most frequently used **words**? top 10 **hashtags**?

2. How are Twitter/IMDB account features related to **Box office performance**?

3. What are the different **promotion styles**?

4. **Public opinions** on these movies

Word Cloud
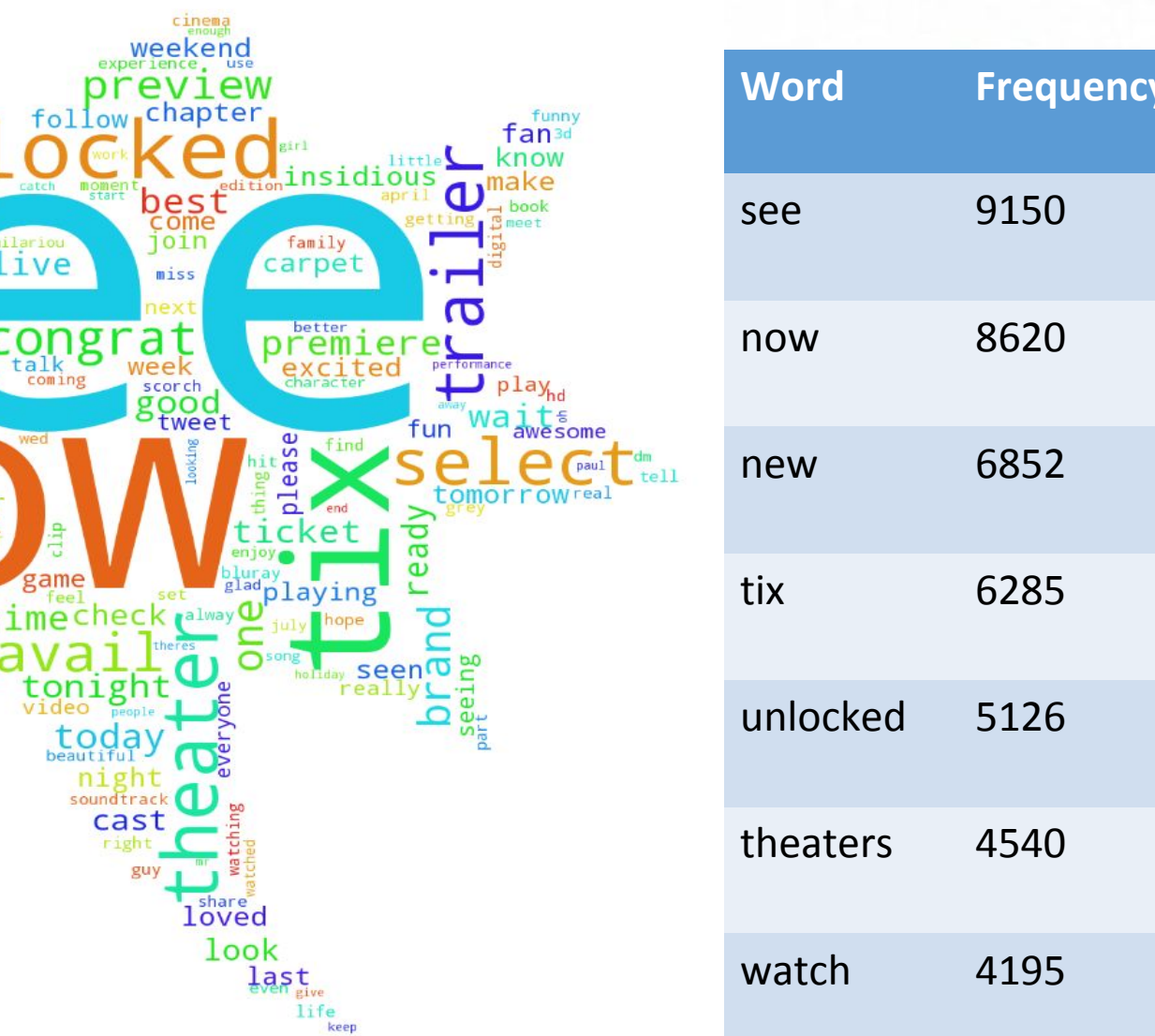
Word	Frequency	Word	Frequency
see	9150	trailer	3353
now	8620	select	3248
new	6852	cities	3145
tix	6285	glorious	3118
unlocked	5126	avail	3107
theaters	4540	friday	3037
watch	4195	movie	2700

Frequently used hashtags, but...
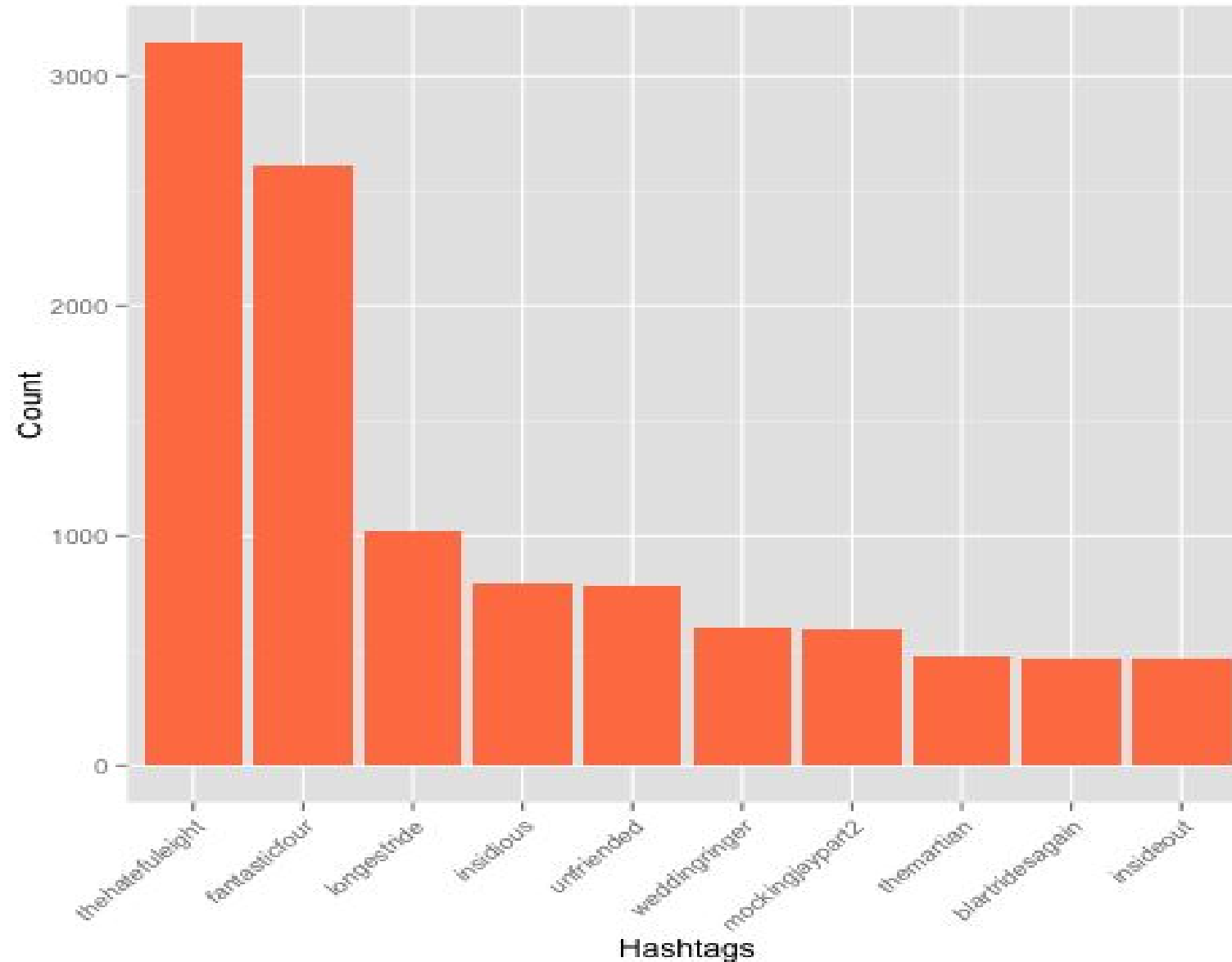
Top 10 hashtags:
- thehatefuleight
- fantasticfour
- longestride
- insidious
- unfriended
- weddingringer
- mockingjaypart2
- themartian
- blartridesagain
- insideout

Frequently used hashtags (adjusted)
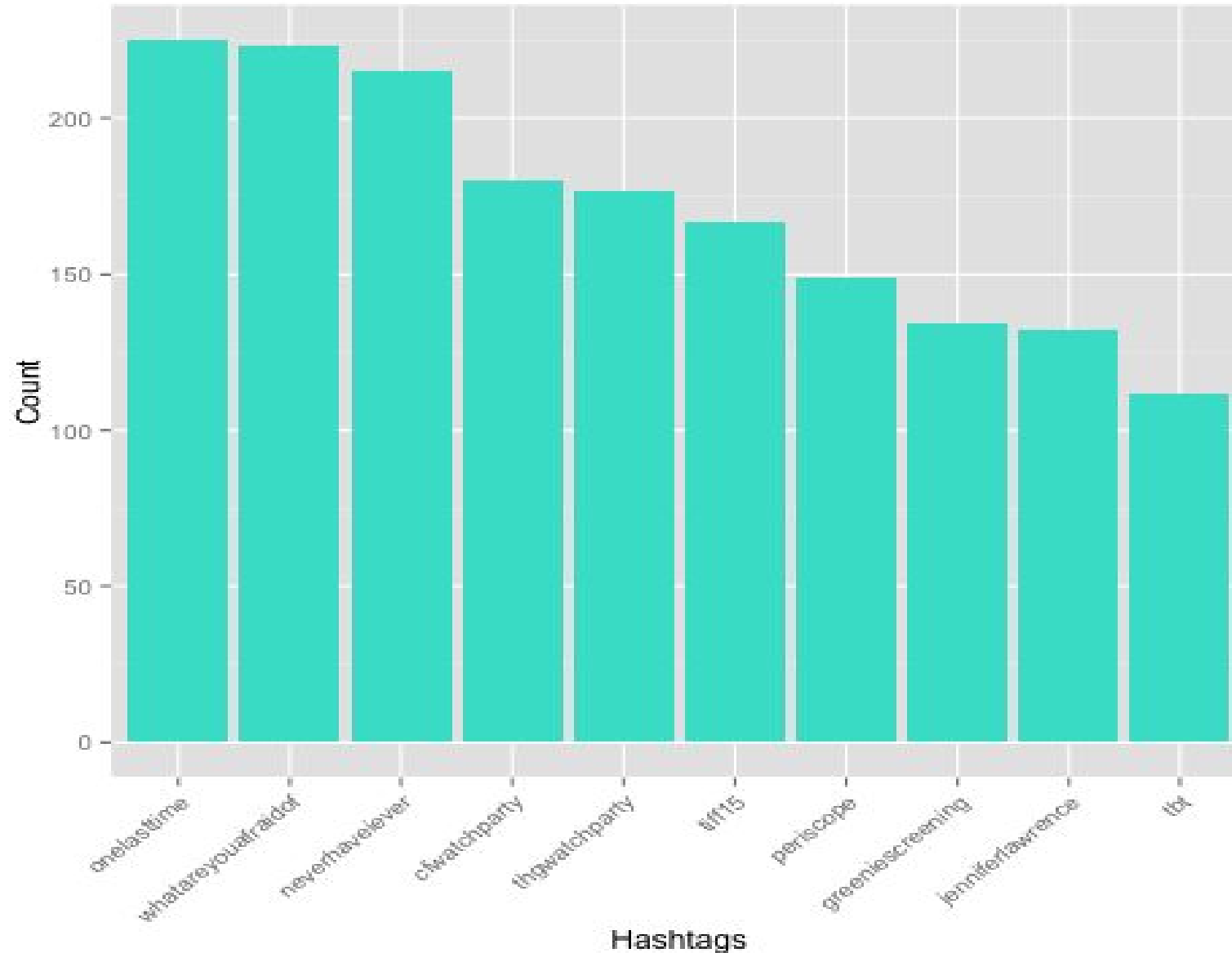
Top 10 hashtags (adjusted):
- onelasttime
- whatareyouafraidof
- neverhaveiever
- cfwatchparty
- thgwatchparty
- tiff15
- periscope
- greeniescreening
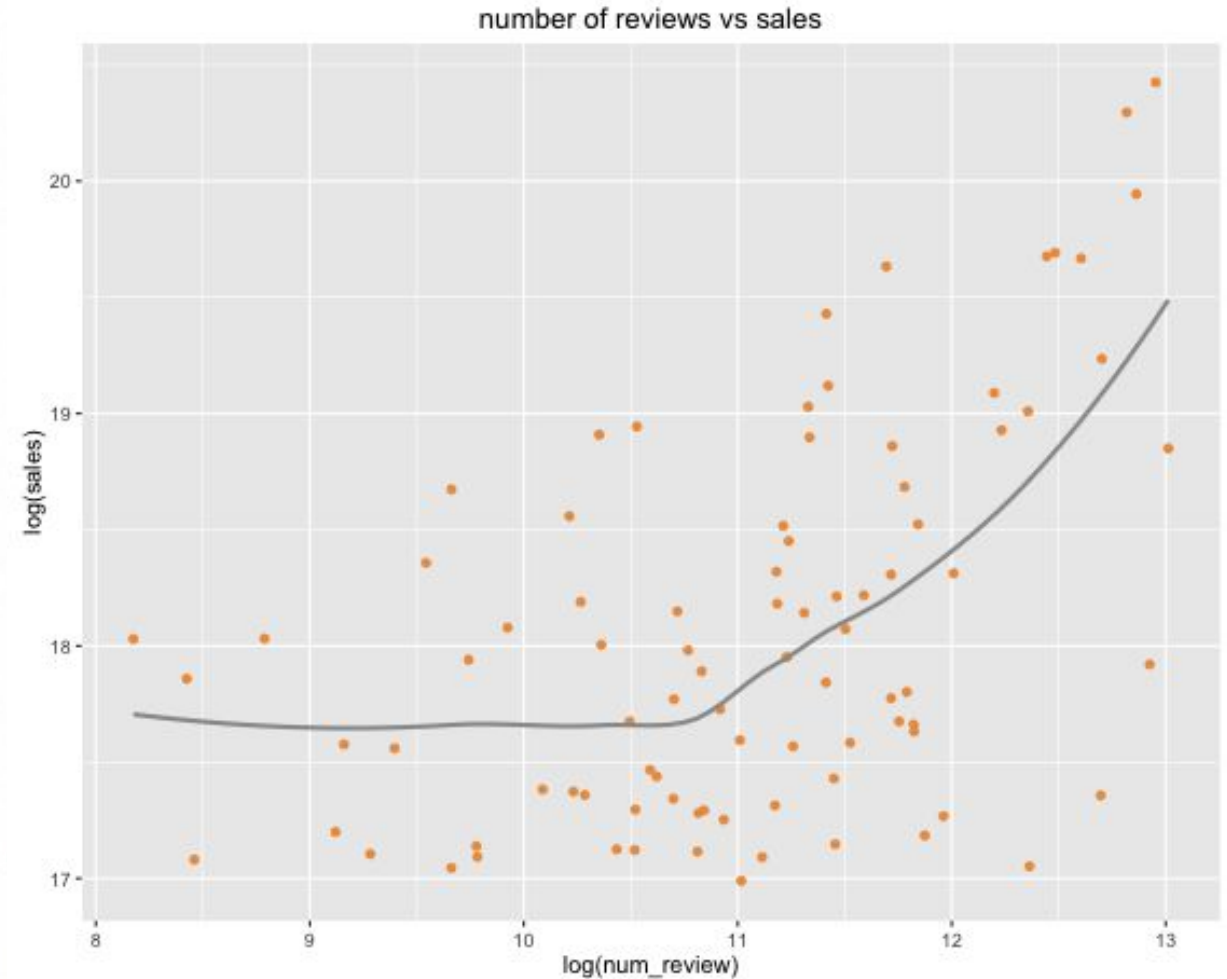- jenniferlawrence
- tbt

Correlogram
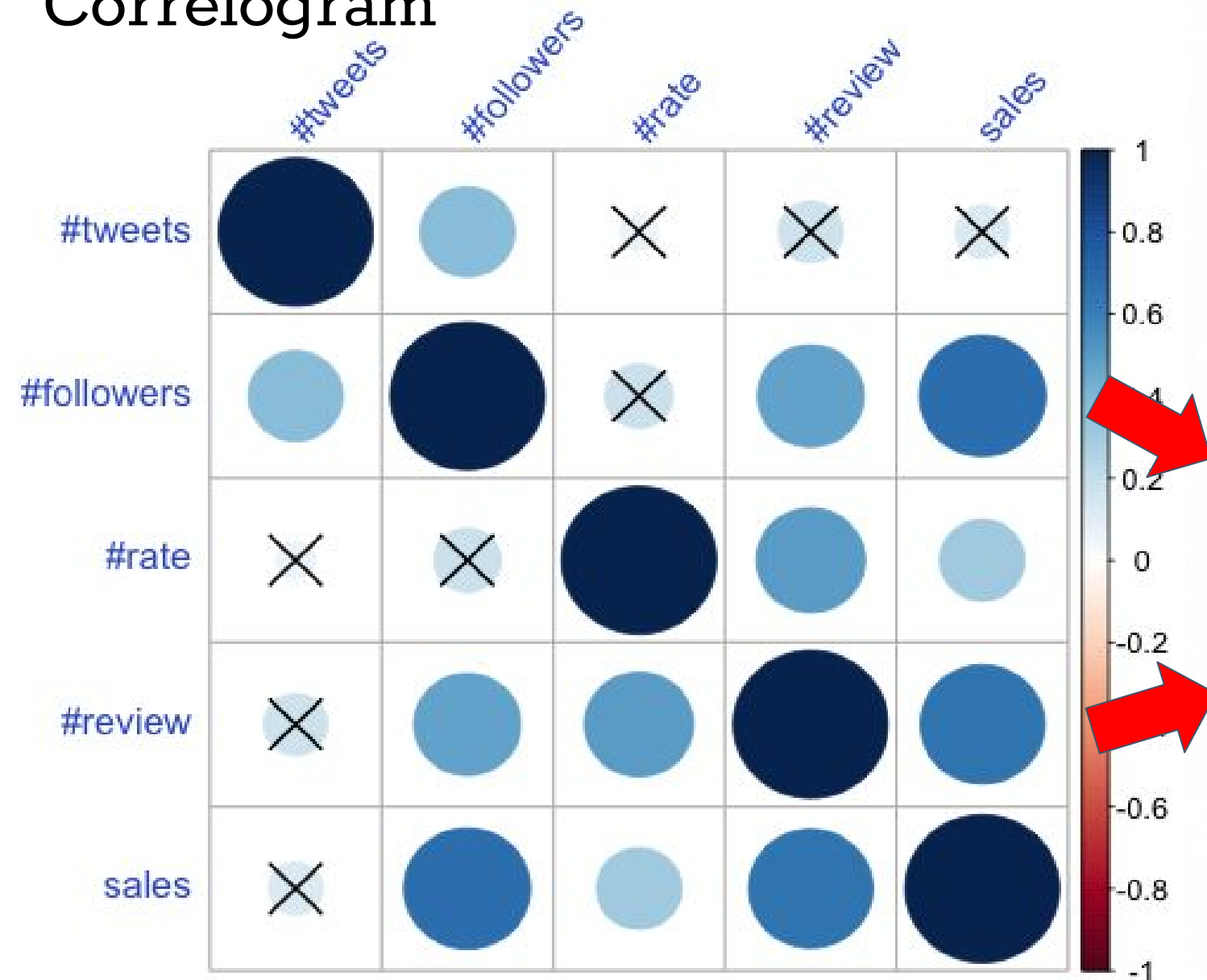
Significant Correlations:

1. number of followers vs. sales

2. number of reviews vs. sales

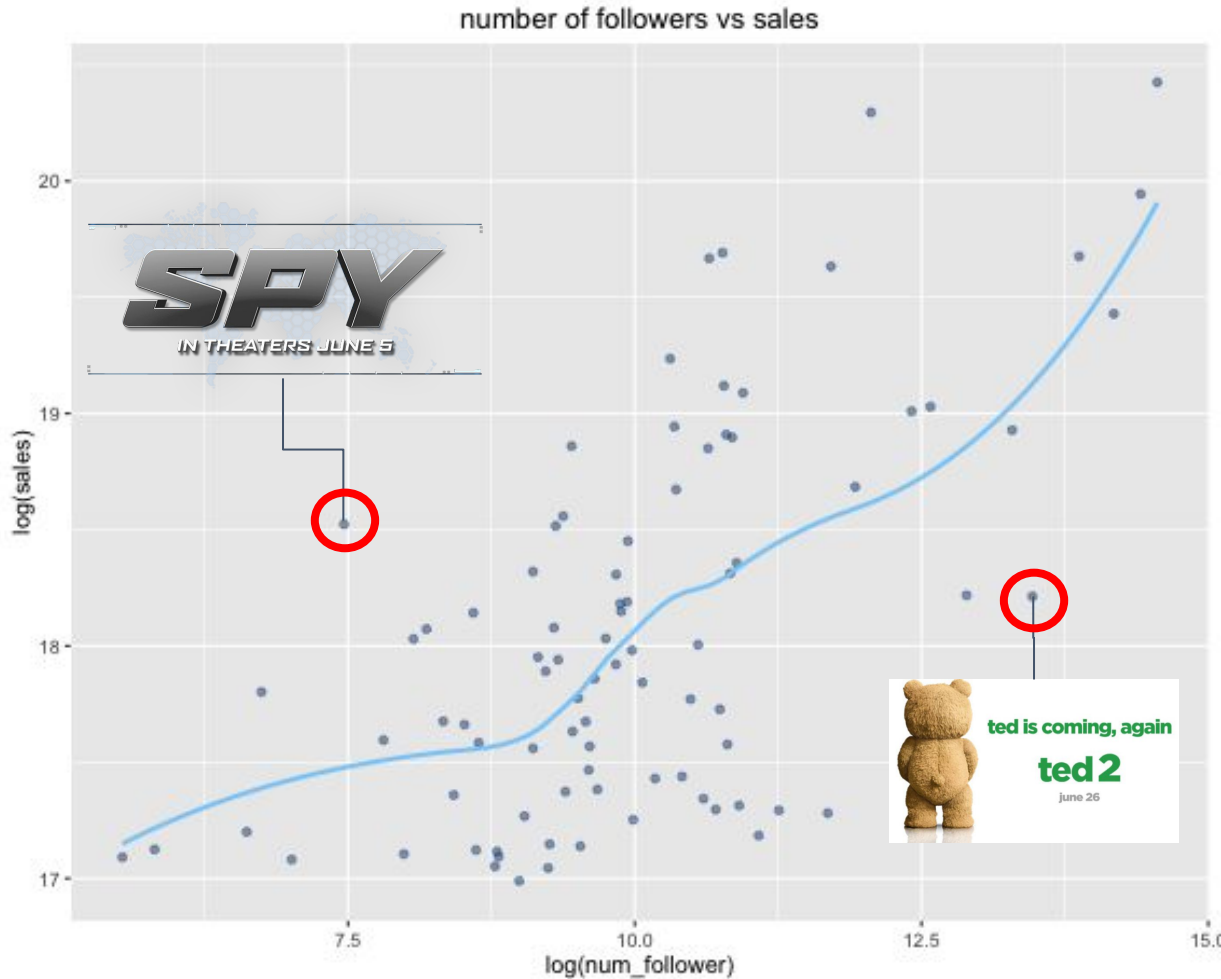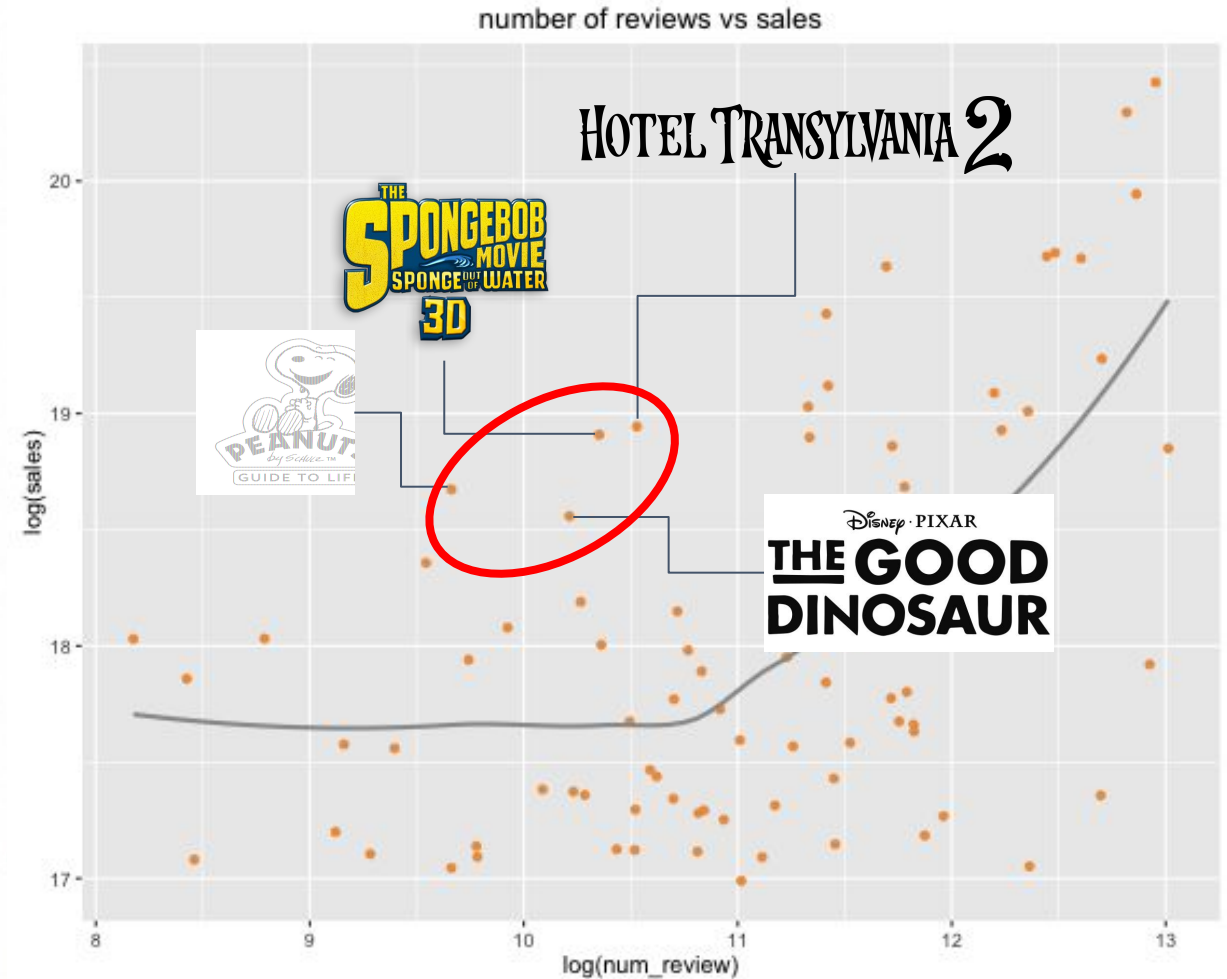# What twitter/IMDB account property reflects Sales/Rating?
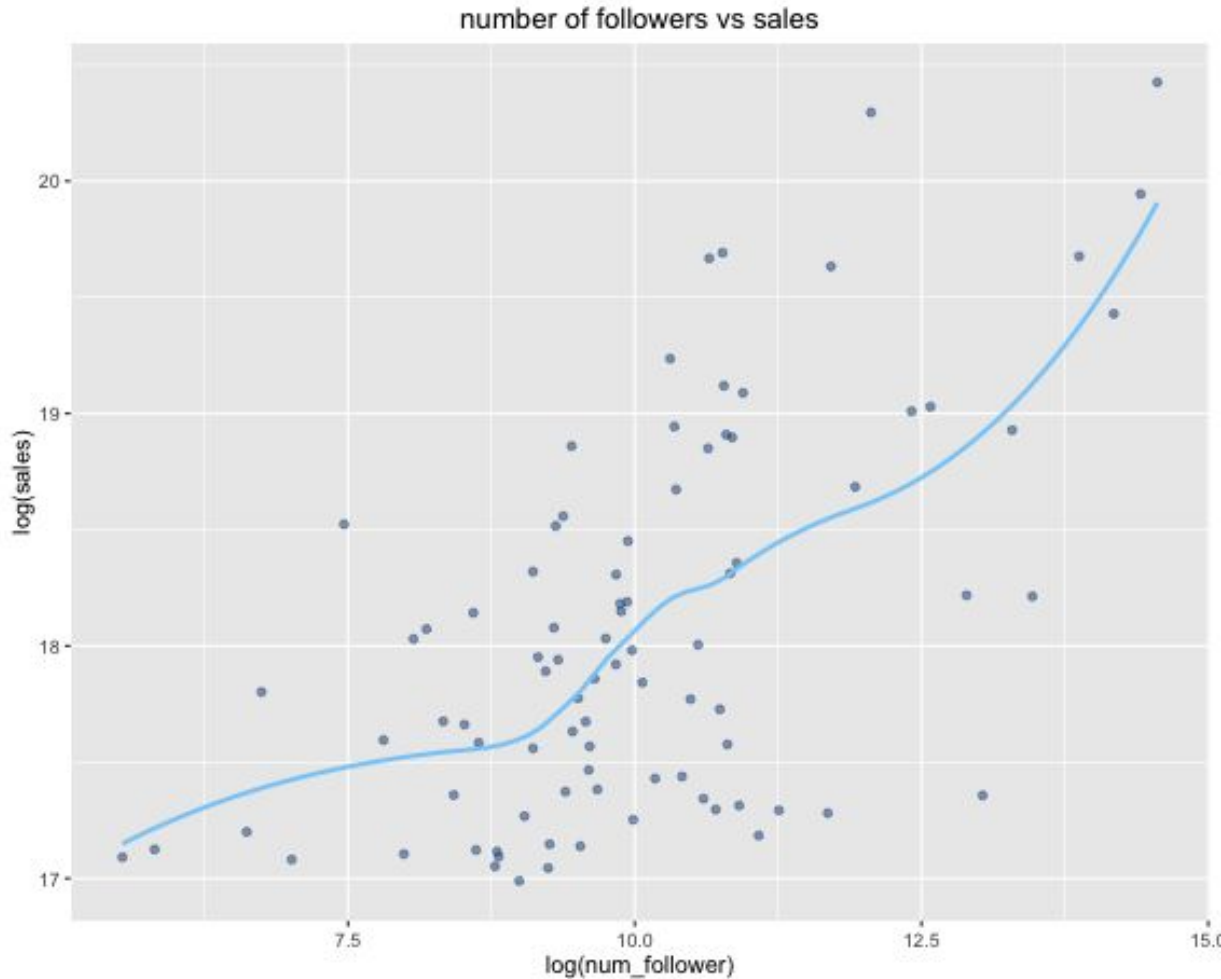
•Followers vs. Sales

•Reviews vs. Sales

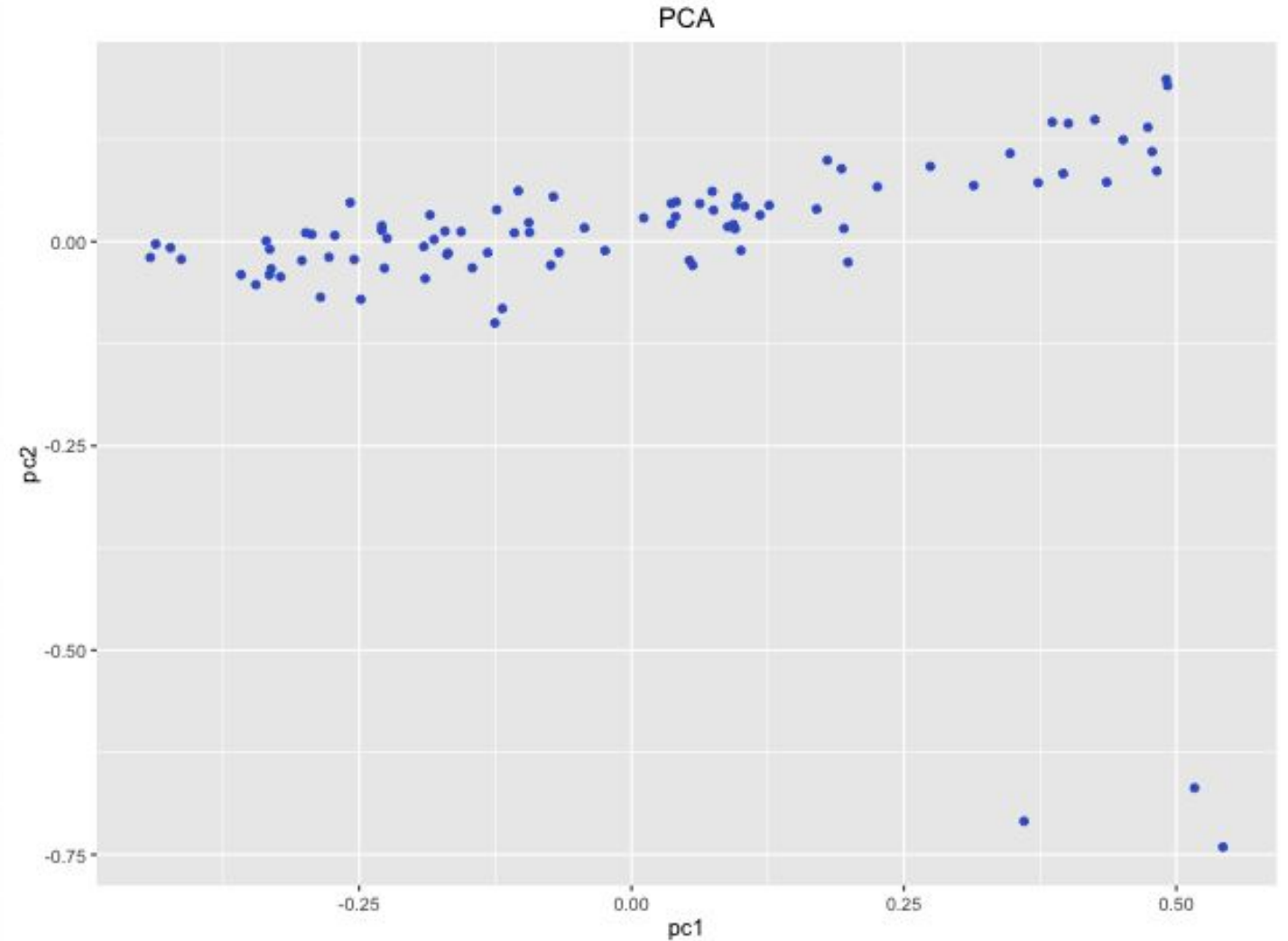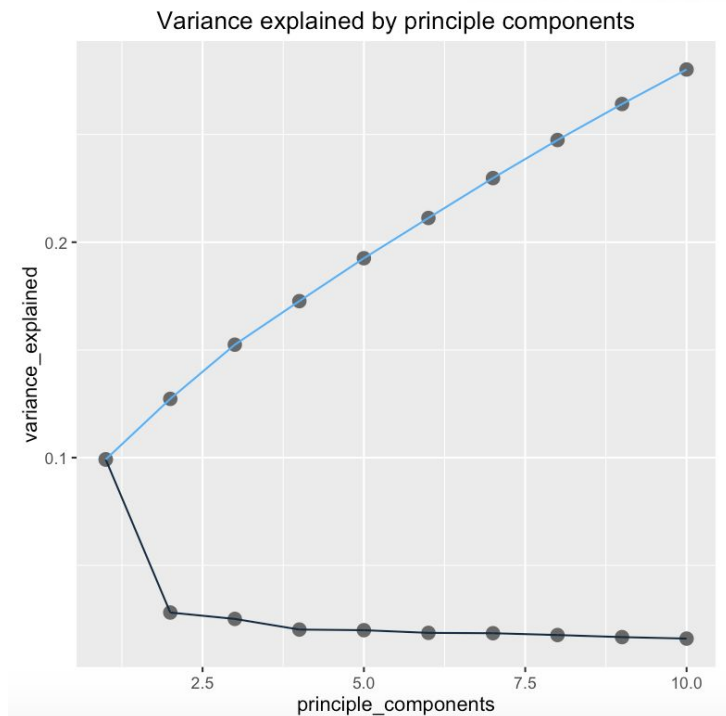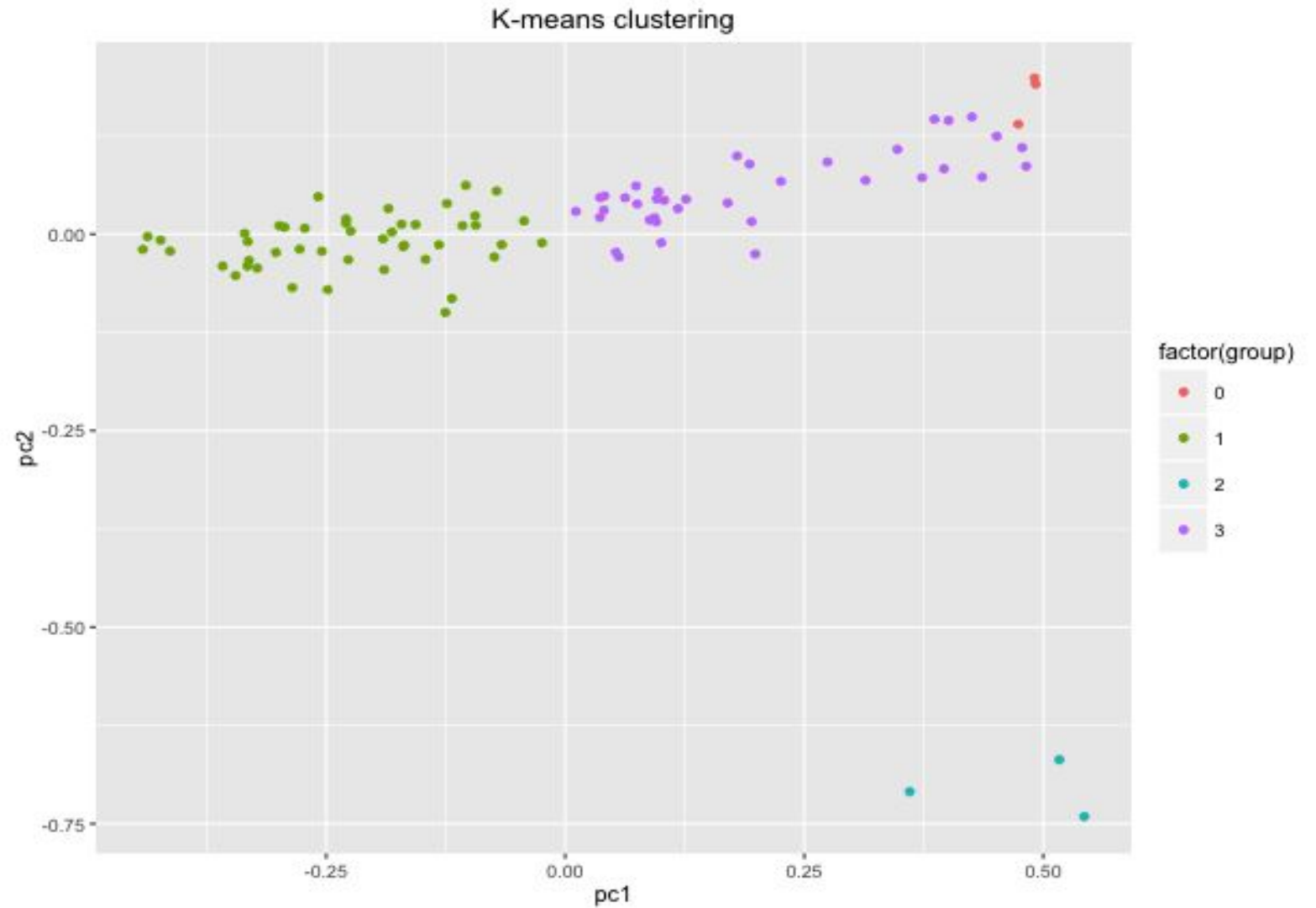# What twitter/IMDB account property reflects Sales/Rating?
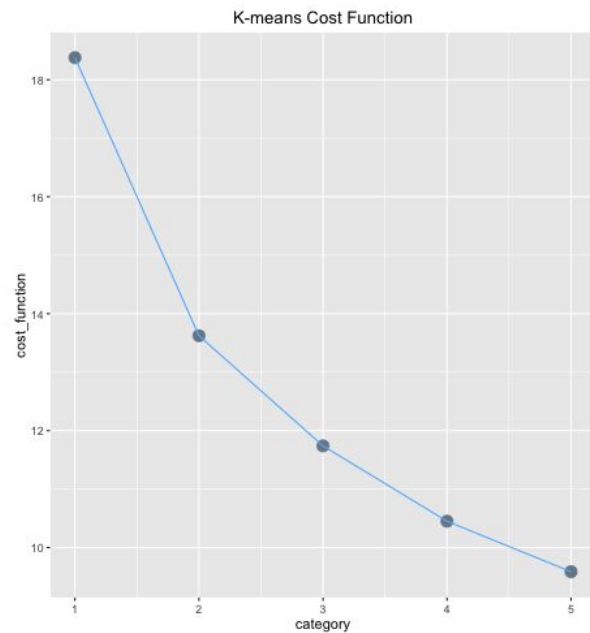
- Followers vs. Sales
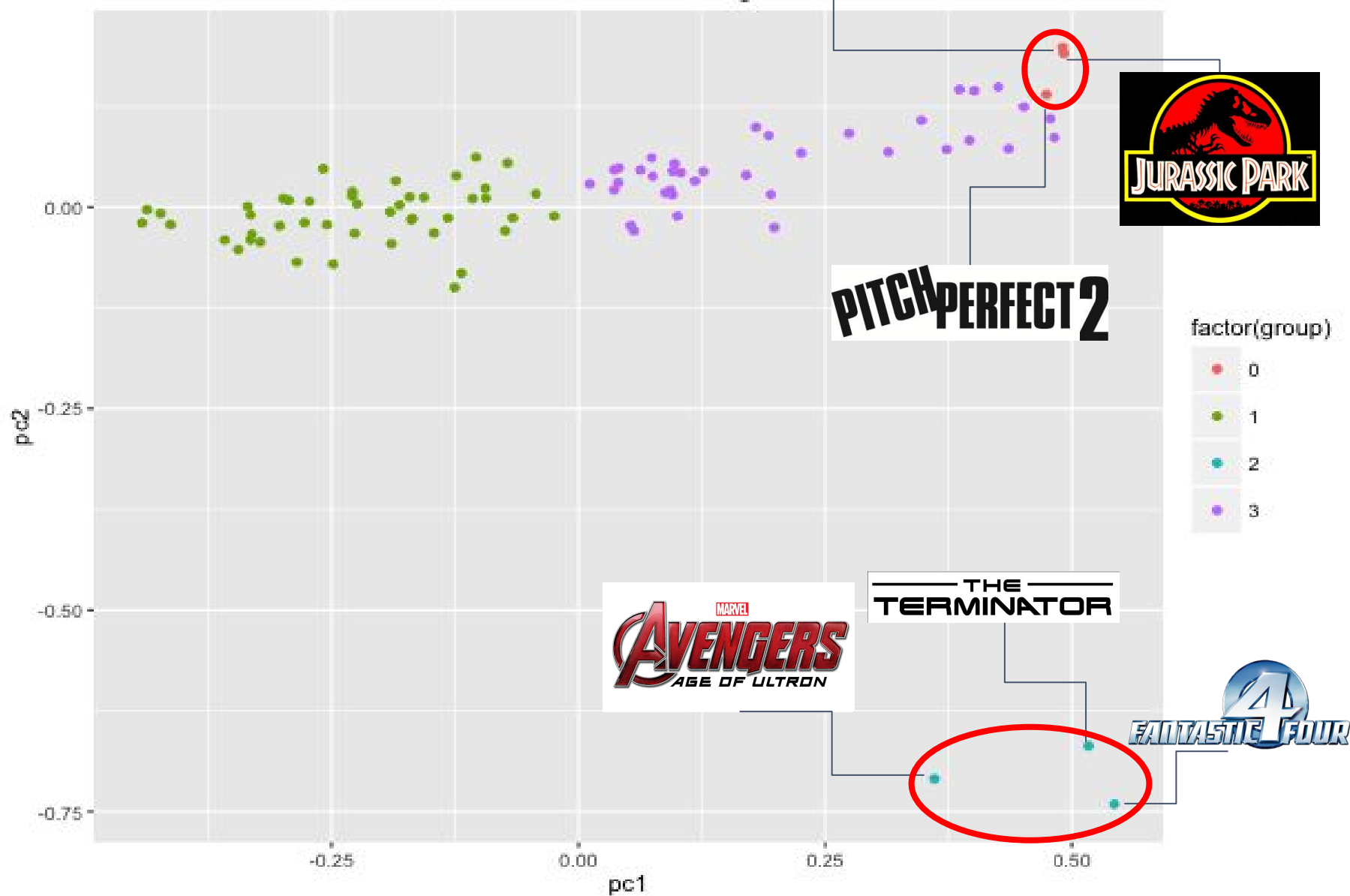
- Reviews vs. Sales

Principle Component Analysis & Data Visualization

K-Means Classification Algorithm & Anomaly Detection

K-Means & Anomaly Detection(Cont'd)

What resulted in outliers?

@TashaPuffs   Now you can get #PitchPerfect2! RT if you're ready for more music ♬ & extended scenes.
@_littlelena   Now you can get #PitchPerfect2! Retweet if you're ready for more music ♬& extended scenes.
@DanyelleWadswo1 Now you can get #PitchPerfect2! Retweet if you're ready for more music ♪& extended scenes.
@sofiesdad08   Now you can get #PitchPerfect2! RT if you're ready for more music ♬ & extended scenes.
@OfficiallyMoye Now you can get #PitchPerfect2! RT if you're ready for more music ♪ & extended scenes.

@SapphireZebra   It's unlocked! Watch the new @Avengers trailer & get tix now.
@allanc234   It's unlocked! Watch the new @Avengers trailer & get tix now.
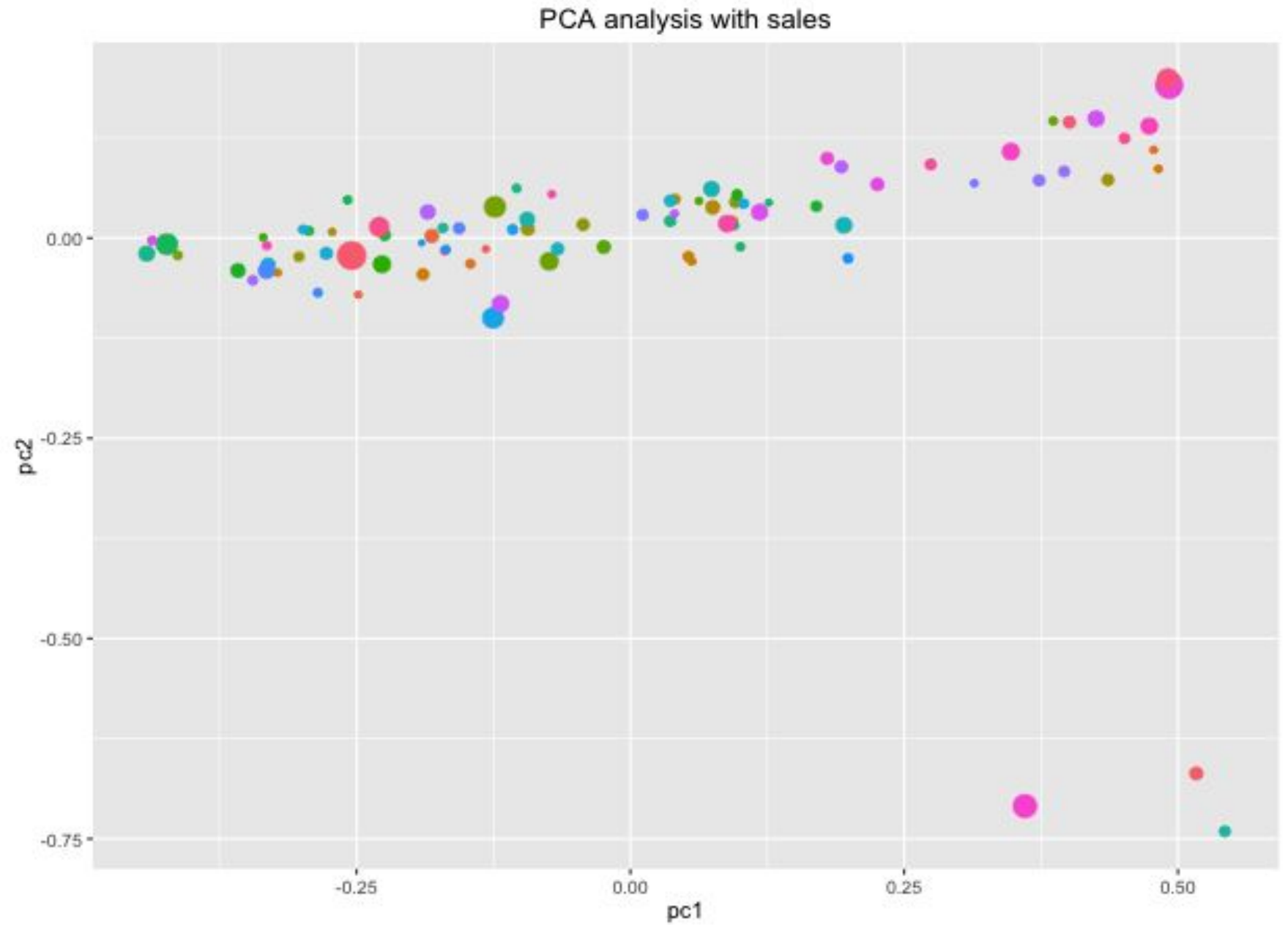@RhysMillham   It's unlocked! Watch the new @Avengers trailer & get tix now.
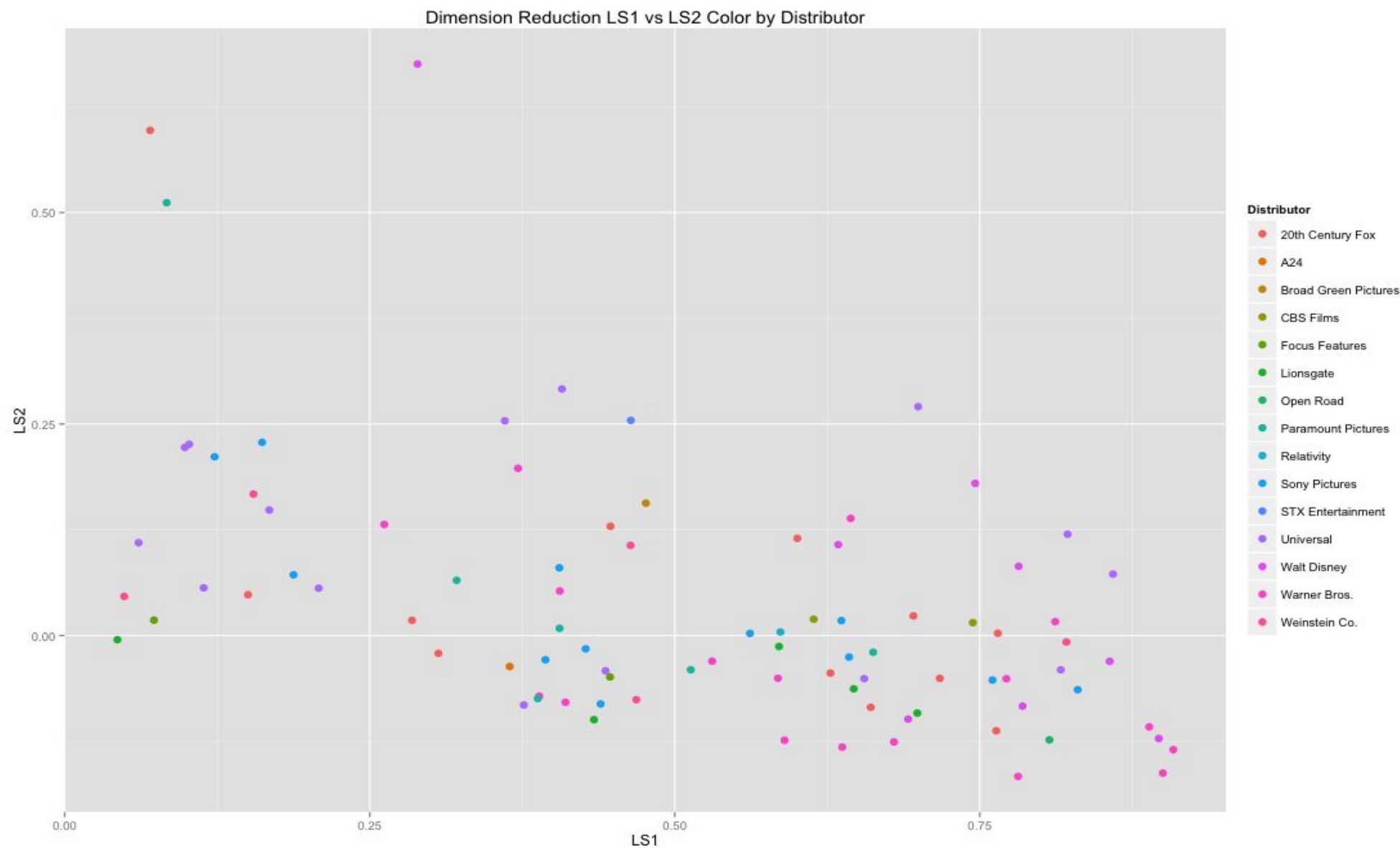@Kebabycakes   It's unlocked! Watch the new @Avengers trailer & get tix now.
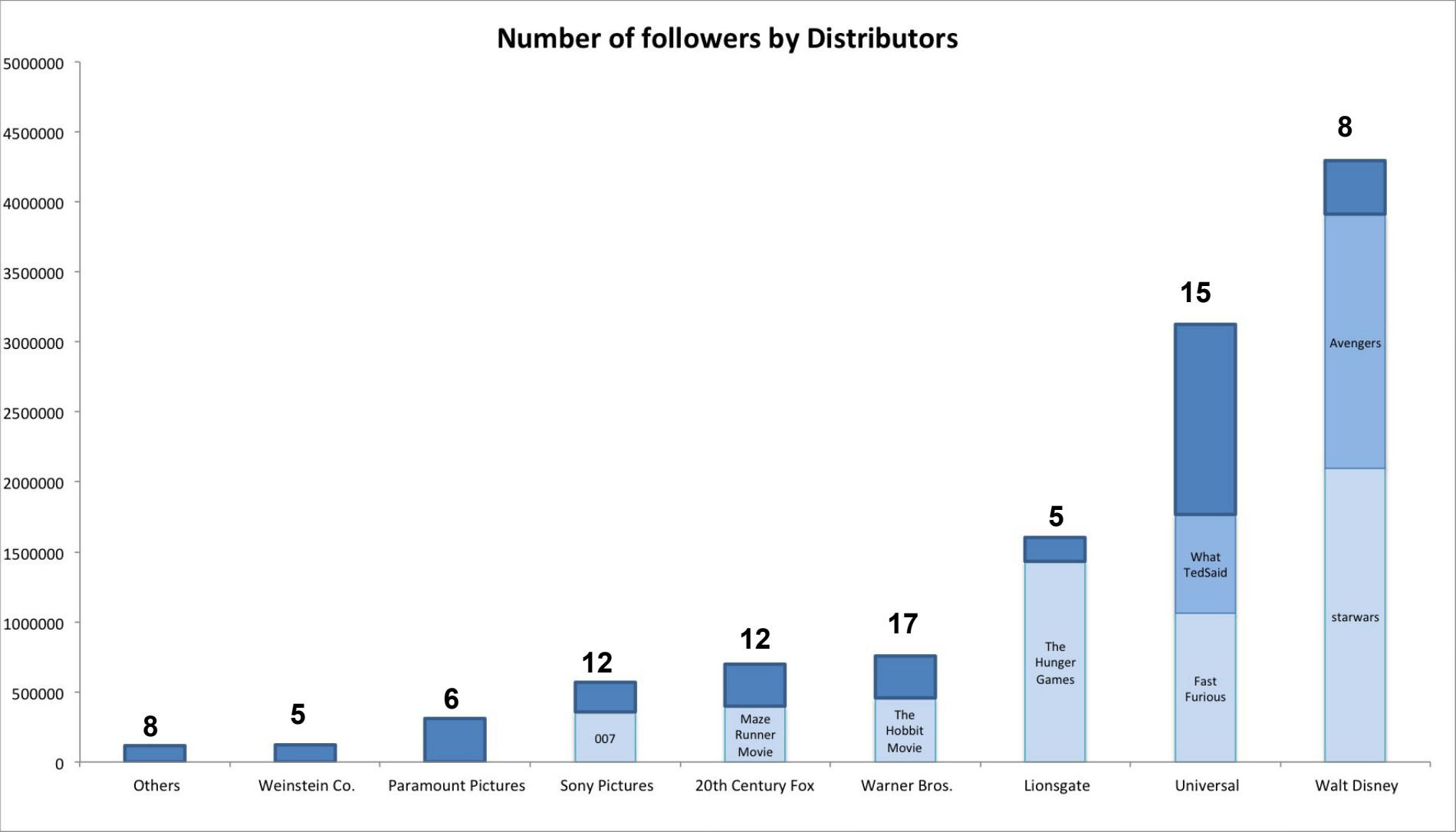@loolz_7   It's unlocked! Watch the new @Avengers trailer & get tix now.
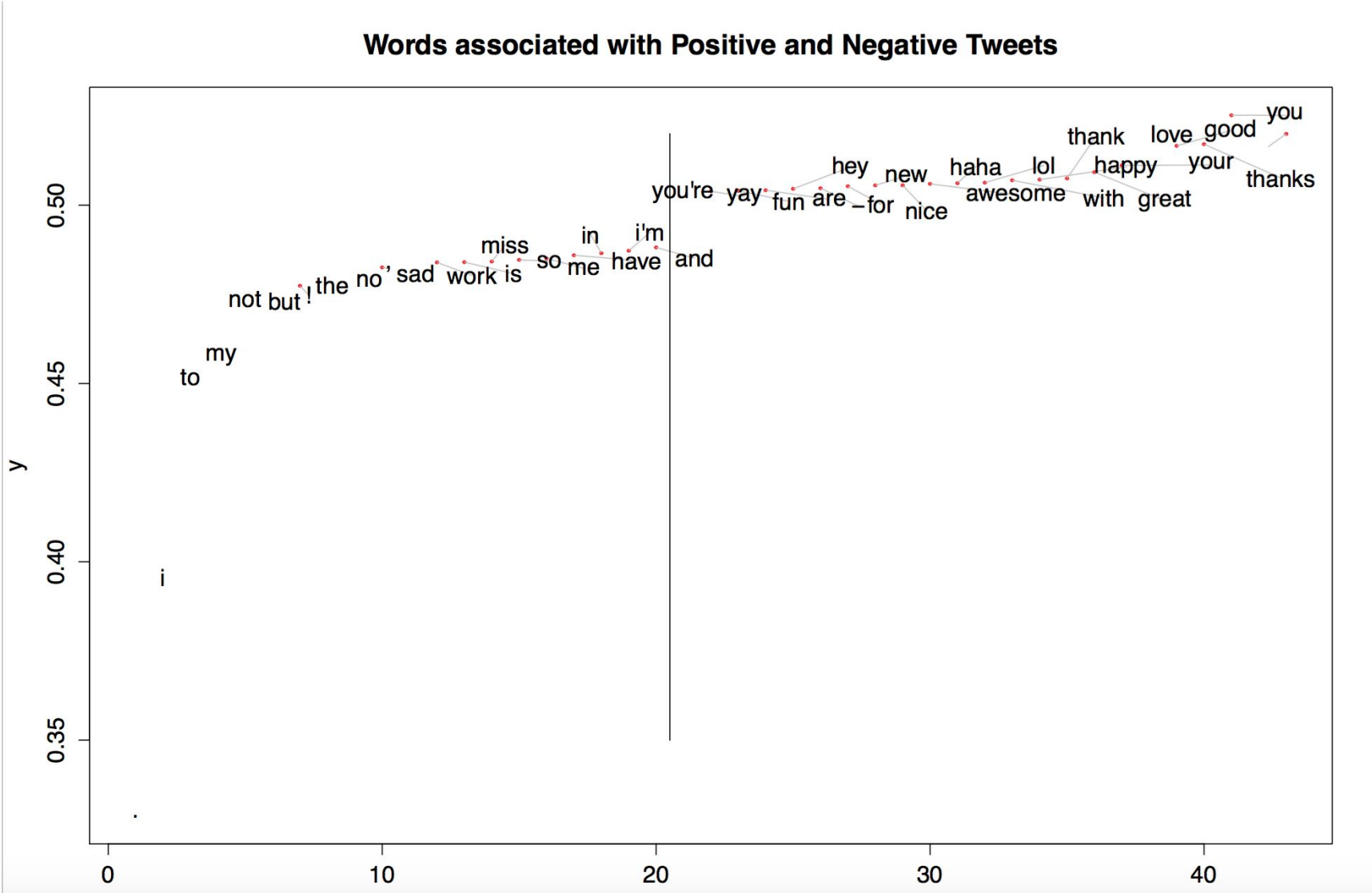
PCA with Sales

PCA analysis with sales

Latent Semantic Analysis with Distributors

Dimension Reduction LS1 vs LS2 Color by Distributor
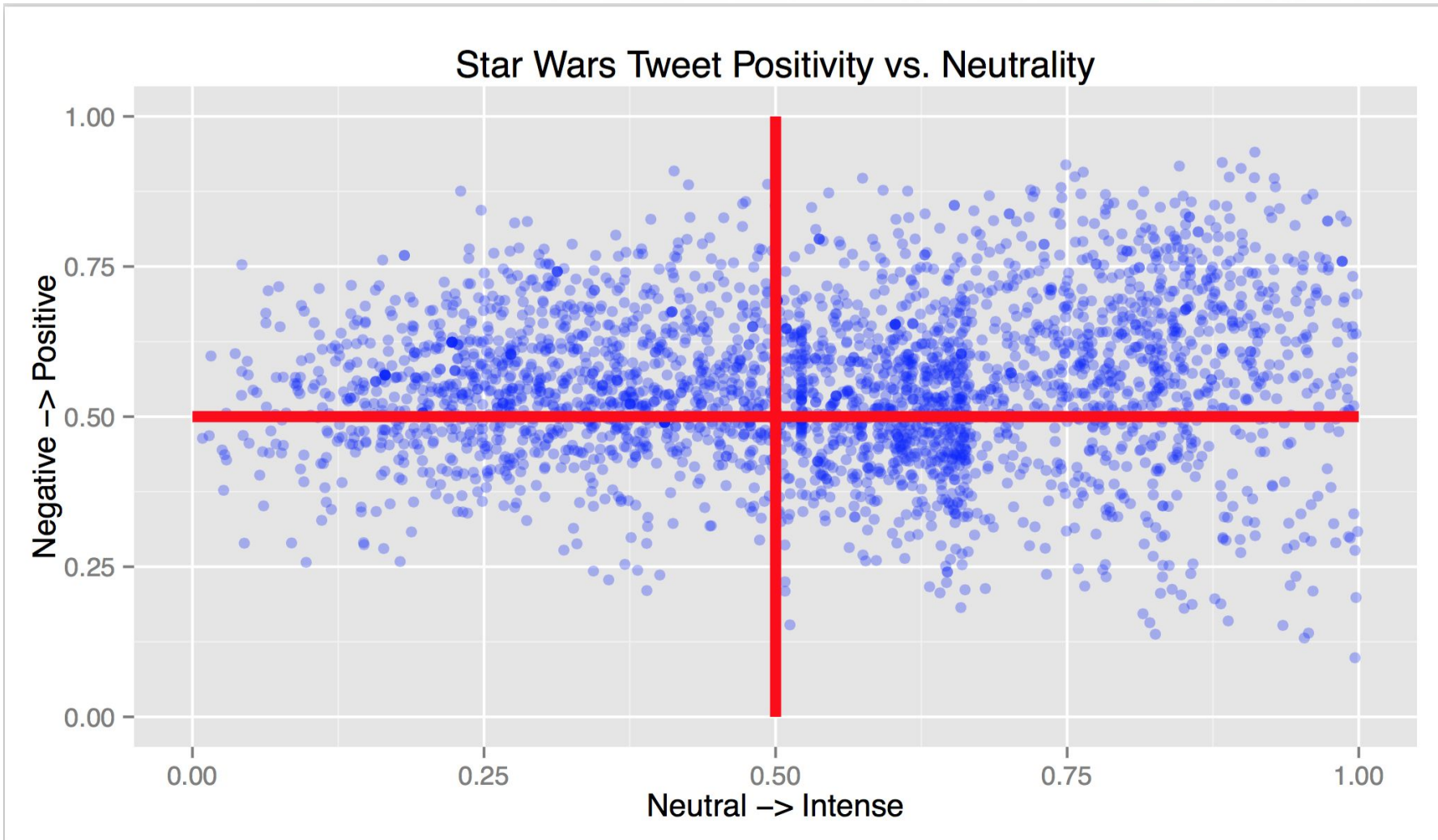
Number of followers by Distributors

Number of followers by Distributors

Words associated with Positive and Negative Tweets

Sentiment Analysis for the new StarWars

Sentiment Analysis of Twitter Keywords