

A stylized world map in shades of blue, overlaid with various social media and communication icons. The icons include profile pictures, speech bubbles, a hand holding a lightbulb, a thumbs up, a heart, an envelope, and an @ symbol. The background has a dark blue, textured appearance with some white dots.

Social Analytics for BI

PART A

Volume

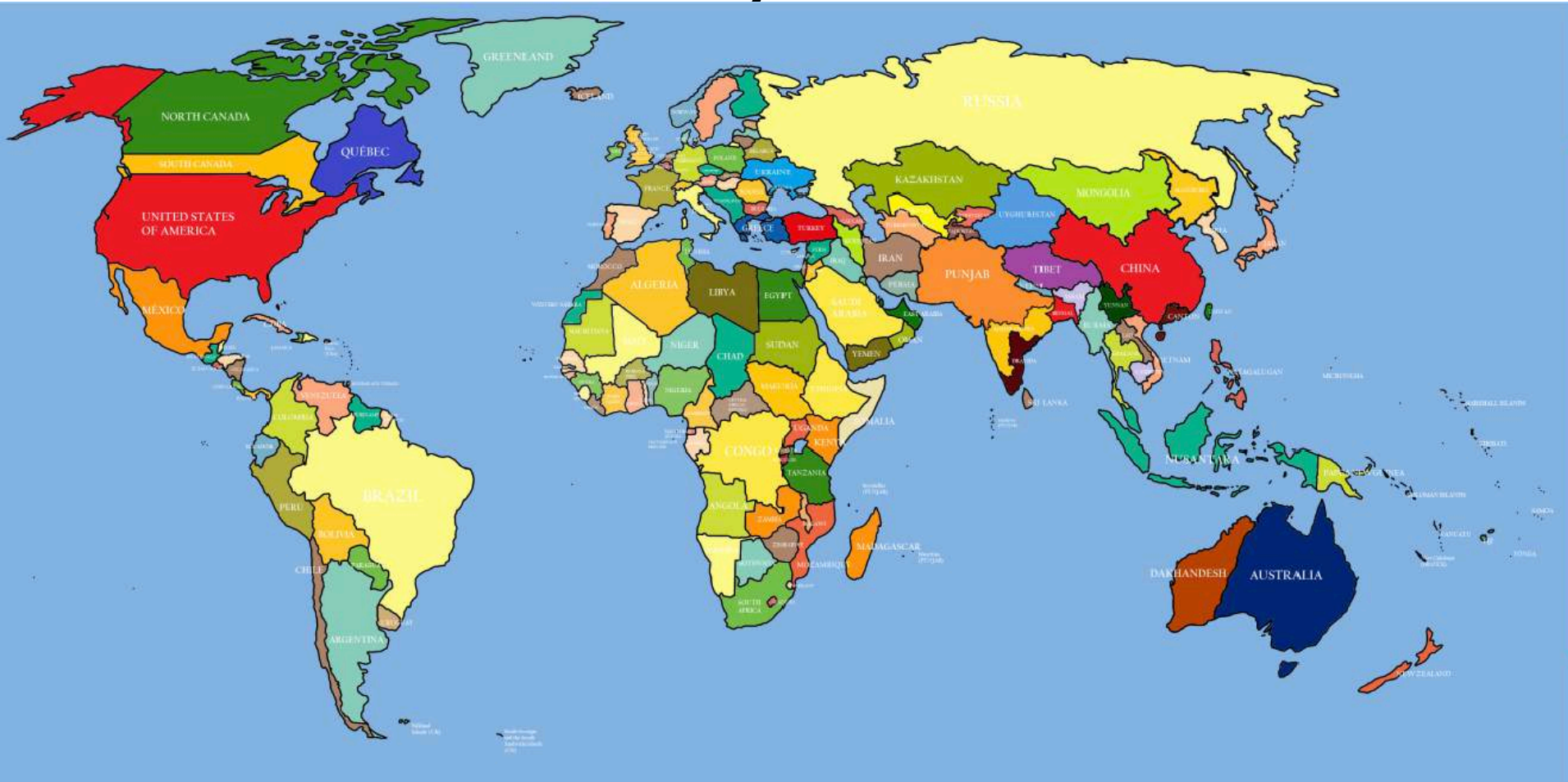
- Coverage:

- Millions of enthusiast forums
- Tens of millions of blogs and news sites
- Numerous video sites
- Hundreds of review sites (all vertical markets)
- Specialty microblogs (i.e. Sina Weibo)

- Hundreds of millions of new conversations regularly added to the index

- Billions of conversations accessible about any topic imaginable

How many countries?



45 languages 196 countries

Fastets growing countries

China

SE Asia

Russia

Europe

Brazil

Africa

How fast?

- **Depends on the type of site**
 - Many are real-time (within minutes of being posted)
 - Some are “near real-time” (within 24 hours of being posted)
 - Some are longer due to site restrictions
- **But in all cases, data is available to help determine instant trending and deeper, longer term analytics**

How long?

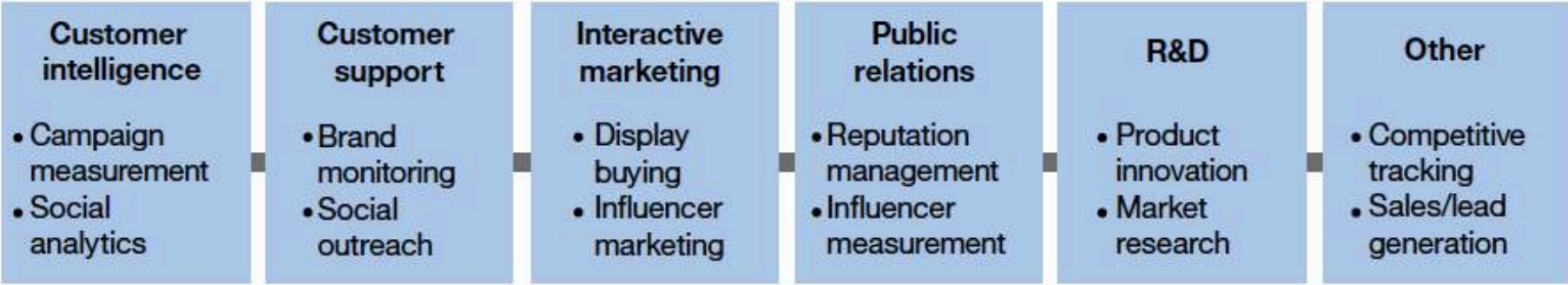
- If something is free, you are the product
- What happens on the Internet, stays on the Internet, **FOREVER**
- Somebody is always trying to figure out who you are, what you do, and what your future might hold, for whatever reason they desire, irrelevant of what you want them to know

“Watch what you put online”

Data
Comments Forums Twitter Social networks Blogs Ratings/reviews



Data processing



LISTEN

Communication Channels and Interaction Data

I want to ...



Direct Communication

What your customers are saying to you directly.

I have a problem



Social Communication

What your customers are saying to you socially.

How do I...?



Inferred Behavior

What actions your customers are taking.

I need help



ANALYZE

Contextual, Text, and Demographic Analysis



Topic & Sentiment Analysis and Categorization



Emerging Topic and Trend Identification



Advanced Insight Reporting and Root Cause Analysis

ENGAGE

Automated and Intelligent Customer Engagement

- Case Creation
- Auto-routing
- Incident Escalation
- Engage Influencers
- Mine Knowledge



Customer Experiences

DESIGN BETTER EXPERIENCES

- Experience Flow Optimization
- Tailored Content
- Proactive Alerts
- Feedback to Other Organizations

Service Manager

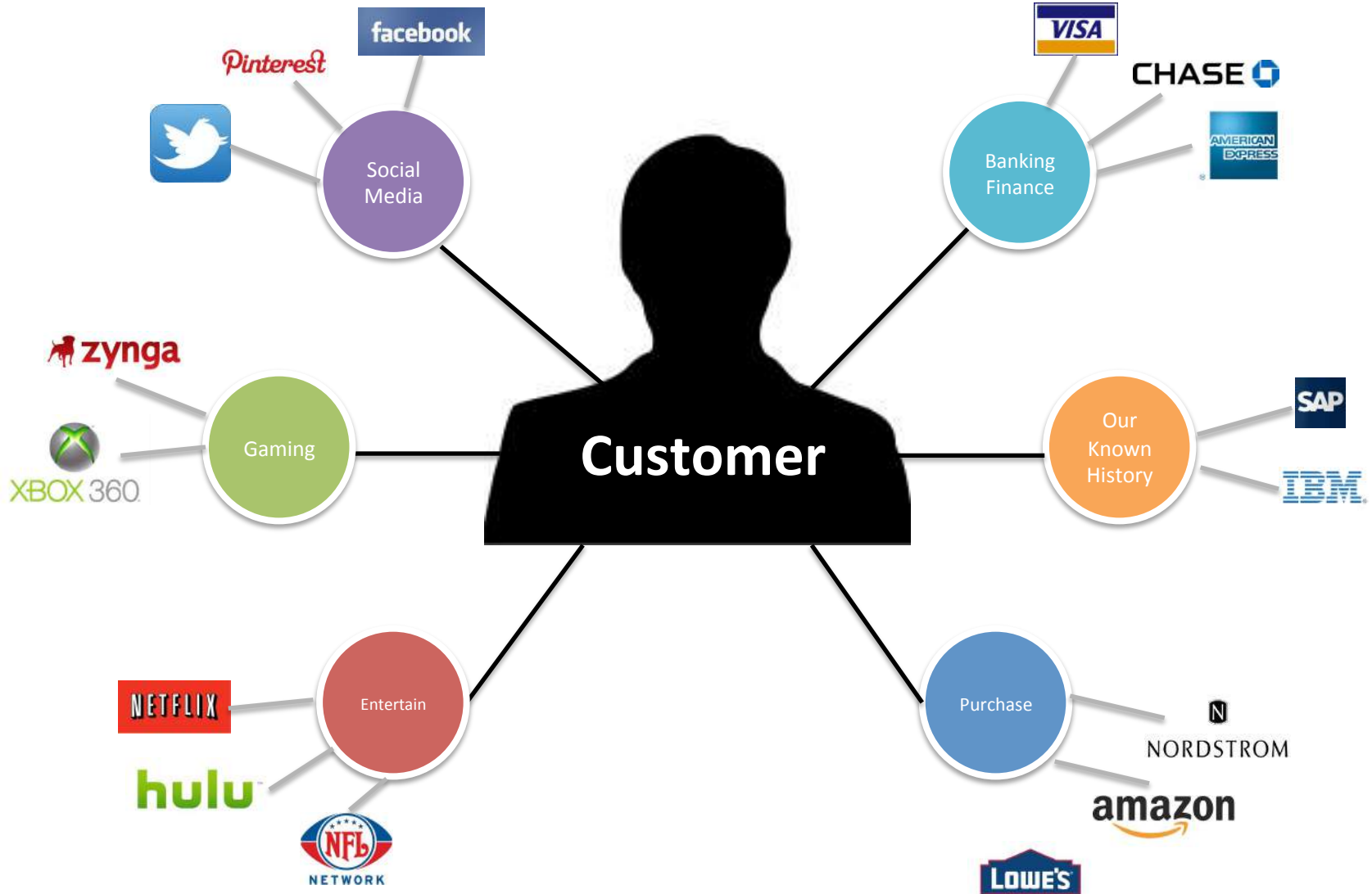
Social Media and its impact

- Social networking, blogging, and online forums have turned the Web into a vast repository of comments on many topics, generating a potential source of information for:
 - social science research
 - market and politics forecasts
 - syndromic surveillance
 - information warfare
 - new opportunities for media communication

Social media revolution

- Changing the way individuals and organizations engage, interact and collaborate
- New opportunities for real time analysis and predictive analytics creating insight from more and more data
- Appealing for business, public bodies and scientists (both ICT and social scientists)

A Single View to the Customer

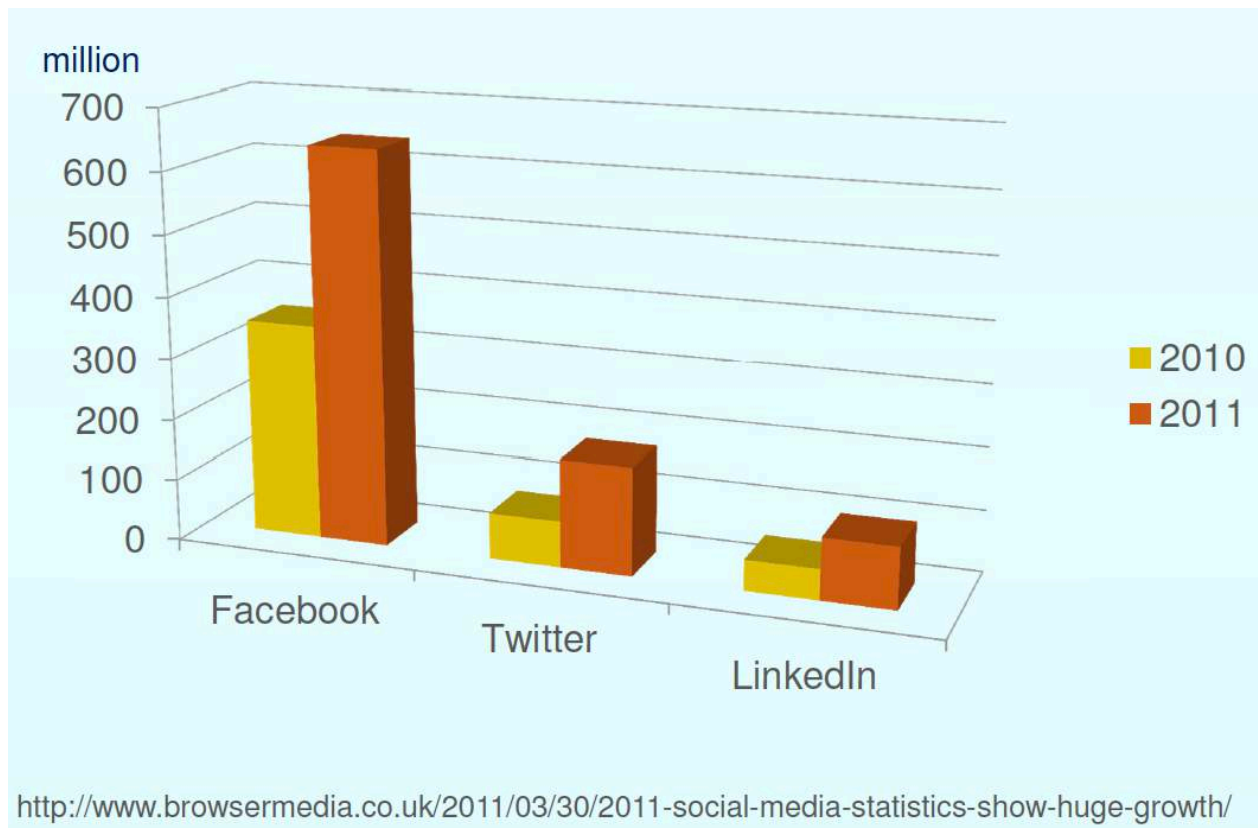


Social Analytics Applications

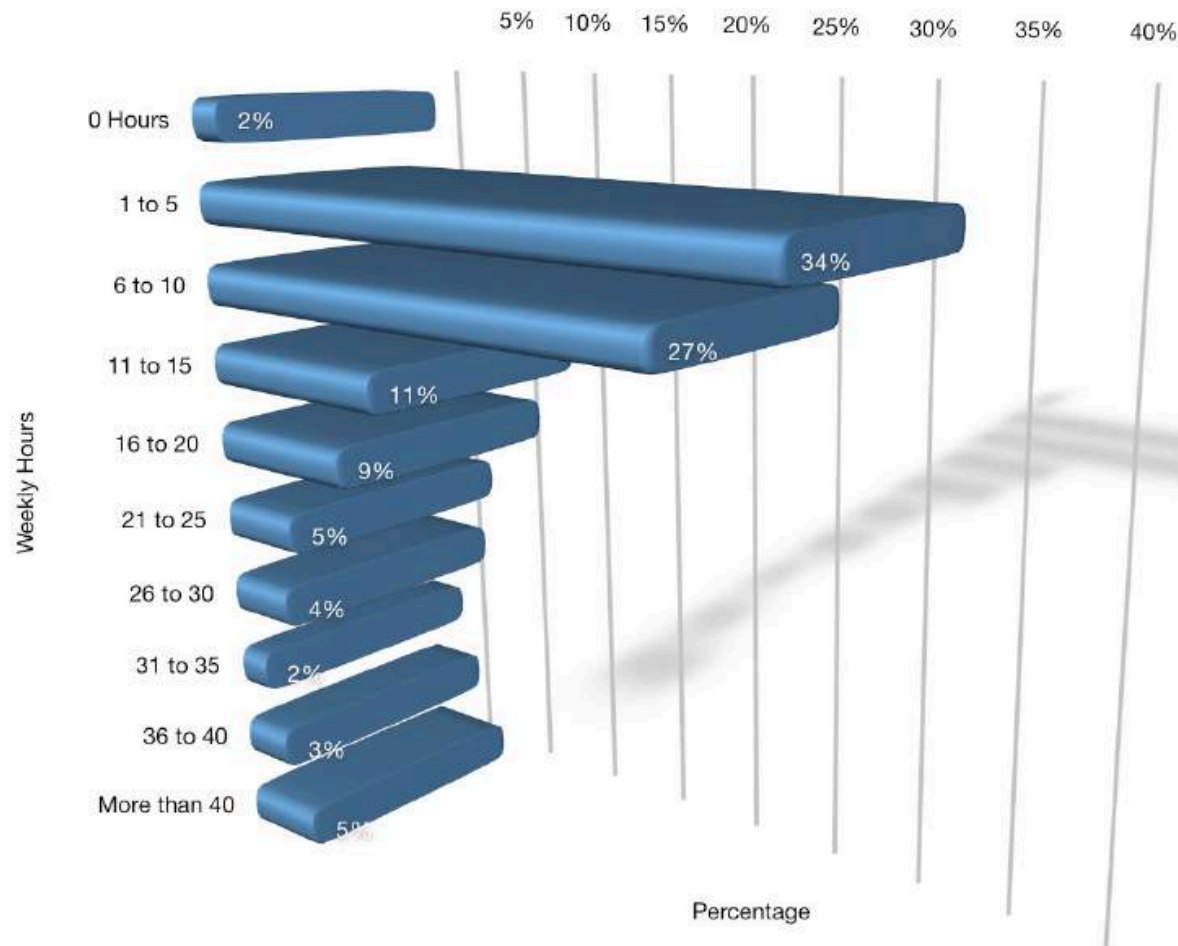
- Brand Monitoring - Track everything important to your brand in real-time
- Sentiment and Reputation Analysis - Understand what people really think about your brand
- Twitter and Influencer Analysis - Find out who key influencers are and what they're saying
- Campaign Management - Track campaign results and get alerted when anything important happens
- Trend Hunting - Spot trends and tendencies the moment they're born
- Mobile Management - Manage your brand and even read articles offline on your iPhone, iPad, Android or mobile device

How big is “social media”?

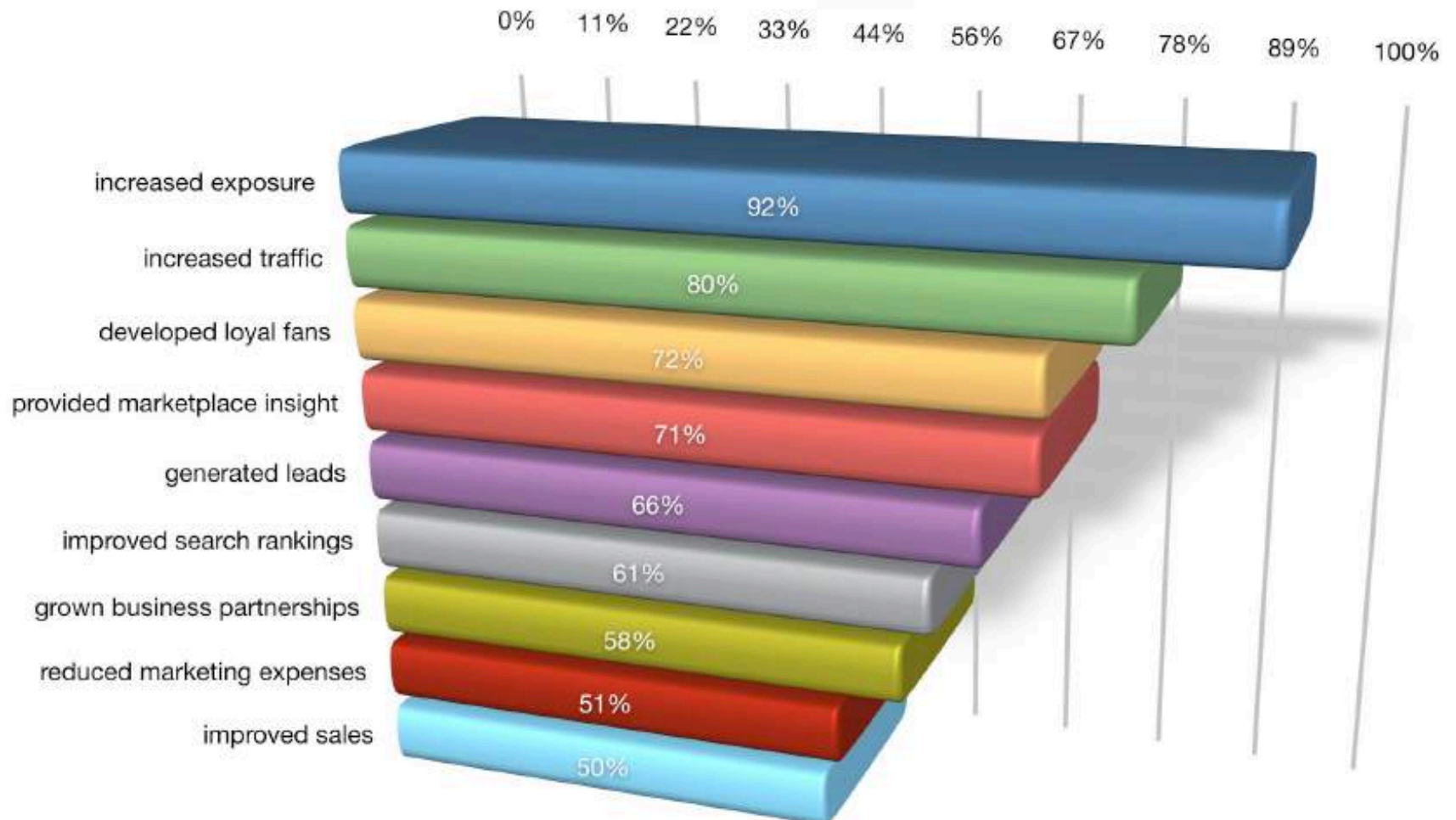
- **72% of Internet users** are part of at least one social network, which translates to **940 million** users worldwide



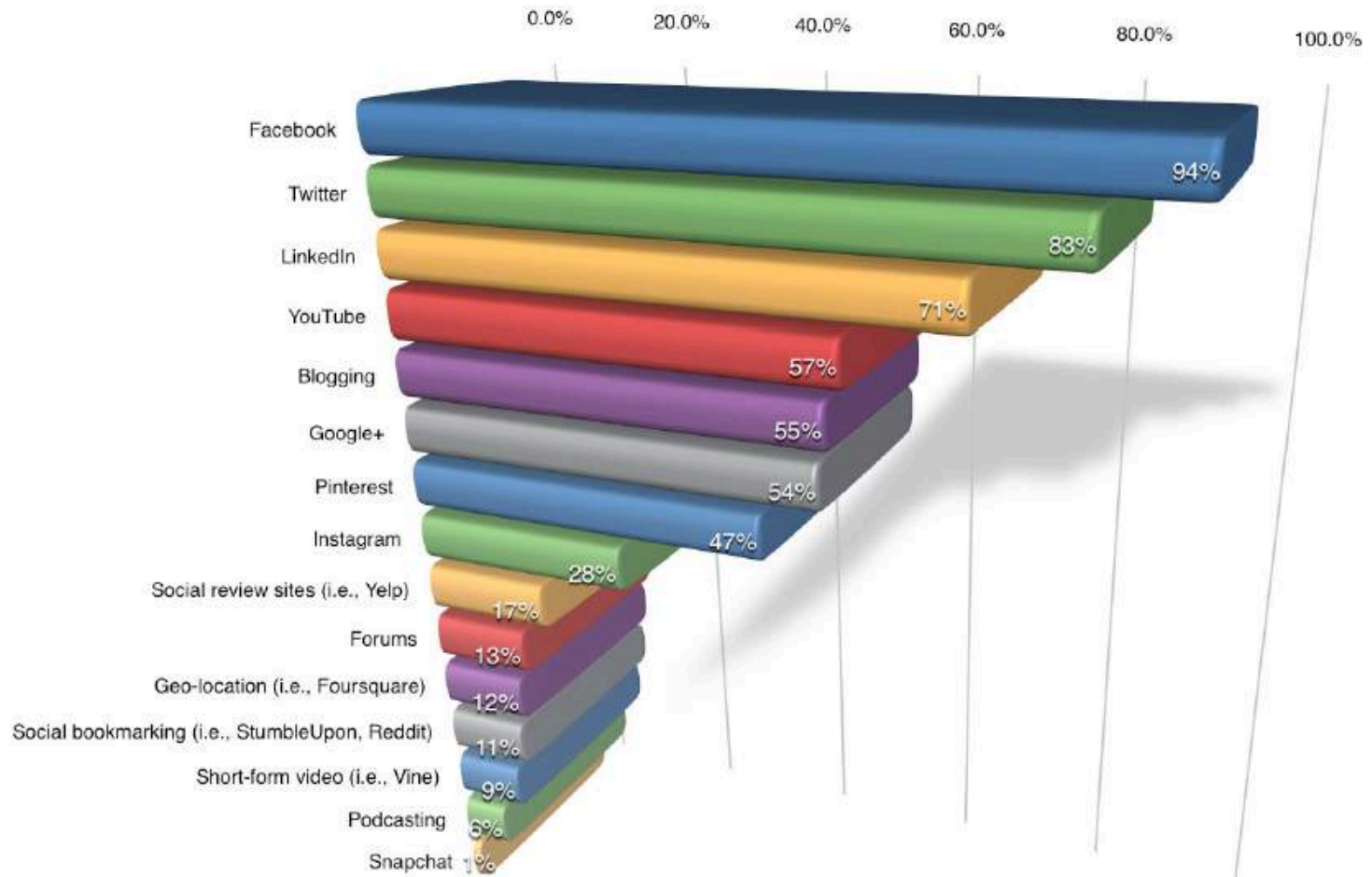
64% of marketers use social media more than 6 hours weekly



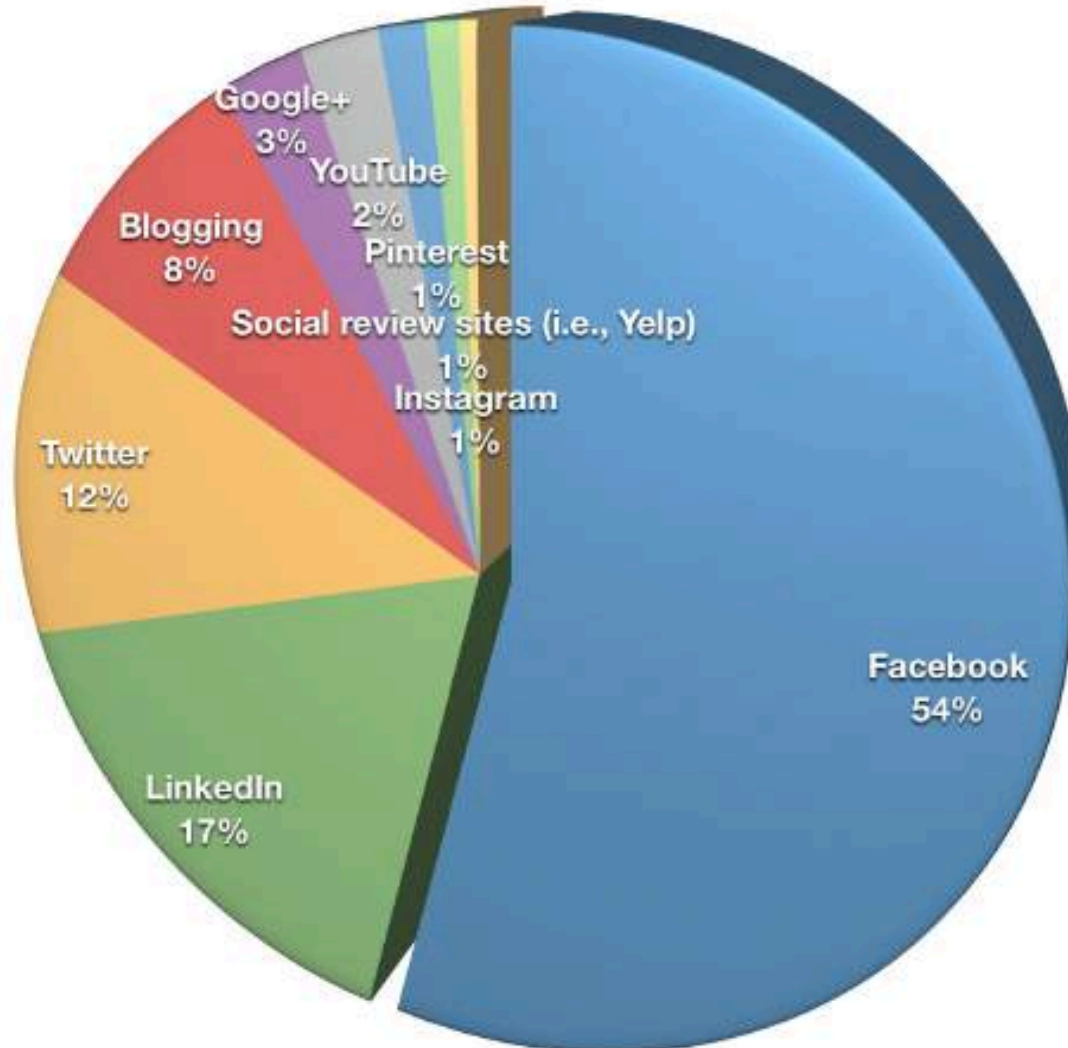
Benefits of social marketing



Commonly used social platforms



The most important platform for marketers is..



Impact on common users

- **“Only 14% of people trust advertisers yet 78% of consumers trust peer recommendations.”**

Erik Qualman’s book “Socialnomics”, 2009

Impact of Social Media



Impact of Social media

- Why are social networks and social analytics important for **media**, **business** and **public bodies**?
- **“If you wish to persuade me, you must think my thoughts, feel my feelings, and speak my words.” (Tullius Marcus Cicero)**
- Social media are the new data source to better engage **audience/ customers /citizens**

Impact of Social Media on Products

- General Motors cancels '*Hideous*' Buick SUV after "*Would-Be Customers*" on Twitter!
- ONE week after announcing a new Buick SUV Christopher Barger, GM's spokesman for social media said: "*The decision was based on customers' input - face-to-face, blogs and tweets. No matter how they expressed it "they just didn't like it."*"

<http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aHsoNjdHUQLY>

Impact of Social Media on Products



- Del Monte created a new “hot-selling” dog food snack in 6 weeks
- Used a social community to *source for creative ideas (crowdsourcing)* and create a new product
- Demonstrates the potential power of social media marketing to influence product sales

http://www.youtube.com/watch?v=yP_3bpCPZaQ

Impact of Social Media on Organisations

Nestlé vs Greenpeace Palm Oil from Destroyed Rainforest

- Nestlé, maker of Kit Kat, uses palm oil from companies that are trashing Indonesian rainforests, threatening the livelihoods of local people and pushing orang-utans towards extinction.
- Nestlé persuaded YouTube to remove Greenpeace's video
- Storm ensued on Nestlé Facebook page
- TWO months later, Nestlé announced a “zero deforestation” policy in partnership with The Forest Trust (TFT)

*“Social media: as you can see we're learning as we go.
Thanks for the comments.”*

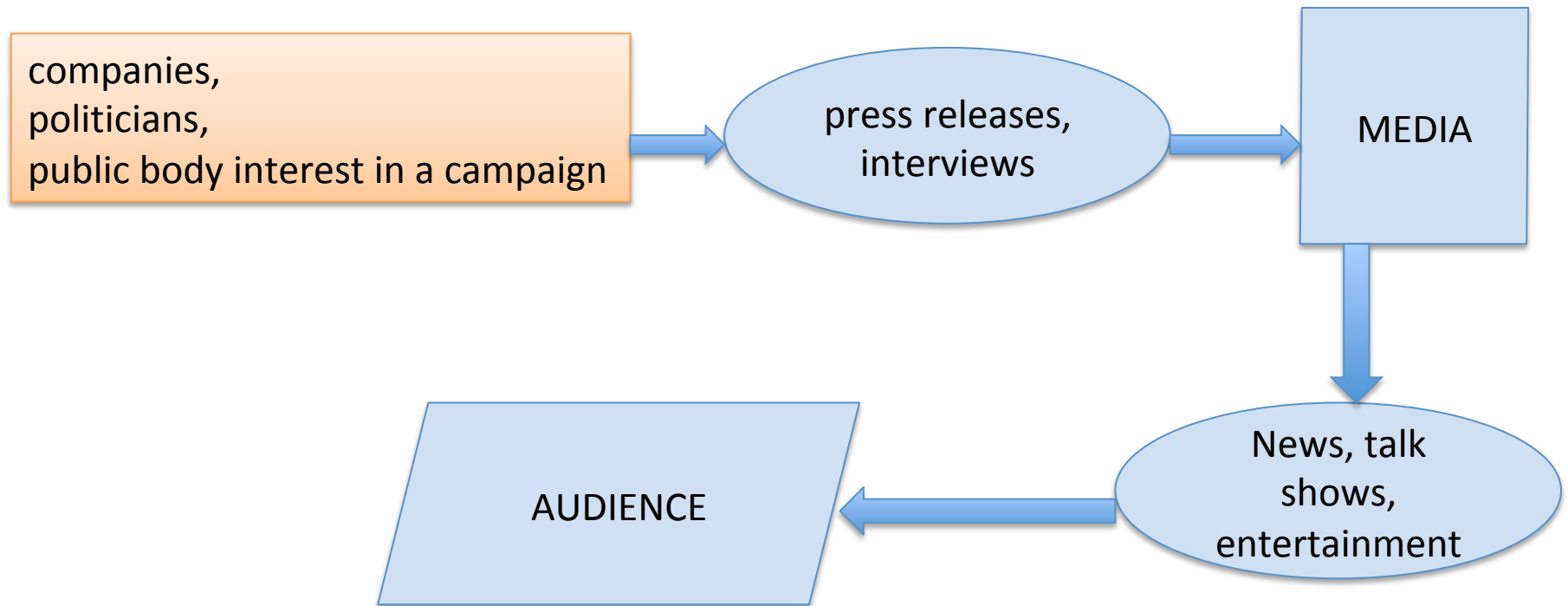
Impact of Social Media on Government

25th Jan 2011 Egypt Blocked Twitter and Facebook!



Egyptian protesters have openly thanked social media's role in the revolution against the country's ruling government.

Social Networks also impact on **media** **and communication**



Traditional method to reach audience

The social media revolution



Oscar Giannino xFARE @gianninoxFARE
Nuntio vobis magnum gaudium: Stasera habemus @oGiannino a
#ballarò

companies,
politicians,
public body interest in a campaign



press releases,
interviews



MEDIA



News, talk
shows,
entertainment



panorao @PanOrao 11m
Ma **#Ballarò** va in onda per due settimane sia martedì che domenica?
...ci vuole proprio sterminare **#Floris**.



twitter, social
media, web
sites



AUDIENCE



Ufficio Stampa Rai @stampaurai 2h
Questa sera a **#Ballarò** Roberto Maroni, Luigi De Magistris, Oscar
Giannino e un'intervista a Silvio Berlusconi [ufficiostampa.rai.it
/comunicati_tv/...](http://ufficiostampa.rai.it/comunicati_tv/)

The ICT revolution and new media

- news media, websites, social media and Twitter can be used by audiences, **but also by stakeholders and the media** (**#partitodemocratico, #ballarò,..**)
- Audience members can publish their opinions in the new media but are also **influenced themselves** by opinions of others in the new media



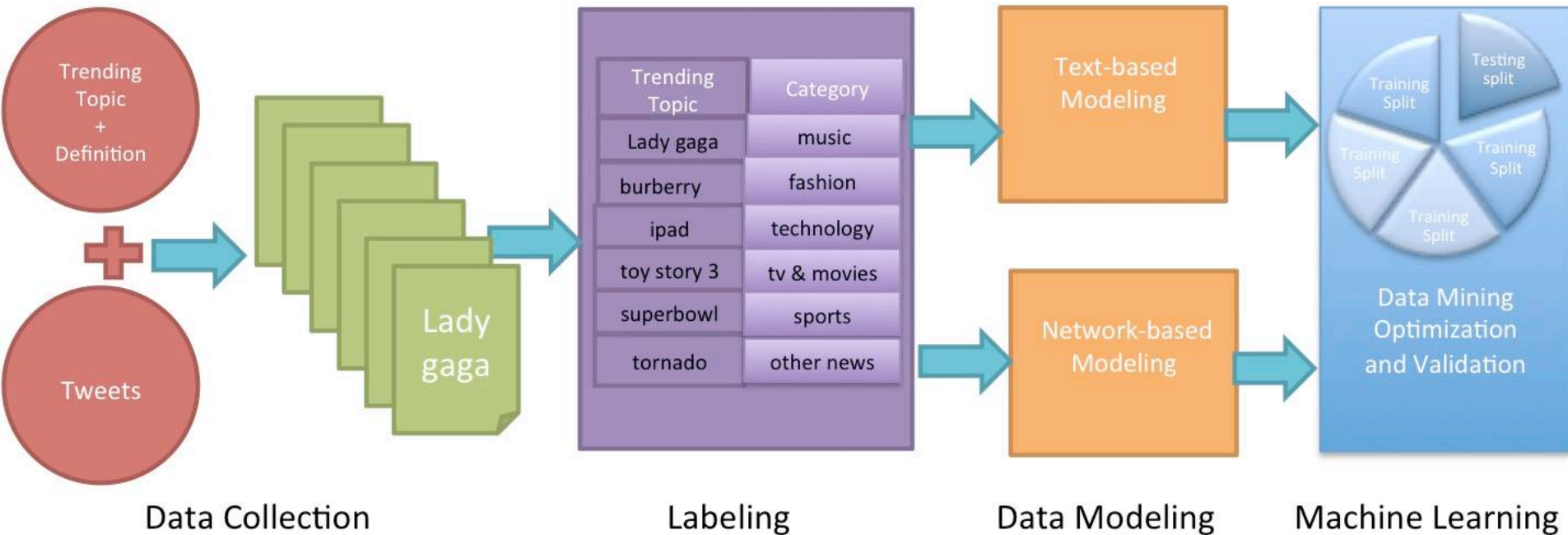
Marco Hanaman @Fare2013Hanaman

«La nostra risposta a Berlusconi è semplice: per noi i voti inutili e dannosi sono quelli a lui, al Pd e a Monti» #Fare2013 #OGiannino

Social mining: extracting information and knowledge from social networks data

- What kind of data?
- Network-based:
 - **Meta-data**: user profiles, friendship information, likes, follows, mentions,..
 - **Graph structures**: social relationships (friendship, messaging, collaboration..) between entities (individuals, organizations)
- Text-based:
 - **Conversational structures**: emails, threads, messages (tweets)
- **Meta data and network data are structured information, conversations are unstructured (TEXT!!)**

Extracting Social Network data for BI: workflow



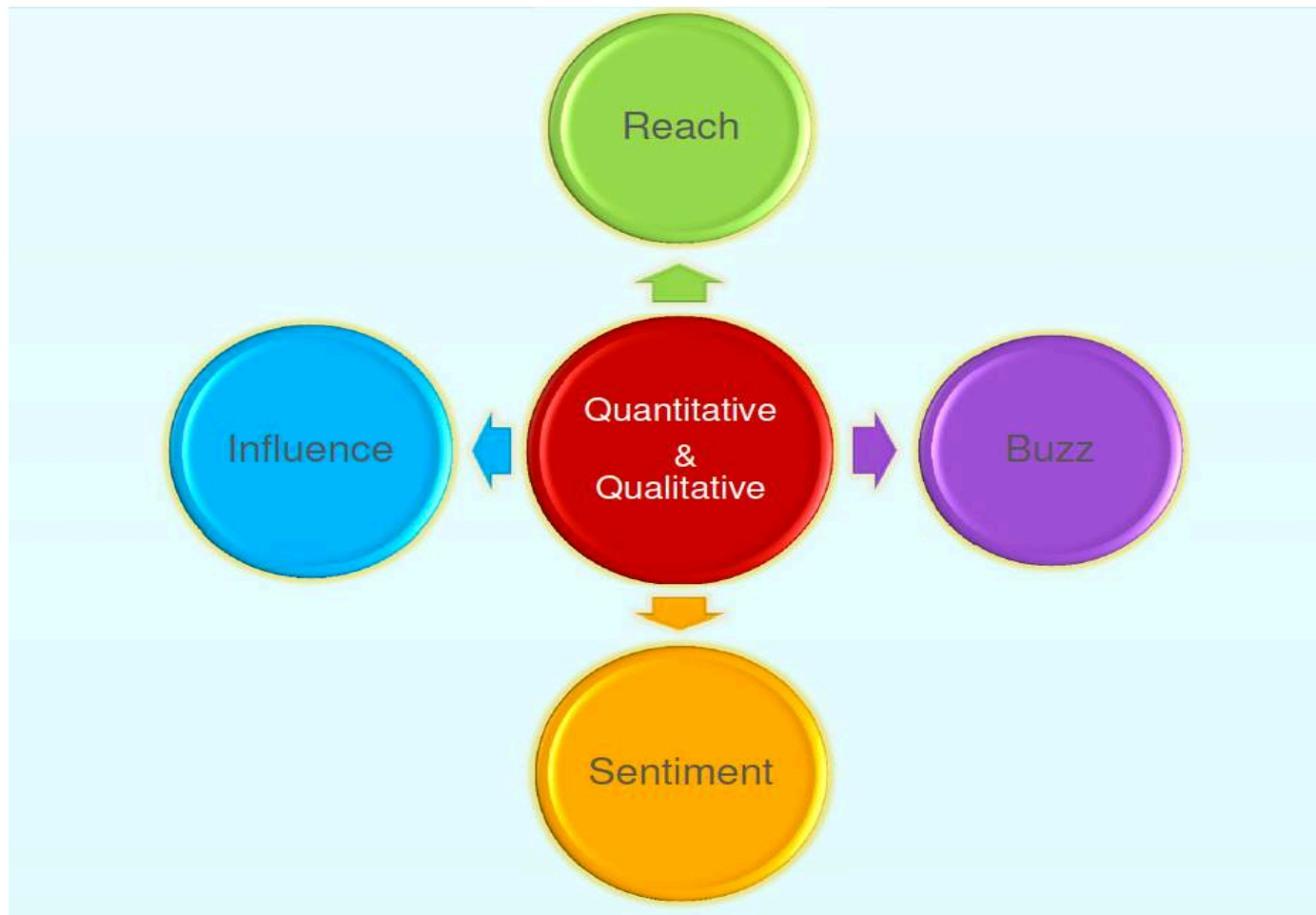
Two types of data: network-based and text-based

Network-based data

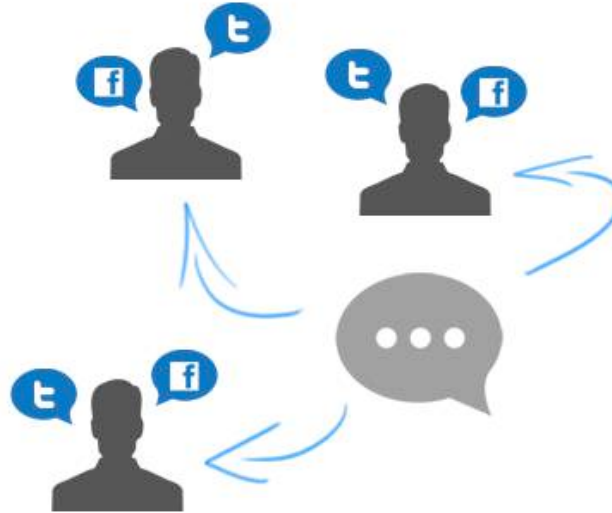
- **Surface Measures (meta-data):** Based on some properties of specific nodes
- **Graph-based measures:** Based on the graph-structure of the network

Measuring properties of individual nodes (users, web pages..)

Key measurement goals



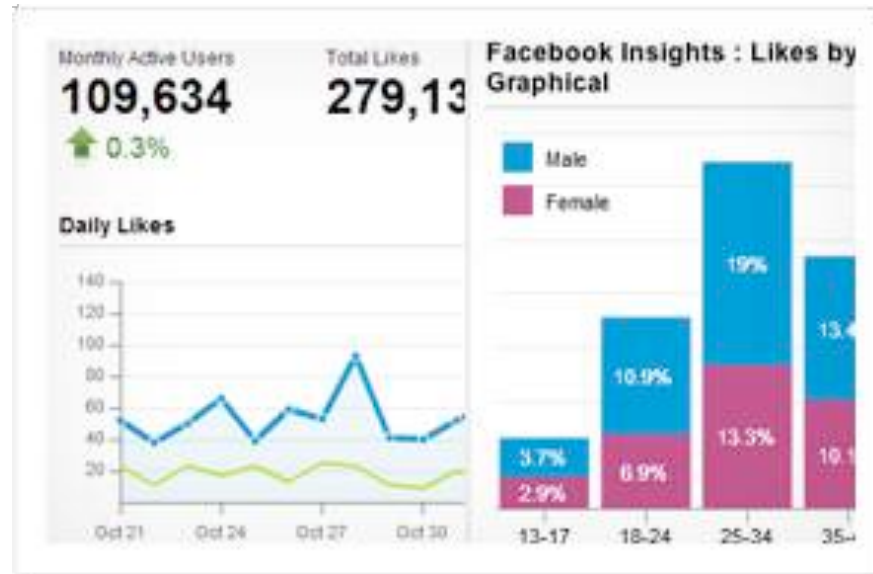
1. Reach



1. Reach
2. Buzz
3. Influence
4. Sentiment

- Reach
 - Size of your audience
 - How many saw your message
 - E.g. Twitter followers
 - Facebook posts (“seen by..”)

Reach: Facebook Insights



Monitor and measure your fans, likes, comments and page activity

Reach: Google Analytics

<http://www.google.com/analytics/>



With Google Analytics tool, you can monitor accesses **on your web page**. Drill down into site traffic data including source, and region. View sparklines for page views, bounce rates and more.

Panoramica

Visite e Seleziona una metrica

Ora Giorno Settimana Mese



24.556 persone hanno visitato questo sito

- Visite: 60.545
- Visitatori unici: 24.556
- Visualizzazioni di pagina: 184.624
- Pagine/visita: 3,05
- Durata media visita: 00:02:50
- Frequenza di rimbalzo: 40,35%
- % nuove visite: 37,39%



- 62,55% Returning Visitor
37.872 Visite
- 37,45% New Visitor
22.673 Visite

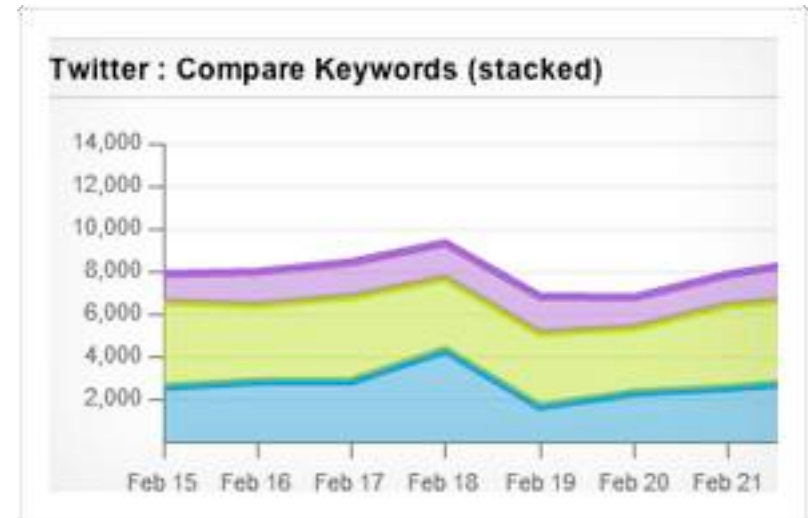
Dati demografici

- Lingua
- Paese/zona
- Città
- Sistema


Lingua	Visite	% Visite
1. it	28.416	46,93%
2. it-it	24.352	40,22%
3. en-us	5.045	8,33%
4. en	1.844	3,05%

Reach: Twitter Profile statistics

- Track the number of followers, mentions, lists..
- Do more by comparing keywords over time and Twitter sentiment.



http://www.tweetstats.com/

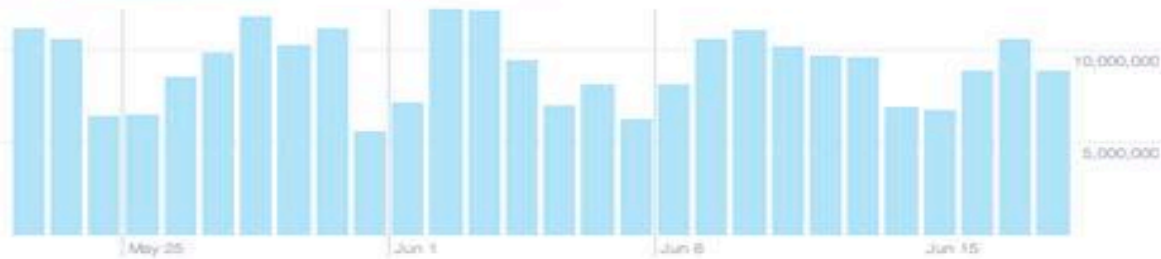
Analytics Tweets Followers Twitter Cards Go to Ads BuzzFeed 

Tweet activity

[Export data](#)






Your Tweets earned **255.4M impressions** over the last **28 days**

That's **7.6% more impressions** than the previous 28-day period



Your Tweets

So far today, your Tweets have earned **8.9M impressions**. This is lower than your 28-day average of **9.1M impressions per day**.

Tweets	Tweets and replies	Promoted	Impressions	Engagements	Engagement rate
	BuzzFeed @buzzFeed · 19m 2 Reasons The Washington Redskins Will Change Their Name, And 2 Reasons They Won't bzf.d.it/1#fvOkt		31,711	563	1.8%
	BuzzFeed @buzzFeed · 29m 14 Faces That Tell You Exactly How Stunning Spain's World Cup Elimination Was bzf.d.it/1A439j pic.twitter.com/kLmJVT6HYM		64,407	7,230	11.2%
	BuzzFeed @buzzFeed · 39m 22 Capybaras Bein' So Fancy bzf.d.it/1jtlbP pic.twitter.com/zmFvUjKa0H		65,109	4,341	6.7%
	BuzzFeed @buzzFeed · 47m Hackers Are Using World Cup Fever To Steal Gamers' Personal Information bzf.d.it/1nkk21W		59,899	429	0.7%
	BuzzFeed @buzzFeed · 1h		72,204	1,717	2.4%

Engagements

Showing last 28 days with daily frequency

Engagement rate

5.8%

6.7% engagement rate Today



Link clicks

5.2M

219.3K link clicks Today



Link clicks up **17.1%** compared to the previous 28 days

Measures of Social Reach

- **Social reach**: #total followers across all social platforms
- **Growth**: month-over-month social reach growth
- **Engagement**=

$$\frac{\# \text{ Likes} + \# \text{ Shares} + \# \text{ Retweets} + \# \text{ blog comments}}{\# \text{ of published posts or pieces of content}}$$

2. Buzz

1. Reach
2. Buzz
3. Influence
4. Sentiment



- **Social Buzz** is the “amplification” of a topic/message through social media: what are people saying about you, where are they saying it, how are they saying it
 - 2 types:
 - Conversation Focus (@RP → reply) vs. Content Focus (#hashtag → topic)
- Mining **motivations** (text), in addition to data, as a way to understand an audience (either customers, voters, patients, or addressee of a campaign), is an entirely new approach to social analysis (e.g. opinions on #topic).

Buzz Metrics

- Buzz metrics tool around the online social media elements related to the two U.S. Presidential candidates in 2012.
- Based on three measures:
 - **bookmarking,**
 - **social networking,**
 - **social knowledge**

Buzz metrics: Bookmarking

- **Bookmarking:** Social bookmarking relates to social media websites such as Digg, Del.icio.us, and Reddit. Users submit links to these websites that are of interest to them and other users vote on particular submissions of interest in order to increase their popularity.
- So if you want to rise attention on a topic, you place content on these websites and then measure the reaction (buzz around the topic)

Bookmarking measures example (DIGG)

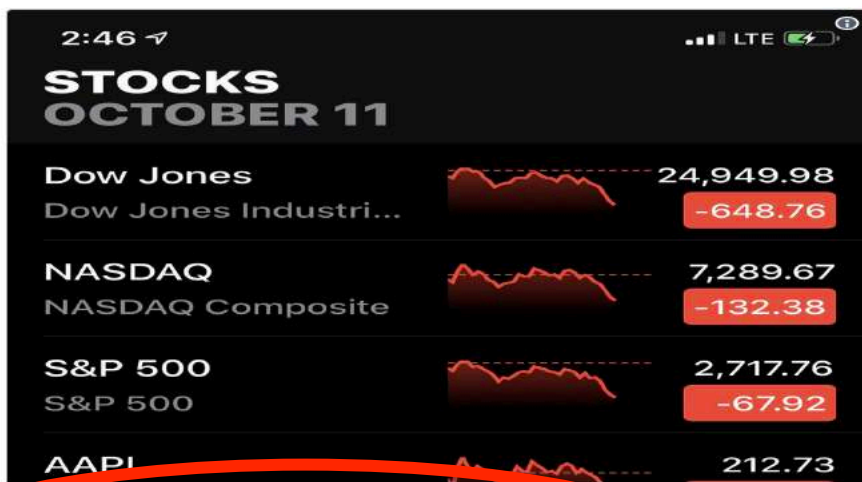
BAD BAD, OR JUST TEMPORARY BAD?

What The Heck Is Going On With The Stock Market?

ning

digg Digg Oct 11 2018, 5:43 PM

There's a good chance you've tuned out the stock market lately — the gains have been sustained and stable for a while now. But something's gone haywire this week, which you probably noticed if you did glance at the stock charts:



Ben White @morningmoneyben

Um

8:46 PM - Oct 11, 2018

138 likes 112 people are talking about this

#People who like the post, #people who comment the post

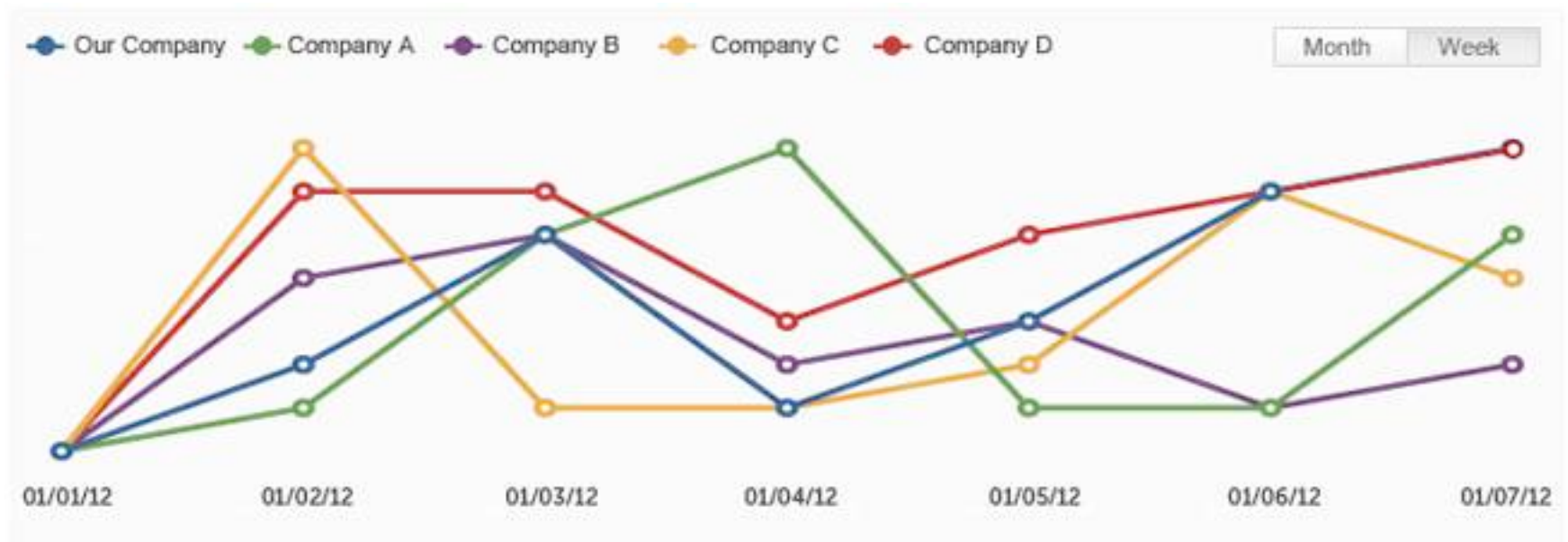
Buzz metrics: social networking

- **Social Networking:** Social Networking refers to “communities” such as MySpace, Facebook, and Friendster.
- **Example: mentioning of company (or topic of your interest, or person)** on a Facebook community.

Social Networking example



Comparative social networking




How does the conversation about your brand compare to conversations about your competitors?

Buzz metrics: social knowledge

- **Social Knowledge:** Social Knowledge refers to **informational based websites** such as “Yahoo! Answers” and “Wikipedia”.
- Buzz is calculated differently on each of these websites.


Social Knowledge example

Yahoo! Answers

**Resolved Question** [Show me another »](#)

Honestly, what's a democrat?

Arthur Reeves 2 years ago [Report Abuse](#)


**Best Answer** - Chosen by Asker

I don't know much about politics and I don't know what the democratic party of the past has been like, but I can tell you what I know about it now:
Democrats are into big government:
They want the government to take care of people with welfare, medicaid, unemployment, etc.
Democrats care more about social issues like gay rights, abortion, etc.

That is all I know.


There is a lot more to research before you support one party or the other and I suggest you do.
Source(s):
A democrat because of my social liberalism.

2 years ago



Asker's Rating: *****
Thank you Andi

[Interesting!](#) [Email](#) [Comment \(0\)](#) [Save](#) [f](#) [t](#) [in](#) [g+](#)

 This question about "Honestly, what's a d..." was originally asked on Yahoo! Answers United States

Other Answers (4)

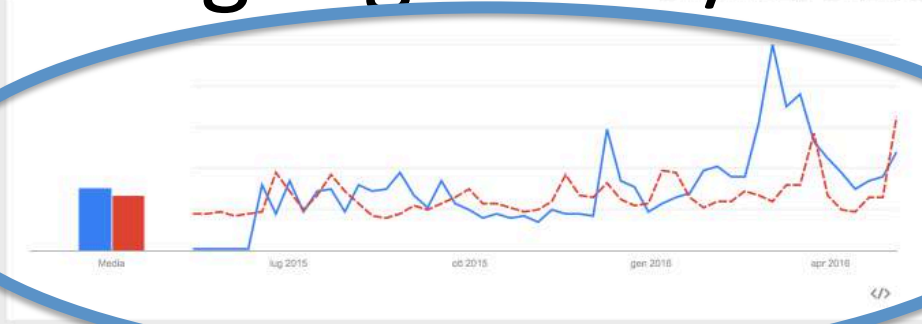
Askers are rated,
Responders are rated

Buzz Metrics: trending topics

- Trending topics: what (most) people is talking about on the web. Can be detected by analyzing “patterns of attentions” e.g. temporal sequences of words in messages or in users’ queries that show a “bursty” behaviour

Google Trends: <https://trends.google.com/trends/>

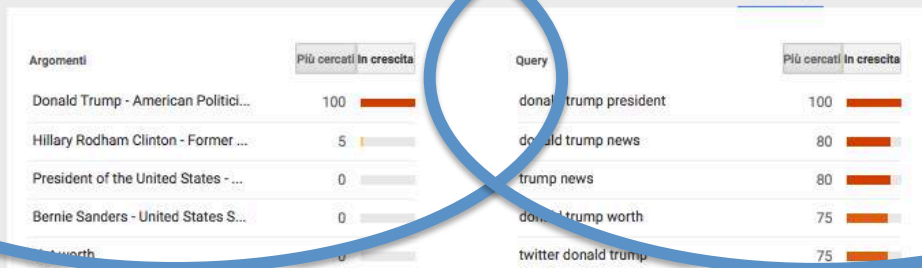
trends.google.com/trends/



Interesse regionale



Ricerche correlate



Google Trends: Very helpful visualization of world-wide or local search behaviours on your topics of interest



Search data is an indication of curiosity in the subject or candidate. It should not be considered an indication of voter intent. [Learn more](#) →

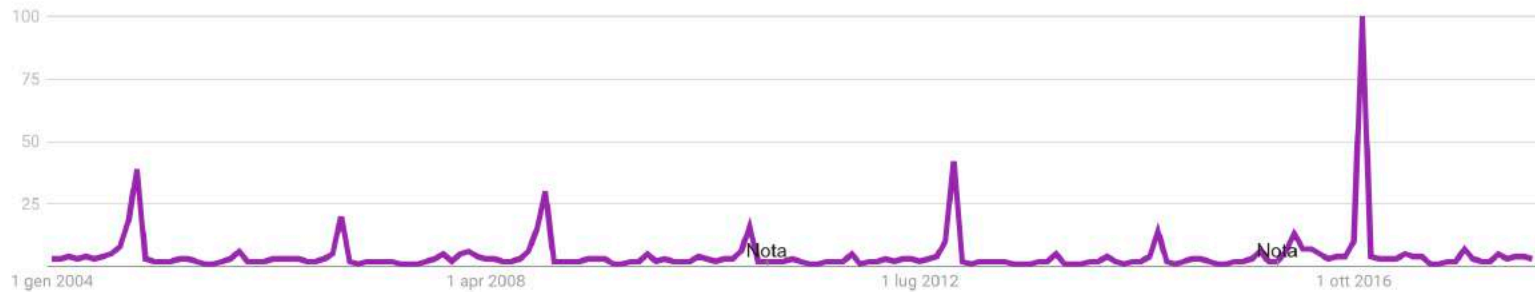


Google trends: search interests by keywords or by sub-topic

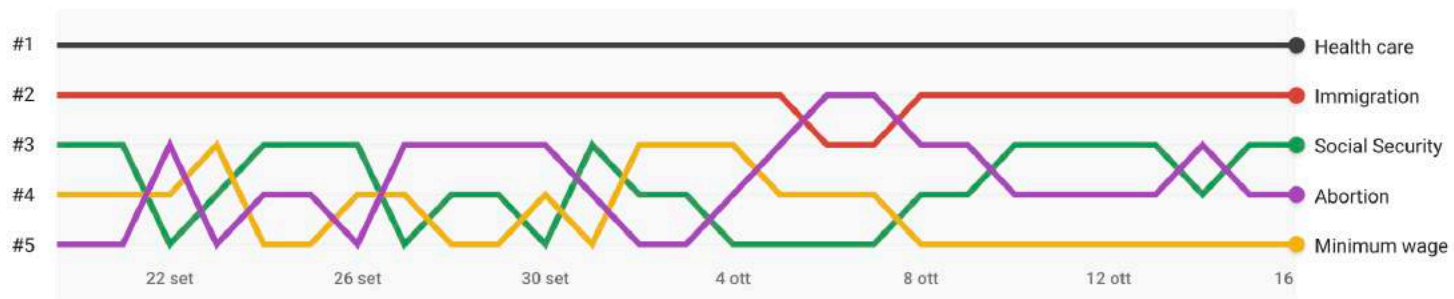
Search interest in elections, 2004-present in the US



● Elections



US - search interest in various highly searched political topics



20 lug



16 ott

Google trends: Main questions by web users (for a selected keyword/topic)

What are the most commonly searched questions on voting and midterm elections in the United States?

Top questions on voting, in 2018 so far in the US



- 1 How to register to vote
- 2 When did women get the right to vote?
- 3 Where do I vote?
- 4 Where do I vote?
- 5 Am I registered to vote?

Top questions on US midterm elections, in 2018 so far in t...



- 1 When are midterm elections?
- 2 What are midterm elections?
- 3 How to vote in midterm elections
- 4 Who will win the midterms?
- 5 Who will win the midterms?

3. Influence



1. Reach
2. Buzz
- 3. Influence**
4. Sentiment

- Your message is valuable when it is repeated and/or commented
 - High probability of others referencing & reproducing what you say
 - E.g. Twitter: reply/mention (@xxx) & retweet (RT)

Twitter as a mean to disseminate information

- Its primary function is not as a social network but perhaps to **spread news** (including personal news) or other information.
- An unusual feature of Twitter is **re-tweeting**: forwarding a tweet by posting it again: “Hmmm pretty good incentive.. RT [@RT.com](#): US high school allows Muslims time for prayer if they earn good grades <http://on.rt.com/kka96w>”
- If re-tweeted, a tweet can expect to reach an average of **1000 users (Kwak et al.)**
- Another communicational feature of Twitter is the **hashtag**: a meta-tag beginning with # that is designed to help others find a post:



grumpybutcuddly @grumpybutcuddly · 51 min

With a majority #Cameron will be able to sort out boundary changes & English votes for English matters & end left wing politics forever :-)



Influential Analysis : Amplification



- On Twitter:
 - Amplification = # of Retweets Per Tweet
- On Facebook, Google Plus:
 - Amplification = # of Shares Per Post
- On a blog, YouTube:
 - Amplification = # of Share Clicks Per Post (or Video)

Influential Analysis : Applause



- On Twitter:
 - Applause Rate = # of Favorite Clicks Per Post
- On Facebook:
 - Applause Rate = # of Likes Per Post
- On Google Plus:
 - Applause Rate = # of +1s Per Post
- On a Blog, YouTube:
 - Applause Rate = # of +1s and Likes Per Post (or video)



Summary (Reach, Buzz, Influence)

Measure		
Reach	Social reach	#total followers
	Growth	social reach growth along time
	Engagement	$\frac{\# \text{ Likes} + \# \text{ Shares} + \# \text{ Retweets} + \# \text{ blog comments}}{\# \text{ of published posts or pieces of content}}$
Buzz	Nominations /visualizations	#bookmarks, #mentions on web, #likes, keyword trends
Influence	Influential index	$(\# \text{ reply} + \# \text{ retweets}) / \# \text{ tweets}$
	Amplification	# of Retweets (Shares) Per Tweet (post)
	Applause	#favorite clicks (or like, or +) x post

Sentiment analysis in a dedicated lesson

Influential Analysis (Twitter)

- **Retweet** and **Reply** features of Twitter is used to enable real-time study

$$\text{Influential Index} = \frac{n(\text{Reply}) + n(\text{Retweet})}{n(\text{Tweet})}$$

For example, a tweet :

Verizon will launch iPhone 4 on 10 Feb sent by user ABC

Retweet (think of it as forwarding)

RT @ABC Verizon will launch iPhone 4 on 10 Feb

Reply

@ABC thanks... I will be there to get one

FREE PLATFORMS FOR SOCIAL MEDIA ANALYTICS

Social Mention (free)

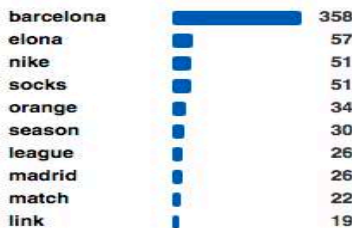
by typing in a
keyword, you'll
have access
To user-generated
content from more
than 100 platforms.

88% strength	6:1 sentiment
18% passion	69% reach
14 seconds avg. per mention	
last mention 43 seconds ago	
171 unique authors	
62 retweets	

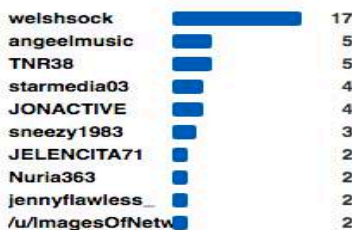
Sentiment



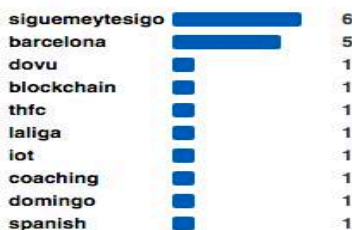
Top Keywords



Top Users



Top Hashtags



Mentions about Barcelona

Sort By: Results: Results 1 - 15 of 220 mentions.

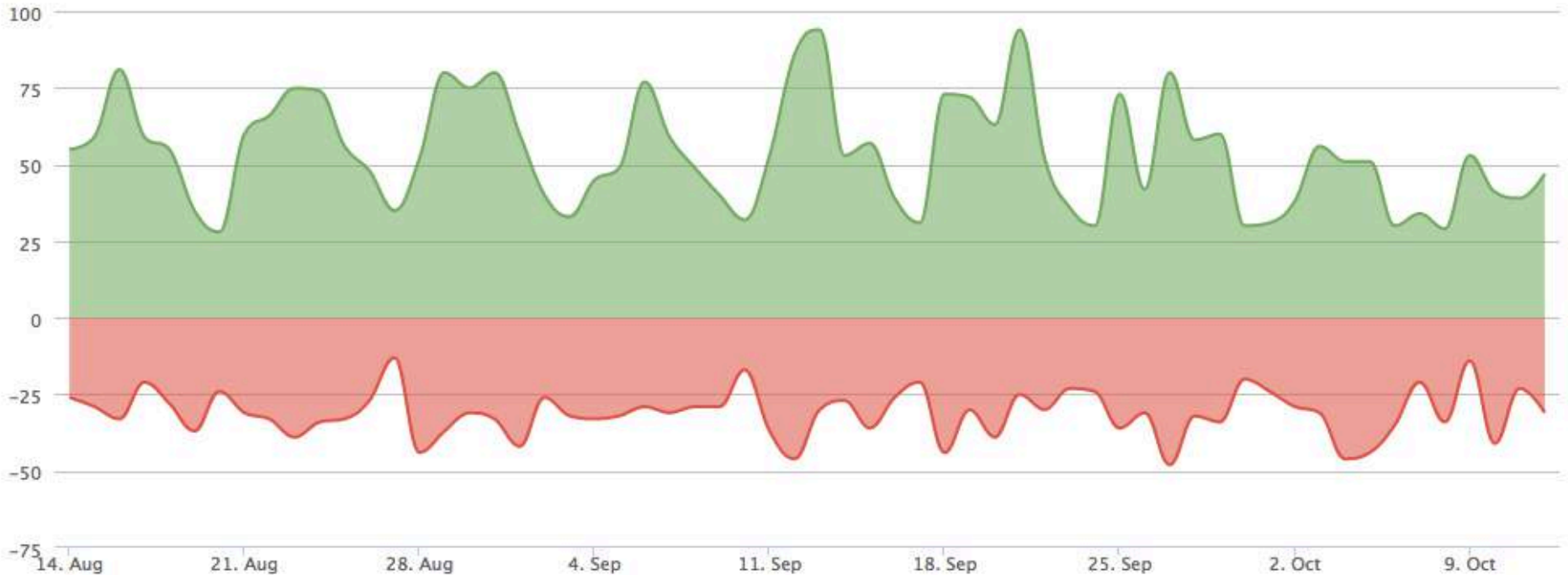
- [RT @MSGP0: @PollaPrenadora @ZUPERHOTZ @1688AW @Nora_barcelona @MasturBabes @BoobsTitsOppai @olliebermann @MySexyGirlsPics @JapaneseAVBabes...](#)
[twitter.com/19Pascal93/status/918766894483722240](#)
43 seconds ago - by @19Pascal93 on [twitter](#)
- [RT @contrastant2014: Per què @barcelona_GUB infla descaradament la xifra d'assistents a l'acte de @Societatcc del 12 d'octubre? Què pretén?](#)
[twitter.com/spidderr/status/918766891082158080](#)
44 seconds ago - by @spidderr on [twitter](#)
- [Barcelona: Club travels to Atletico Madrid amid Catalan crisis <https://t.co/QcCFwEnLJe> <https://t.co/MIsWMwugZm>](#)
[twitter.com/EjehJoe/status/918766892474548224](#)
44 seconds ago - by @EjehJoe on [twitter](#)
- [@sansejuventud @ PENTACION @arequipa produc Qué mal que #5yAcción no venga a Barcelona!! :\(](#)
[twitter.com/Fran87bcn/status/918766893380620289](#)
44 seconds ago - by @Fran87bcn on [twitter](#)
- [Boníssimes notícies!! @ladygaga confirma nova data de #JoanneWorldTour! L'artista tornarà a Barcelona el 14 de gene... <https://t.co/1mP7BaZubp>](#)
[twitter.com/rac105/status/918766885096828928](#)
46 seconds ago - by @rac105 on [twitter](#)
- [RT @loop_cn: SAVE THE DATE! 8 NOV. BARCELONA: Jornada "El modelo industrial vasco" con @Velatia_global, CAF y @esMONDRAGON <https://t.co/0ai...>](#)
[twitter.com/esMONDRAGON/status/918766877299617792](#)
47 seconds ago - by @esMONDRAGON on [twitter](#)
- [Barcelona: Club travels to Atletico Madrid amid Catalan crisis <https://t.co/eWBofxvrix> <https://t.co/kDiADvGHoD>](#)
[twitter.com/lam_Hollahz/status/918766873952395264](#)
48 seconds ago - by @lam_Hollahz on [twitter](#)
- [RT @ProtoneMx: BANKS cancela su concierto en Madrid y Barcelona <https://t.co/dVMtCNprt6> #Siguemeytesigo <https://t.co/KNBiZOS0I9>](#)
[twitter.com/HectrJuarez/status/918766876775268353](#)
48 seconds ago - by @HectrJuarez on [twitter](#)
- [RT @nurdian_jannah: Tiga hal terbaik dalam #OneFineDay](#)

Followersonk (partly free)

find top follower, compare users, track competitors

Want to track your Twitter account? Or a competitor?

14/8/2017, 02:00:00 – 13/10/2017, 02:00:00



— Daily new followers — Daily lost followers — Daily net — Cumulative new — Cumulative lost — Cumulative net

+3,233

-1,865

=

+1,368 net

Many tools available

- See more on <http://keyhole.co/blog/list-of-the-top-25-social-media-analytics-tools/>
- If you have a Twitter, Instagram or Facebook account you can freely try many of them

Homework

- Select a topic, person, or company of interest
- Use any possible available tools among those mentioned (e.g., Google trends) to measure the social impact (reach, buzz...)
- Write a short report (one or two presenters)