# The Social Media Landscape

## Social Media and Web Analytics

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# Learning Goals

- Explain the growth in Social Media & its' importance for marketing
- Understand the breadth of the terms "Social Media" and "User Generated Content"
- Conceptualise why people contribute to social media
- Explain the definition of a "lurker" & analyse their marketing value

# Social Media Landscape

# Social Media Matters!

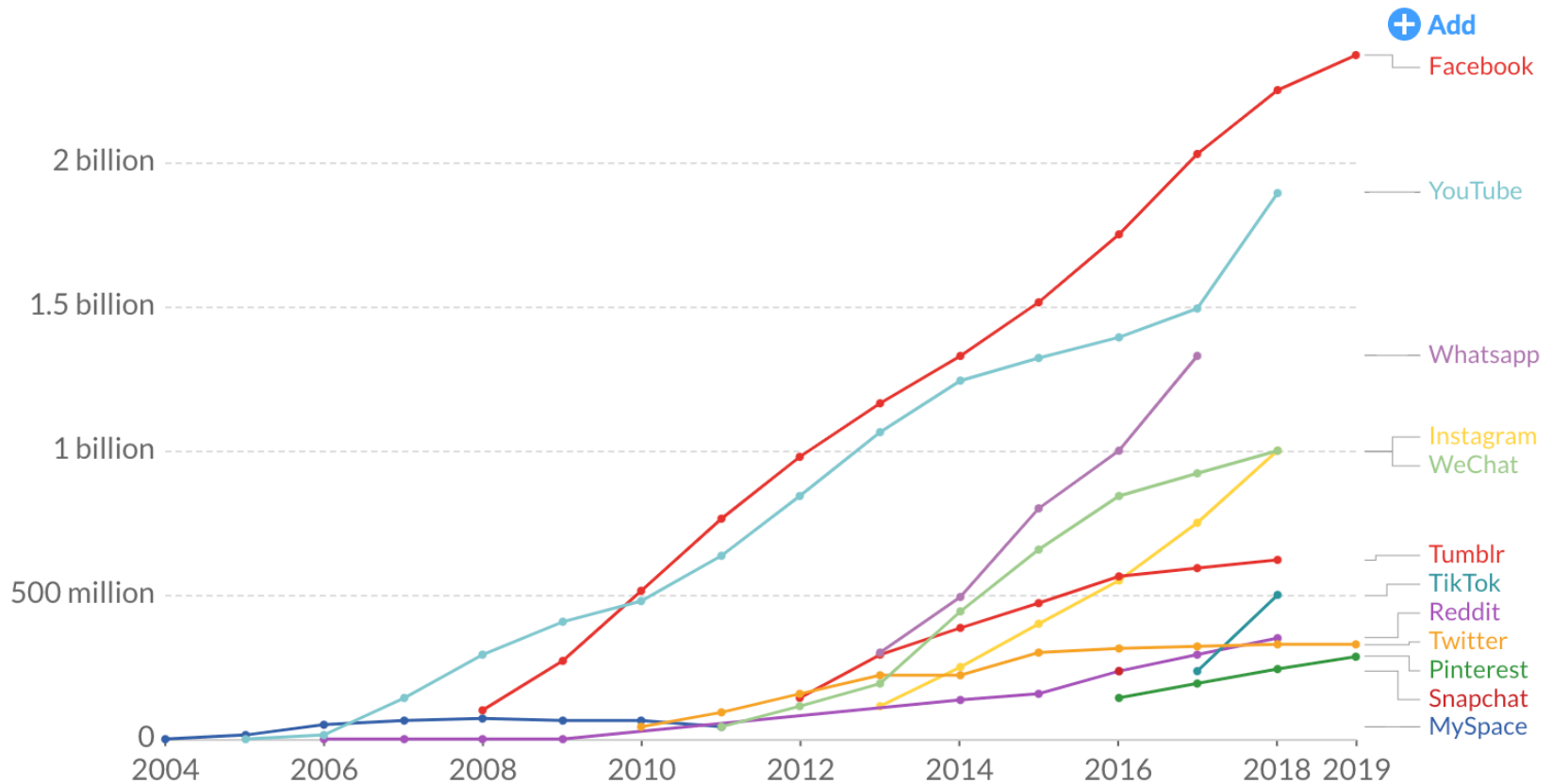**Massive growth in social media use over the last two decades**

- 2005: 9% of Internet users aged 18-29 used social media (Aral, 2020)

- 2021: 53.6 % of the *world's population* uses social media (Hootsuite, 2021)

  - That's 4.2 billion people!
  - Average daily usage is approx. 2 and a half hours

# Social Network Popularity Over Time

## Number of people using social media platforms

Estimates correspond to monthly active users (MAUs). Facebook, for example, measures MAUs as users that have logged in during the past 30 days. See source for more details.

➕ **Add**

Facebook

YouTube

Whatsapp

Instagram
WeChat

2 billion

1.5 billion

1 billion

Tumblr
TikTok
Reddit
Twitter
Pinterest
Snapchat
MySpace

500 million

0

2004    2006    2008    2010    2012    2014    2016    2018 2019

Source: Statista and TNW (2019)

Image Source: Our World in Data, 2021 "The rise of social media"
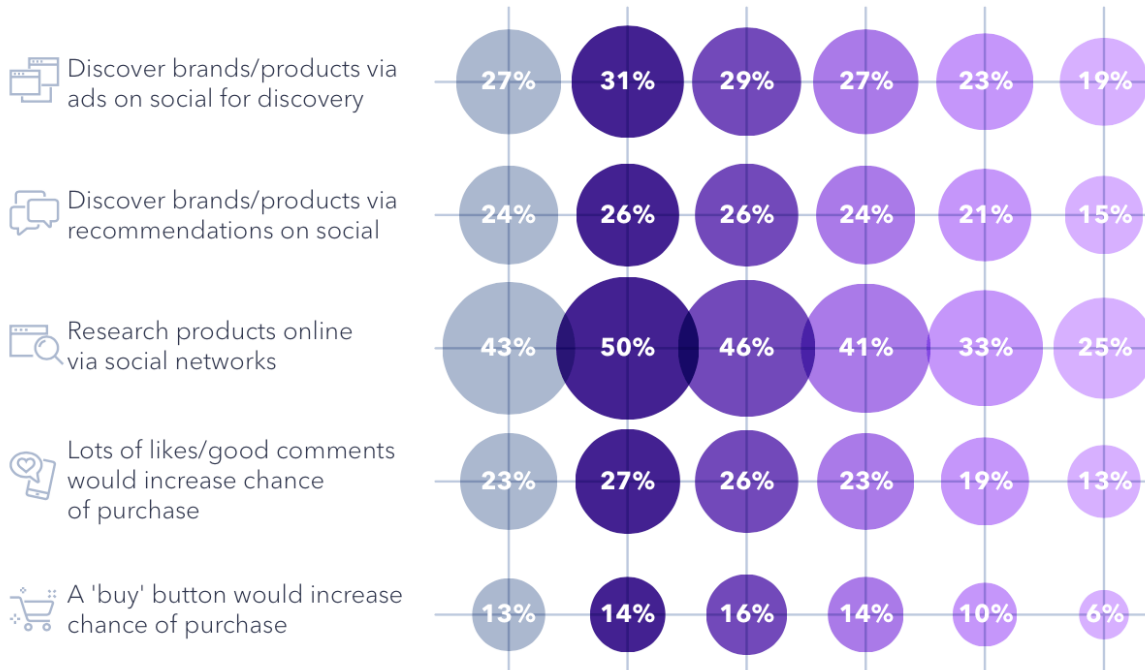
# Social Media Informs Purchasing



Image Source: Global Web Index, 2021 "Social media marketing trends in 2021"

# Some Useful Definitions

**User Generated Content**: Content that is generated or created by an internet user who is a consumer of this information or content

**Social Media**: The online platforms that host this content

- Think of these as the working definitions for our course

- People have a tendency to be use these terms relatively interchangeably

    - (include me as one of the "people")

# Diversity of Social Media Platforms

Previous definitions means **many platforms** fit in our scope:

**Table 12.2** Popular user-generated content platforms

| Types of user-generated content | Prominent platforms |
|---|---|
| Pictures | Instagram, Pinterest, Snapchat, Flickr |
| Personal updates and networking | Twitter, FourSquare, Facebook, LinkedIn |
| Reviews for products and services | Yelp, Rotten Tomatoes, ZocDoc, Amazon |
| Encyclopedia and reference sites | Wikipedia, Wikia |
| Videos | YouTube, Vine |
| Comments on news articles | NY Times Online, WSJ Online |
| Crowdfunding | Crowdrise, Kickstarter, IndieGoGo |
| Sharing platforms | Uber, Airbnb, Couchsurfing |
| Social payments | Venmo, Square |
| Discussion/question and answer | Reddit, Quora, StackOverflow |
| Blogs | Tumblr, WordPress |

Including ones we might not have traditionally view as 'social media' from our day-to-day notions

Table Source: Luca, M, 2015, "*User Generated Content and Social Media*", in Anderson, Waldfogel & Stromberg (eds), 2015, "Handbook of Media Economics"

# Why Did Social Media Take off?

Three factors:

- **Digital Social Networks**

    - Structured information flow

- **Machine Intelligence**

    - Recommendations of friends and content over the network

- **Smartphones**

    - "Always on"
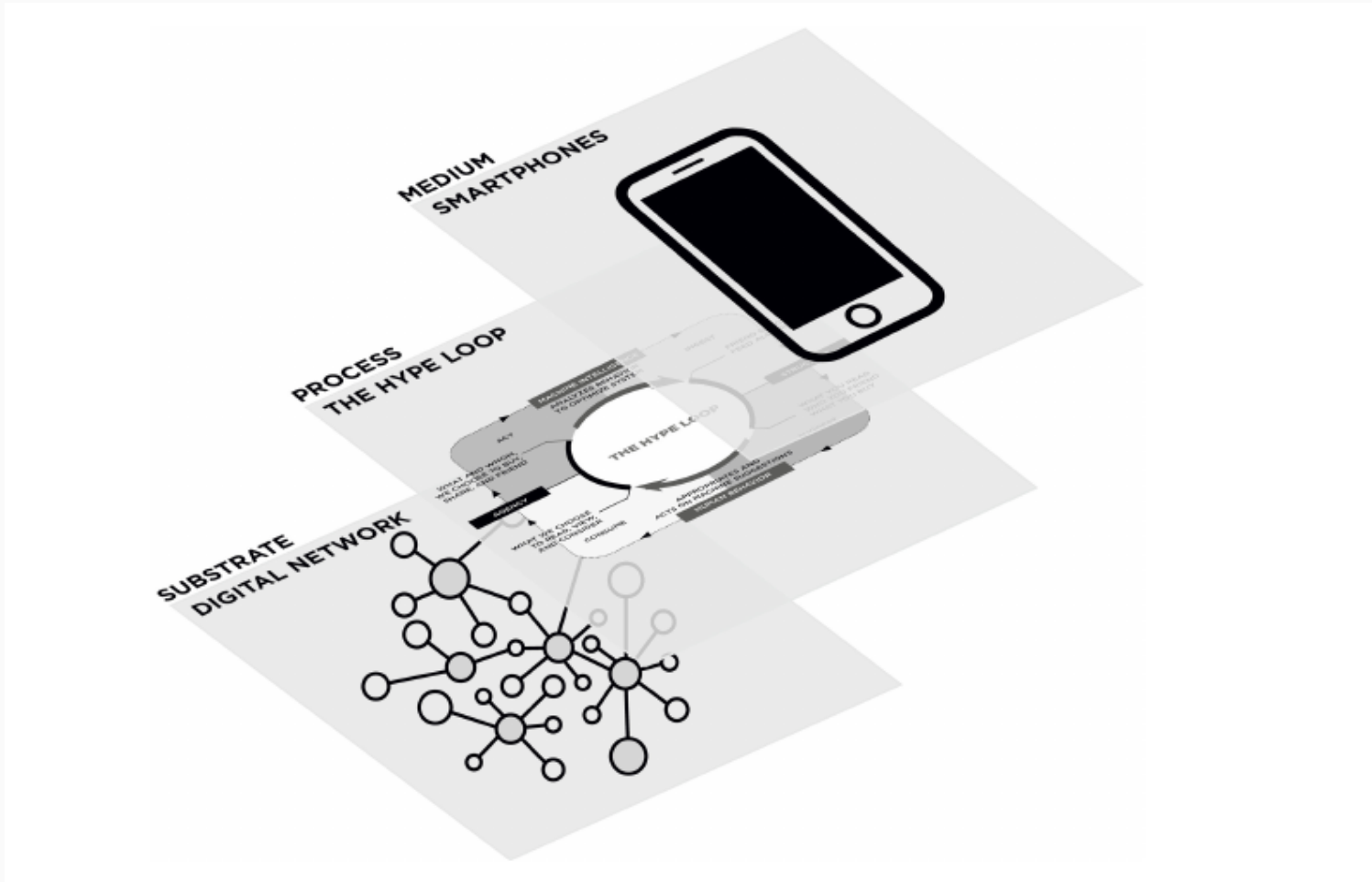    - Feeds our social brain

# Aral's "Hype Machine"



Image Source: Aral, 2020, The Hype Machine, Figure 3.3

# Aside: Dark Side of Social Media

Rise of social media is not all positive

- Mental health effects
- Echo chambers due to self selection into content and recommender systems
  - Political Polarisation
- Privacy concerns

If you're interested in more on this:

- Allcott et al (2020) "Welfare Effects of Social Media", American Economic Review
- ... and papers cited by it + citing it

# Why people contribute to social media

# Intrinsic vs Image Related Utility

Why does a user want an audience? Toubia & Stephan (2013)

1. **Intrinsic Utility**: inherent satisfaction
    - Prediction: exogenous increase # of followers $\rightarrow$ more posts
    - Why? Broadcasting to more people
2. **Image-related Utility**: motivated by perceptions of others
    - Prediction: exogenous increase # # of followers $\rightarrow$ no change / decrease in posting behaviour
    - Why? Having followers is 'enough', post content to attract new followers

**Research Question**: Can we disentangle these components?

# Field Experiment

**Platform**: Twitter

- Approx 2,500 non-commerical accounts via Twitter API

**Step 1**: "Watch" them for 52 days, see if active

- Active: more tweets, or followed more people
- 1,355 are active

**Step 2**: Gradually add new 100 followers to 100 of the accounts ("the treatment group")

- "New followers?": "synthetic" accounts designed to look realistic
- "treatment group": 100 of the 1,355 accounts selected at random

**Step 4**: Watch what happens

- Monitor whether posting intensity increases or decreases as followers are added

**Step 4**: Analyse the data

# Main Findings (Model Free Evidence)

**Finding 1**: No main effect on posting activity

- Control Group: 34.19 % of users had greater posting rate after intervention started
- Treatment Group: 40.82% of users had greater posting rate after intervention started
- 6 percentage point difference not statistically significant

**Finding 2**: Differential effect based on # follower started with

**Table 4**    **Proportion of Users with Increased/Decreased Average Daily Posting Rate (After vs. Before Intervention)**

| Quintile | Increased average daily posting rate | | Decreased average daily posting rate | |
|---|---|---|---|---|
| | Treated | Control | Treated | Control |
| 1 | 0.286 | 0.205 | 0.238 | 0.185 |
| 2 | 0.632 | 0.350 | 0.158 | 0.370 |
| 3 | 0.556 | 0.370 | 0.278 | 0.426 |
| 4 | 0.200 | 0.451 | 0.700 | 0.474 |
| 5 | 0.400 | 0.375 | 0.500 | 0.574 |

*Notes.* Treated users in the second quintile were significantly more likely to increase their posting rates compared with users in the control group ($z = 2.42$, $p < 0.02$) and marginally significantly less likely to decrease their posting rates compared with users in the control group ($z = -1.85$, $p = 0.06$). Treated users in the fourth quintile were significantly less likely to increase their posting rates compared with users in the control group ($z = -2.18$, $p < 0.03$) and significantly more likely to decrease their posting rates compared with users in the control group ($z = 1.94$, $p = 0.05$). The differences in the other quintiles are not statistically significant.

# Managerial Implications

**Reconciling the Findings**:

- Two stage process:
    - Few followers - intrinsic utility dominates
    - More followers - image related utility dominates

**Managerial Implications**:

- Brand advocates not always going to be users with large follower count

    - Image concerns will start to kick in
    - (How to reconcile with the current focus on influencers?)

- As social media platform matures might see more firm generated content

    - An alternate way to broadcast to consumers
    - As opposed to a social listening platform for firms

# Lurkers on Social Media

# Participation on Social Media Platforms

> Lurker: a user of social media site who does not actively participate/contribute.
>
> (adapted from Oxford Dictionary)

- So far: focus on *contributing* to social media platforms

- Missing (a **large**) something ...

  - Lurkers

# The 90-9-1 Rule

Nielsen Research suggests:

- 90% of users are lurkers (i.e., read or observe, but don't contribute)
- 9% of users contribute from time to time.
- 1% of users participate a lot and account for most contributions



90% of postings
from
1% of users

10% of postings
from 9%
of users

No postings
from 90% of users
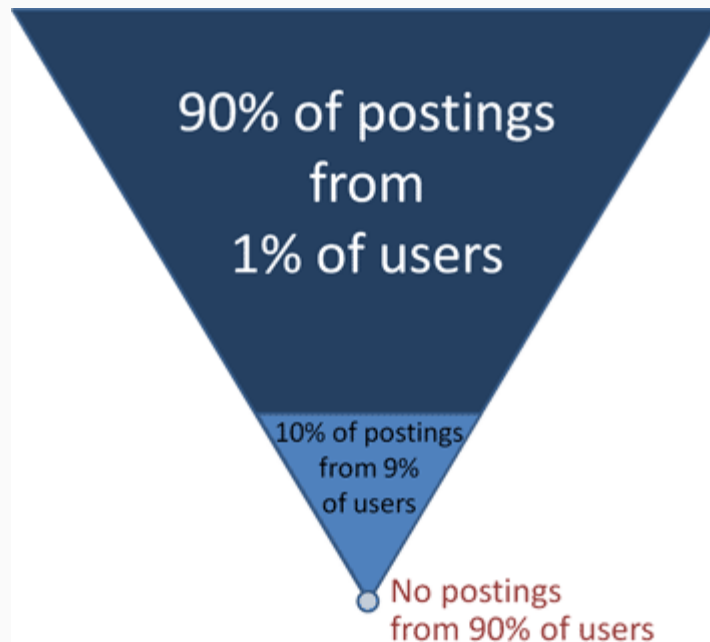
# Evidence on Lurker Prevalence?

- Is the correct breakdown really 90-9-1?

- One can readily find other estimates out there with a **big** range

    - 98-1.9-0.1
    - 70-20-10
    - 55-25-20

- Though *rarely* are these numbers held up to intense scrutiny

    - Recently refereed estimate: 75 percent lurkers (Antelmi et al, 2019)

- How much does the exact distribution matter?

    - I'd argue not *as* much as we might think...
    - ... **but** we must to take into account that **lurking matters**

# The Marketing Value of Lurkers

- First thought one might have: "lurkers are low value users"

- It's more nuanced than that ...

    - Lurkers still engage and may make decisions based on what they see online
    - And these decisions may matter

- Distinction between (Chen et al, 2019)

    - **passive lurkers**: absorb content and don't spread information
    - **active lurkers (diffusers)**: transmit information to others

# The Marketing Value of Active Lurkers

**Active Lurkers** transmit information to others

Generate value from:

- Value from diffusion

    - Share information with others
    - Others directly engage and also share to another group of people

- Value from own decisions

    - Their purchase, clicks, brand recall, etc

# The Marketing Value of Passive Lurkers

> **Passive Lurkers** absorb content but don't spread information

Generate value from:

- Own decisions based on what they see on social media...

  - Example: Positive movie reviews from Twitter $\rightarrow$ go see the movie
  - Example: See an ad on Facebook $\rightarrow$ buy via a different channel

- I've (again) focused on purchase

  - But brand recall, website clicks, other aspects too

# Solutions to Lurking: Social Media Sites

**Why people lurk?**

Explanations include:

1. Browsing is enough for me
2. Maintains my privacy
3. Reputation concerns and/or anxiety

**How to engage lurkers?**

Current practice:

- Posts that are not permanent (Instagram Stories, Twitter's Fleets, ...)
  - Lurkers $\rightarrow$ contributors
- Repeated interaction with same content (seeing many retweets of same content)
  - Encourage active lurkers to spread the information
    - Why? lesser "need for uniqueness" in lurkers

# Dealing with Lurking as an Analyst

> If you use **data** on individual behaviour **on social media** as your **only data** set you **cannot measure impacts of lurkers**

Example: Do Instagram ads increase sales?

- If the analyst uses data from the ad campaign...
- They see:
  - Who saw an ad,
  - Who clicked on it, and
  - Who bought after clicking on the ad

- Can quantitatively assess this funnel for users who **engage** with the ad **on the platform**

- But they can't measure whether:

  - A lurker viewed the ad and bought due to it via another channel
  - The lurker passed on information from the ad to someone else and that person made a purchase later

*General advice*:acknowledge the limitation, analysis still has value

# Dealing with Lurking as an Analyst

> If you relate **social media aggregates** to an **aggregate outcome** variable **lurker effects are "baked" in**to one's analysis

Example: daily volume and sentiment of all tweets about a product on daily sales

How? Aggregation means that:

- **Anyone** who has seen a post on Twitter **might respond** to the content
- Impact on sales could be from
    - Original content creator, active site users,
    - Active lurkers, passive lurkers,
    - Or *anyone else* who saw it
- But **we can't tell which**
    - This may or may not be what we wanted …
    - … it *depends on the question* we want to answer

*Remark*: these kind of studies have other (serious) analytics issues we must worry about

- We'll get to these issues in future weeks

# Recap

# Recap

- "Social Media" encompasses a wide variety of platforms
  - Anywhere there is user generated content
- Consumers use social media platforms when deciding what to purchase
- People contribute to social media platforms for "Intrinsic" and "Image" reasons
- The majority of social media users are lurkers
  - But they still have marketing value - though harder to measure

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Suggested Citation:

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      title={"Social Media and Web Analytics: Lecture 1 -
            The Social Media Landscape"},
      author={"Lachlan Deer"},
      year={2021},
      url = "https://github.com/tisem-digital-marketing/smwa-lecture-01"
}
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