

Revenue & Growth

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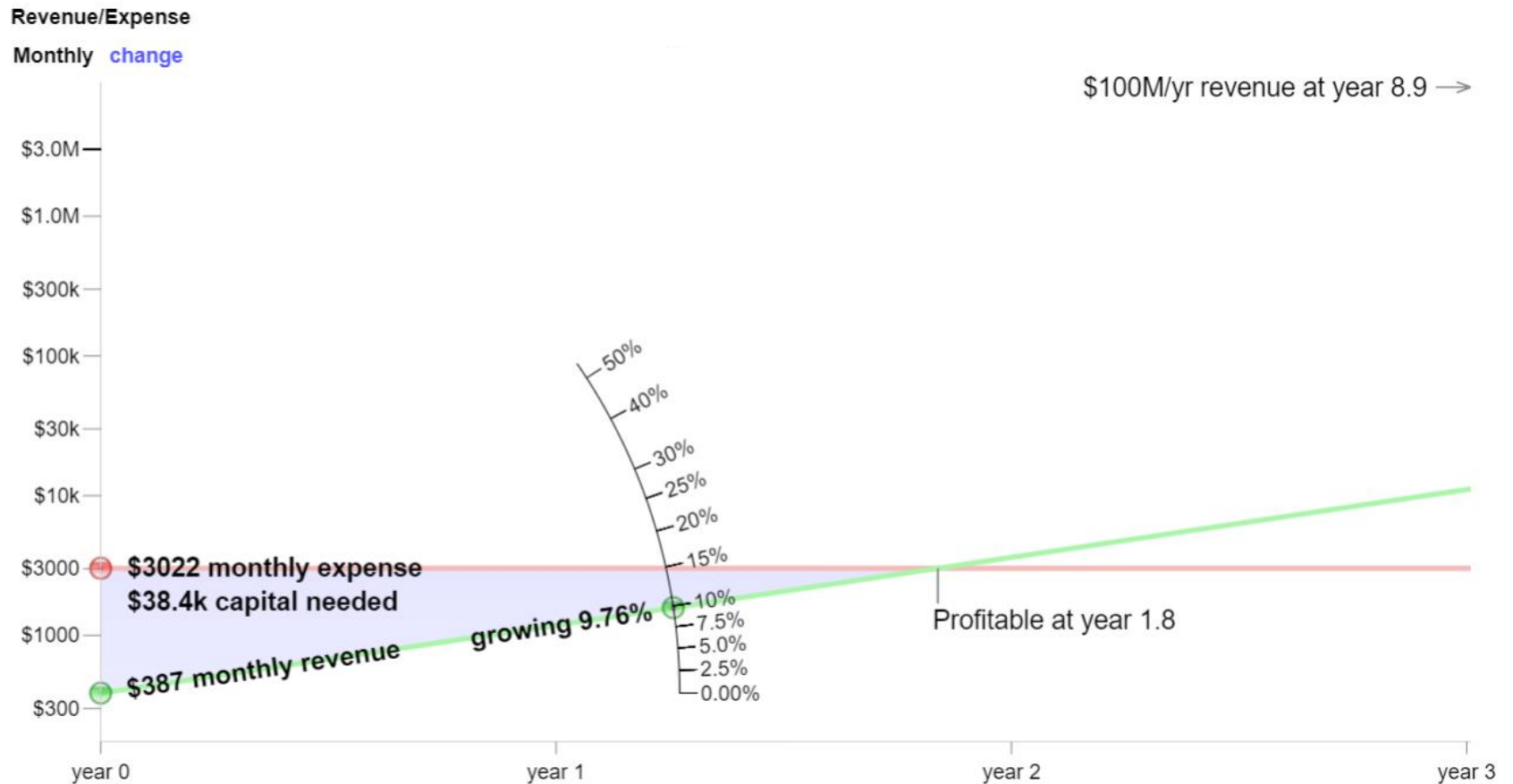
We get some satisfactory users
after 8 months, what's next?

Default *Alive* or *Dead*?

by [Paul Graham](#)

- Assuming
 - An initial fund
 - Fixed expenses
 - Linear/predictable revenue growth
- Can you make it to profitability before running out of your money?

Startup Growth Calculator

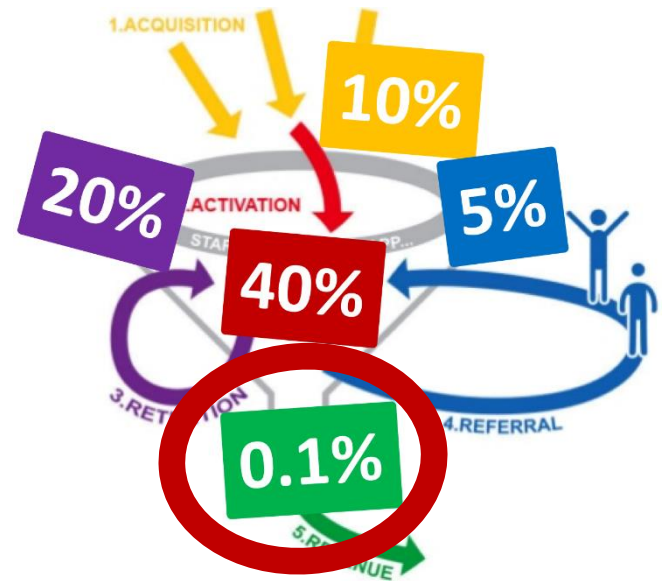


What's Next?

- Default *alive*:
 - Ambitious new things
 - Scale phase
 - Raise more fund (O)
- Default *dead*:
 - Raise more fund (X)
 - To fix *growth* & *revenue*
 - at no (or little) more expense

Outline

- Revenue
- Growth
- Psychology-based Tactics



Vanity Metrics

- #customers
- Total revenue
- All go up as time passes by

KPIs

- **MR**/AR (monthly/annual revenue)
- **ARPPU** (average revenue per paying user)
- **ARPU** (average revenue per user)
 - Do more users create more value (and sells)?
- **Recurrent** revenue is more important than one-time revenue
 - **MRR**/ARR (monthly/annual recurrent revenue)

Detailed Revenue Metrics

- Don't just track MRs/MRRs over time
- Group revenue readings by
 - ***Cohorts*** (v2 better than v1?)
 - ***Segments*** (Girls pay more than boys?)
 - ***Pricing tiers*** (Item A sells better than B?)

Unit Economics

- Cost of Google/Facebook ads:
 - CPM (cost per mille/thousand impressions)
 - CPC (cost per click),
 - CPA (cost per acquisition/action)
- How much should I bid?
 - Track *unit economics*

CLV (or LTV)

- Customer lifetime $\sim 1 / \text{churn rate}$
 - Assuming fixed #customers
 - $1 * C + 2 * (1 - C) * C + 3 * (1 - C)^2 * C + \dots$
- $\text{CLV} = (\text{ARPPU} * \text{gross margin}) / \text{churn rate}$
- Successful SASS companies:
 - $\text{CLV} > 3 * \text{CAC}$ (Cost to Acquire a Customer)
 - Months to recover CAC < 12 months

Watch out:
retention vs. revenue

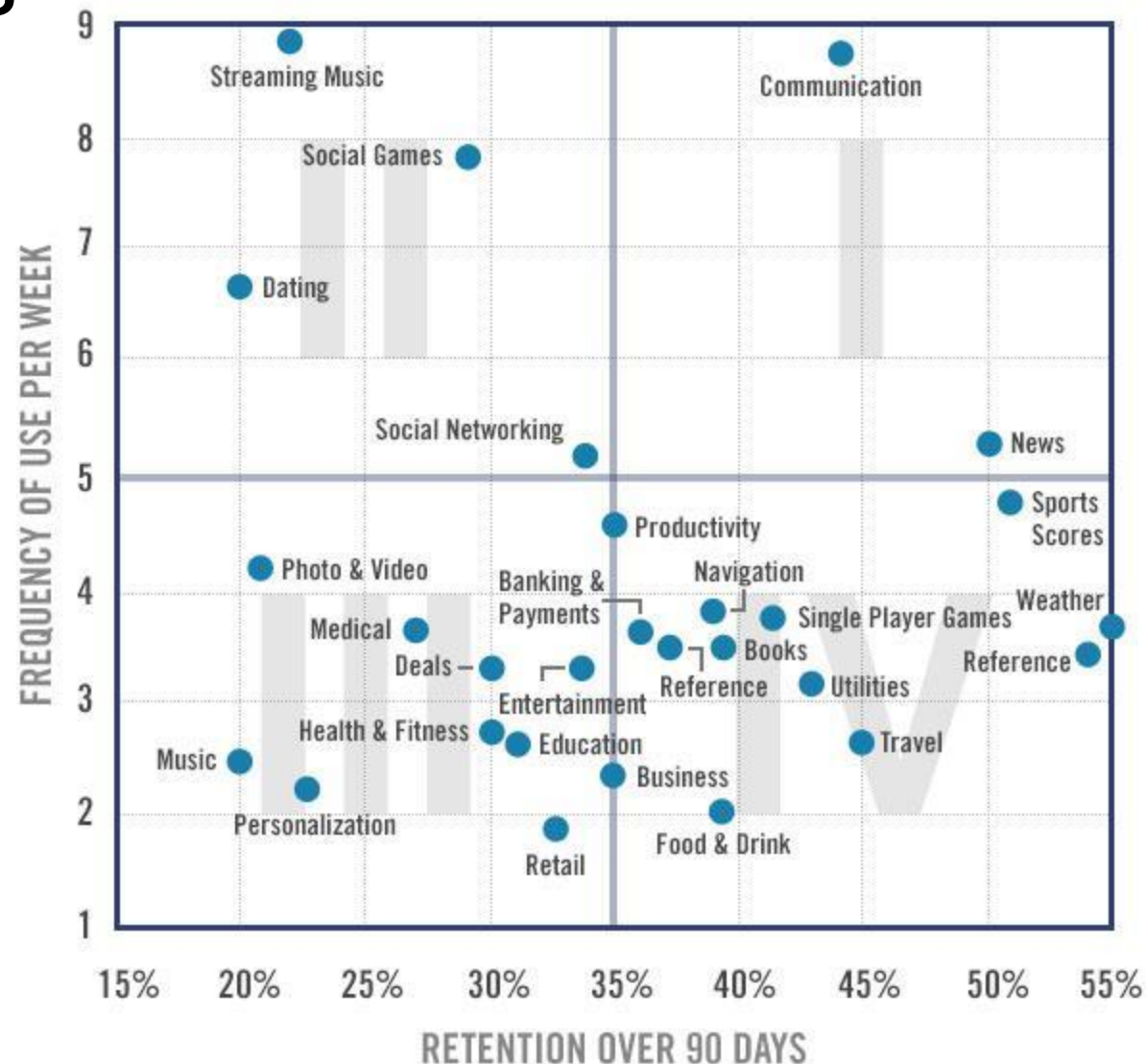
“From now on, we charge 3% fee in every tx...”

- **Customer conversion rate** ↑
 - Funnel: users → customers
- **Churn rate** of users ↓
 - Some users may be annoyed by your sales tactics
- Luckily, they are **not** necessarily a tradeoff!
 - Right payment methods
 - Psychological shortcuts

Pay Methods

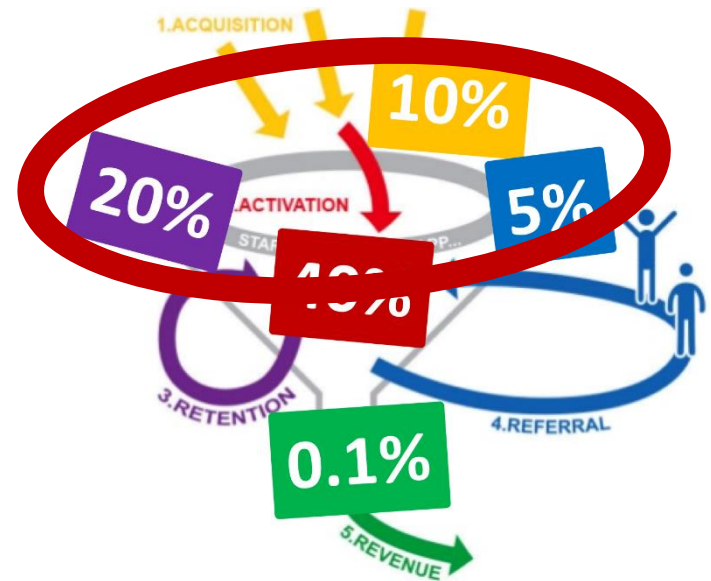
- I:
 - Ads
 - Recurring fees
- II:
 - Per-tx fee
 - Discounts for recurrence
- III:
 - Paid app or one-time fee
- IV:
 - Upselling
 - Discounts for referral

Loyalty by Application Category



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Vanity Metrics

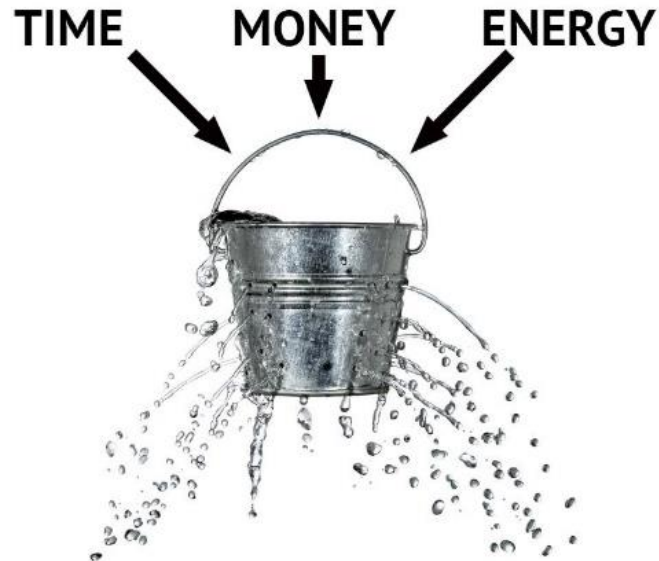
- #installs
- #users
- #customers

Marketing is about selling more stuff to more people more often for more money more efficiently.

- Sergio Zyman,
CMO, Coca-Cola

What to optimize first?

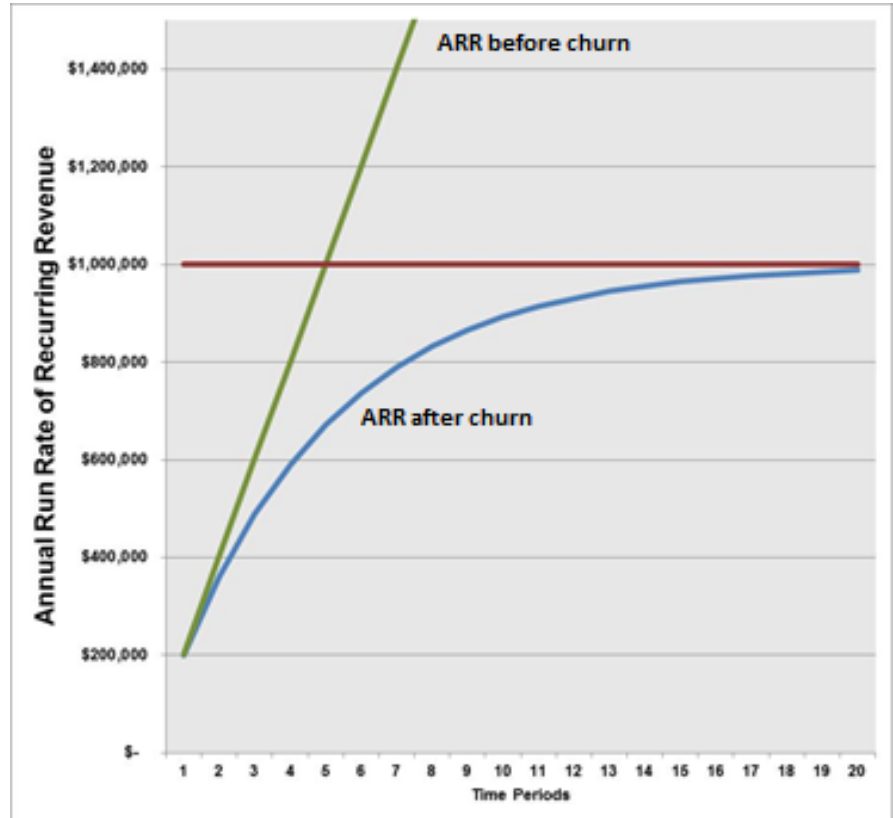
Stop the Leaky Bucket!

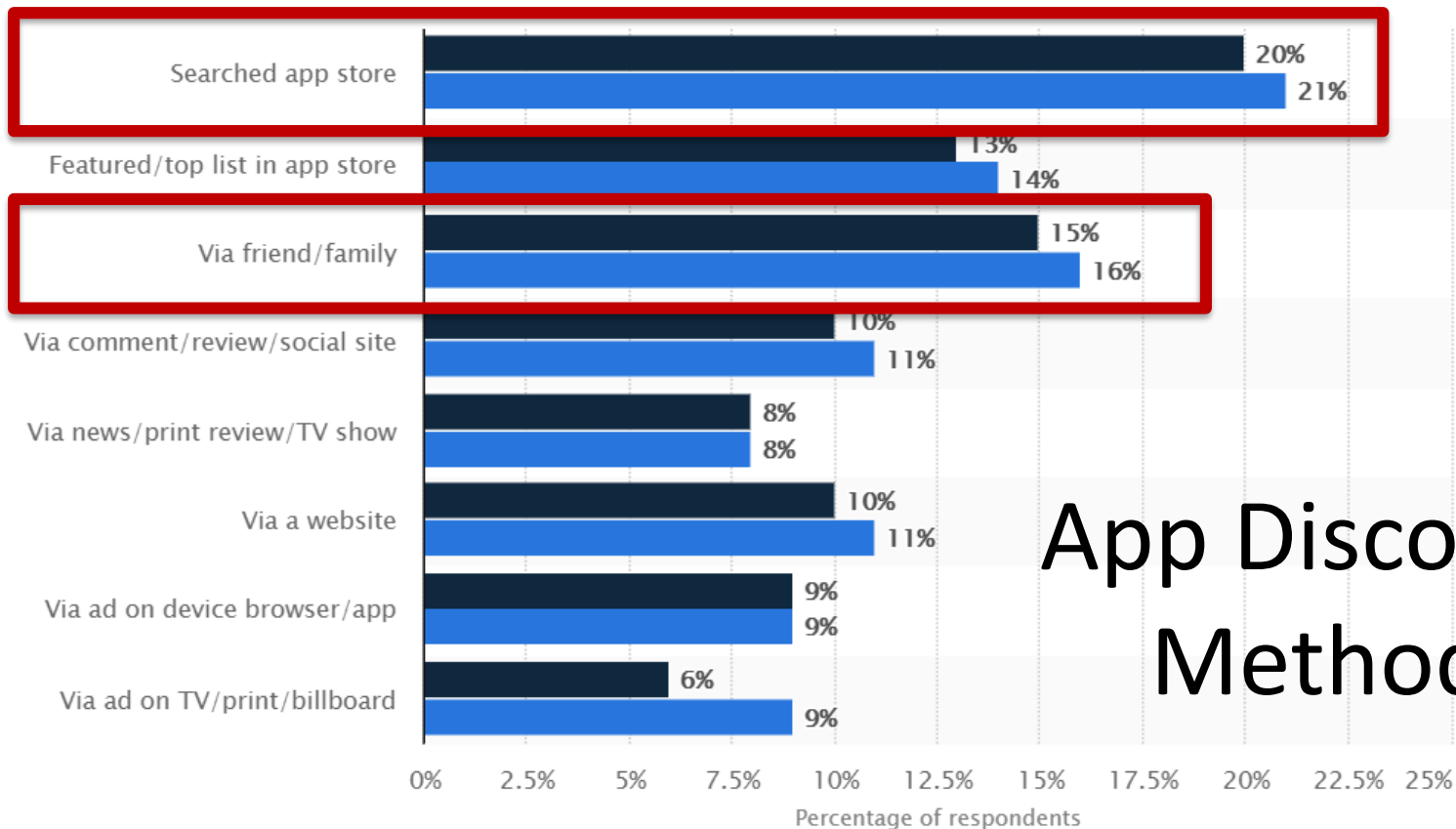


- Reducing churn rate is the first step of growth
- User churn rate \neq customer churn rate
 - Track both

Why Is Churn Rate So Important?

- May define an **upper bound** of your business
 - E.g., customer churn rate over ARR
- Usually, **re-engagement** is more cost-effective than acquisition
 - E.g., via [tailored emails](#)





App Discovery Methods

● Jun '16 ● Jun '17 by [Statista 2018](#)

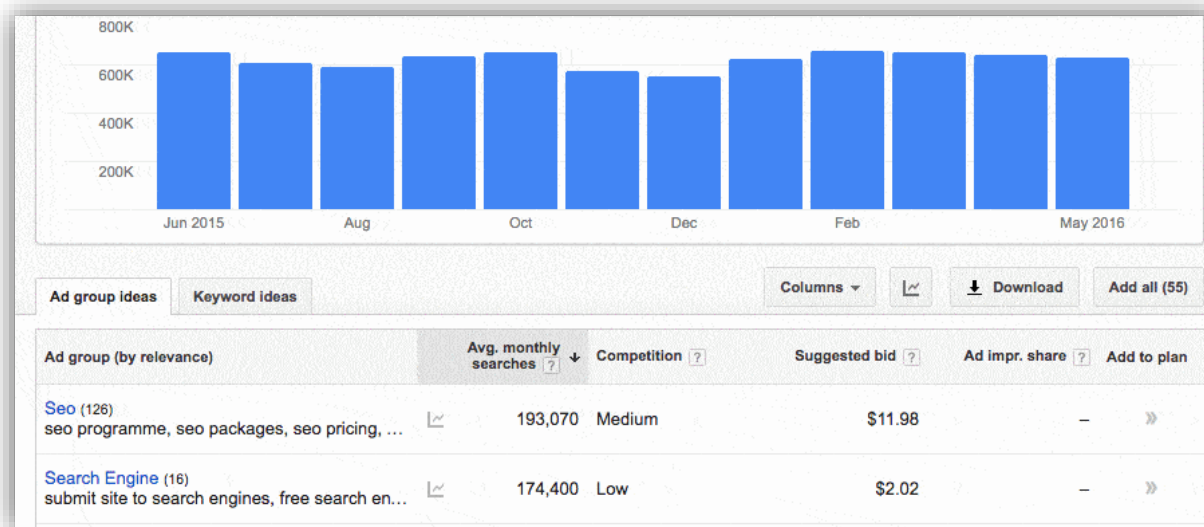
- Key channels: **ASO + virality**

ASO/SEO

- Goal: top ***search/category ranking***
 - #Installs is no longer THE key
 - App Store: #ratings > #installs > Trends > avg. rating
 - Google Play: #ratings > #installs > avg. rating > trends
- What can we do?
- Title/subtitle:
 - Be informative
 - Include keywords → +10% search ranking
- Screenshot & description:
 - Sell a story
 - Benefits over features
- Keywords:
 - It's complicated but worthy of your time
- Ratings & reviews:
 - Encourage happy users to rate, but don't bribe

Keywords

- Use [Google Keyword Planner](#) or similar tools



- Know your competitors' keywords
 - E.g., via metadata or [App Annie](#) or similar tools
- Move those work, and remove those don't

Ratings & Reviews

- Social proof is hard to get
- Fortunately, you can control it!
 - By a good product and design/psychological tactics
- Ask users to rate at right time, with right pattern
 - “Like” → *rate*
 - “Dislike” → feedback
 - When users are *happy*
 - and not interrupted
 - “Ask Later”
 - “Don’t Show Again”



Virality

- ***Inherent virality***: a function of use, e.g., Messenger
- ***Artificial virality***: forced, often built into a reward system
- ***Word-of-mouth virality***: conversation of satisfied users, product-independent

KPIs

- Viral coefficient
- Viral cycle time

Viral Coefficient

- The number of new users/customers that each existing user/customer successfully converts

Existing users	2,000		
Total invitations	5,000	Invitation rate	2.5
Downloads	1,000	Acceptance rate	0.2
		Viral coefficient	0.5

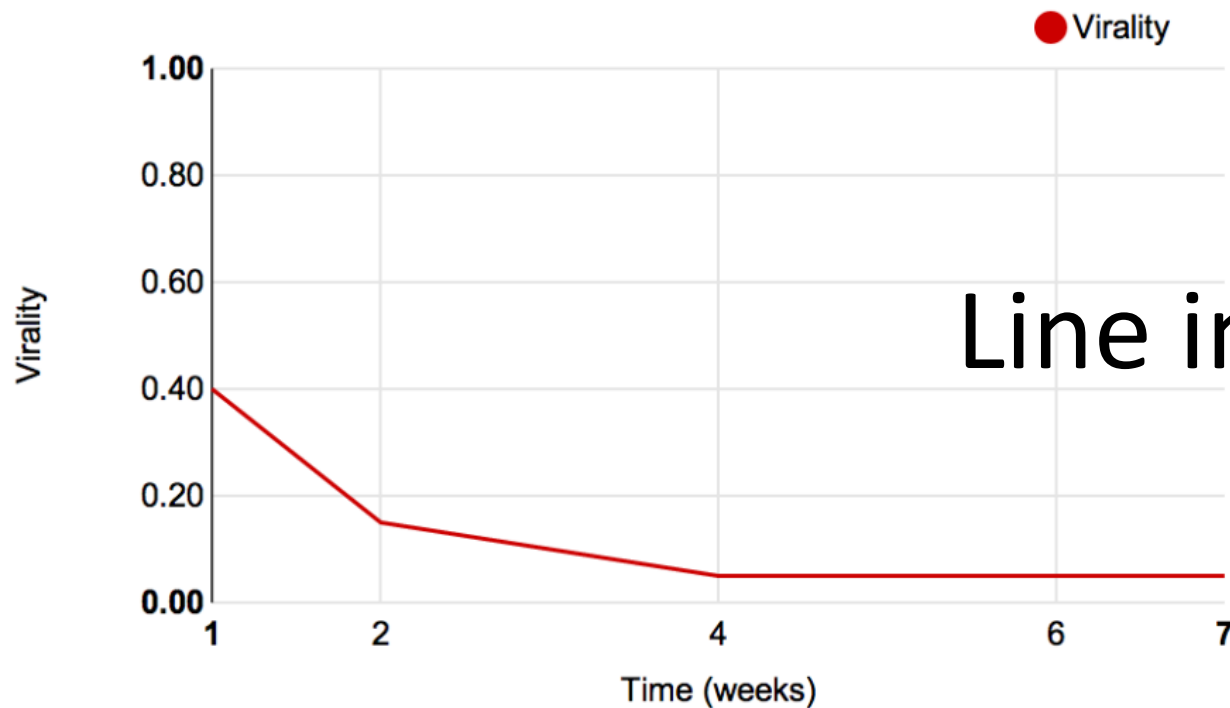
- $VC = IR * AR$
 - How to increase IR?
 - How to increase AR?

Viral Cycle Time

- Avg. time required for each conversion
 - Time to invite + time to accept
- Assume 2k initial users and $VC = 0.5$, after 20 days:
 - 115K users if cycle time = 2 days
 - **6.6M** users if cycle time = 1 day
- How to reduce time to invite?
- How to reduce time to accept?

More Metrics

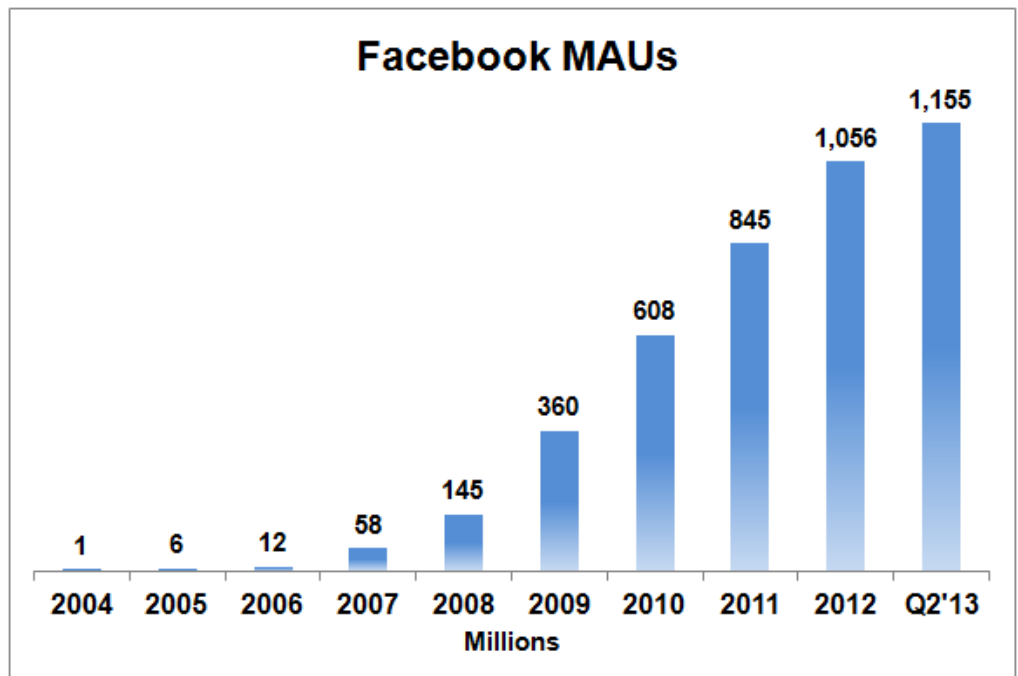
- Track user actions that drive virality
 - E.g., #shares, time-to-share, #likes, etc.
- Watch the word-of-mouth (qualitative)
 - Inject hashtags into shared text
 - Monitor hashtags using tools like [TweetDeck](#)



- You viral coefficient will saturate
 - Depending on how “tight” between users
- Generally, $VC > 1$ means you are “viral”
 - Grow without much marketing/PR budget

Goals for Growth

- If you are viral, your growth will look like a Bass diffusion curve:



- Usually, the initial flat period is much longer
- Y-Combinator teams: **5% per week**

Outline

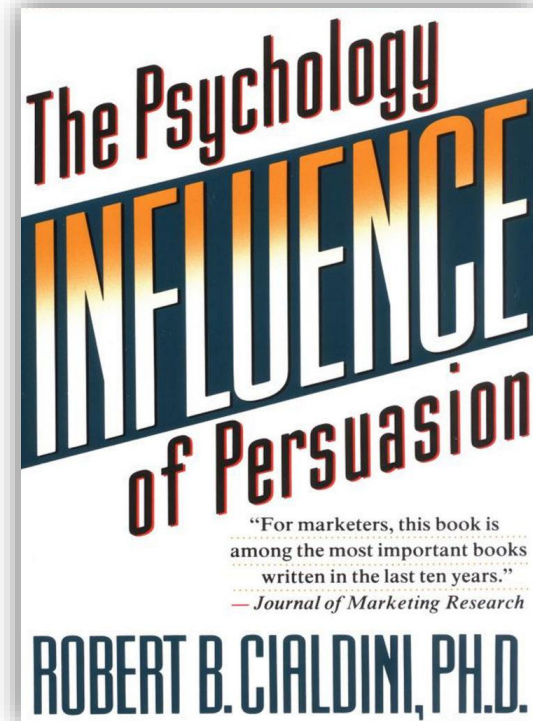
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Tactics

- Based on stereotypes
 - Halo effect
 - Quality comes with the price
 - Contrast principle
 - And many more...
- Based on “fast thinking” shortcuts

6 Psychological Principles

- Reciprocation
- Consistency
- Social proof
- Liking
- Authority
- Scarcity



by Robert B. Cialdini

Reciprocation

- Shortcut: we should try to repay in kind, what another person has provided us
 - Tactics: free samples
- Reciprocal concession: make a large request first. After refusal, make second as concession
 - Leverages the contrast principle
 - Tactics: down selling
- Which one to sell first? Expensive or cheap ones?
- Forest/Flora?

Commitment & Consistency

- Shortcut: after making a commitment, we behave consistently with it
 - Tactics: “How are you doing?” or “Sign here!”
- Pressures:
 - Personal
 - Interpersonal (for public commitment)
- Has long-term effect on one’s self-image
 - E.g., US PoWs start from “US is not perfect”
- Forest/Flora?



Social Proof

- Shortcut: we view a behavior as correct when seeing others like us doing it
 - Tactics: canned laughter, seed tips
- Works particularly well in unknown situations
- Forest/Flora?

Liking

- Shortcut: we are more likely to like something that relates to what we already like
 - Tactics: Cars with hot girls
- What cause liking?
 - Physical attractiveness (halo effect)
 - Similarity
 - Compliments
 - Contact and **cooperation**
 - Conditioning and **association** ([Ivan Pavlov's dog](#))
- Forest/Flora?

Authority

- Shortcut: We obey authorities mindlessly in isolation instead of seeing the situation as a whole
 - Tactics: fake doctors in ads, “according to research”
- We are vulnerable to ***symbols*** of an authority
 - Titles, clothes, accessories, etc.
- People, when asked about it, underestimate this effect.
- Forest/Flora?

Scarcity

- Shortcut: we believe that things that are difficult to own are usually better easier ones
 - Tactics: “limited offer,” “only today,”
 - Counterexamples: “Romeo and Juliet,” “Internet censoring”
- Afraid of loss
- Scarcity + rivalry
 - Tactics: auctions, online biddings
- Forest/Flora?