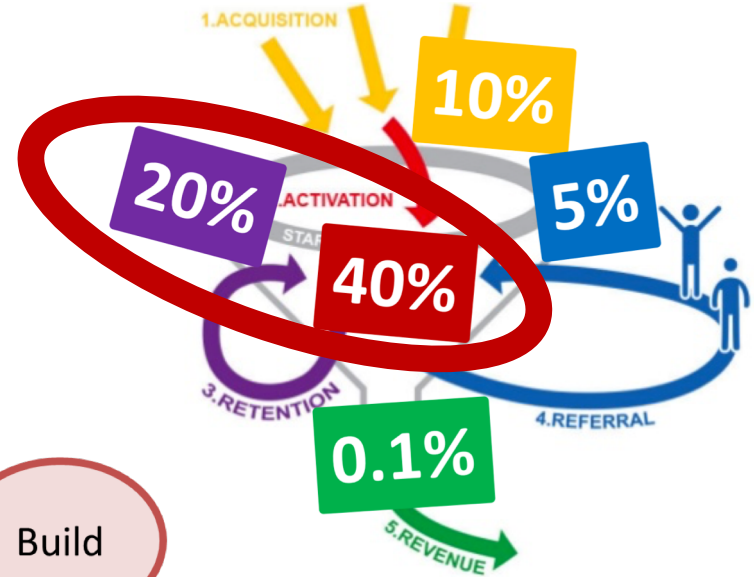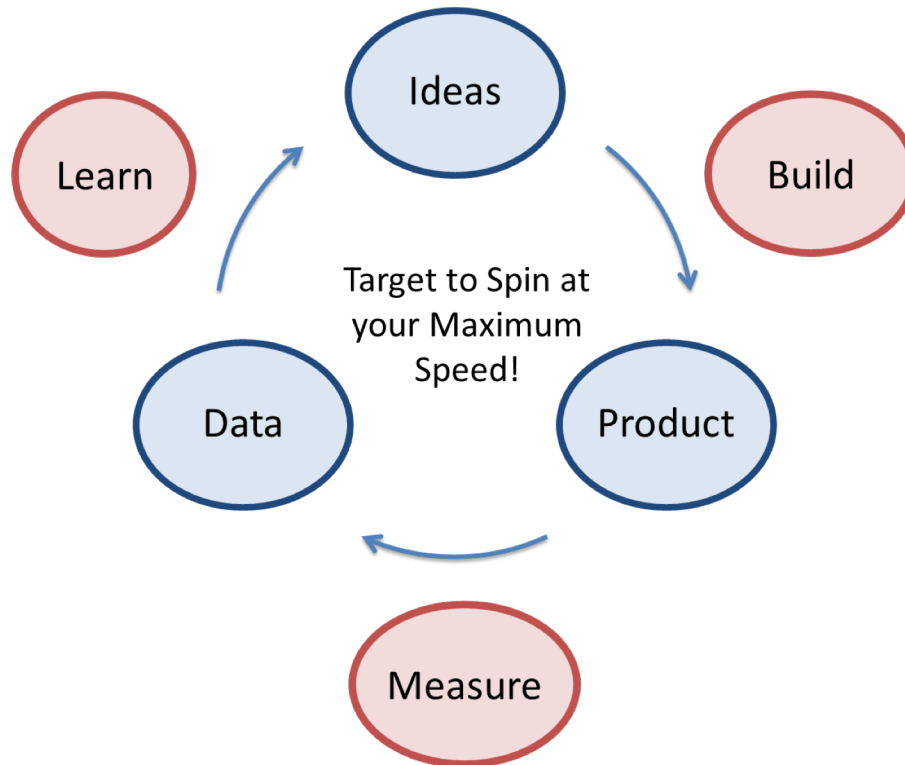# Retention

Shan-Hung Wu

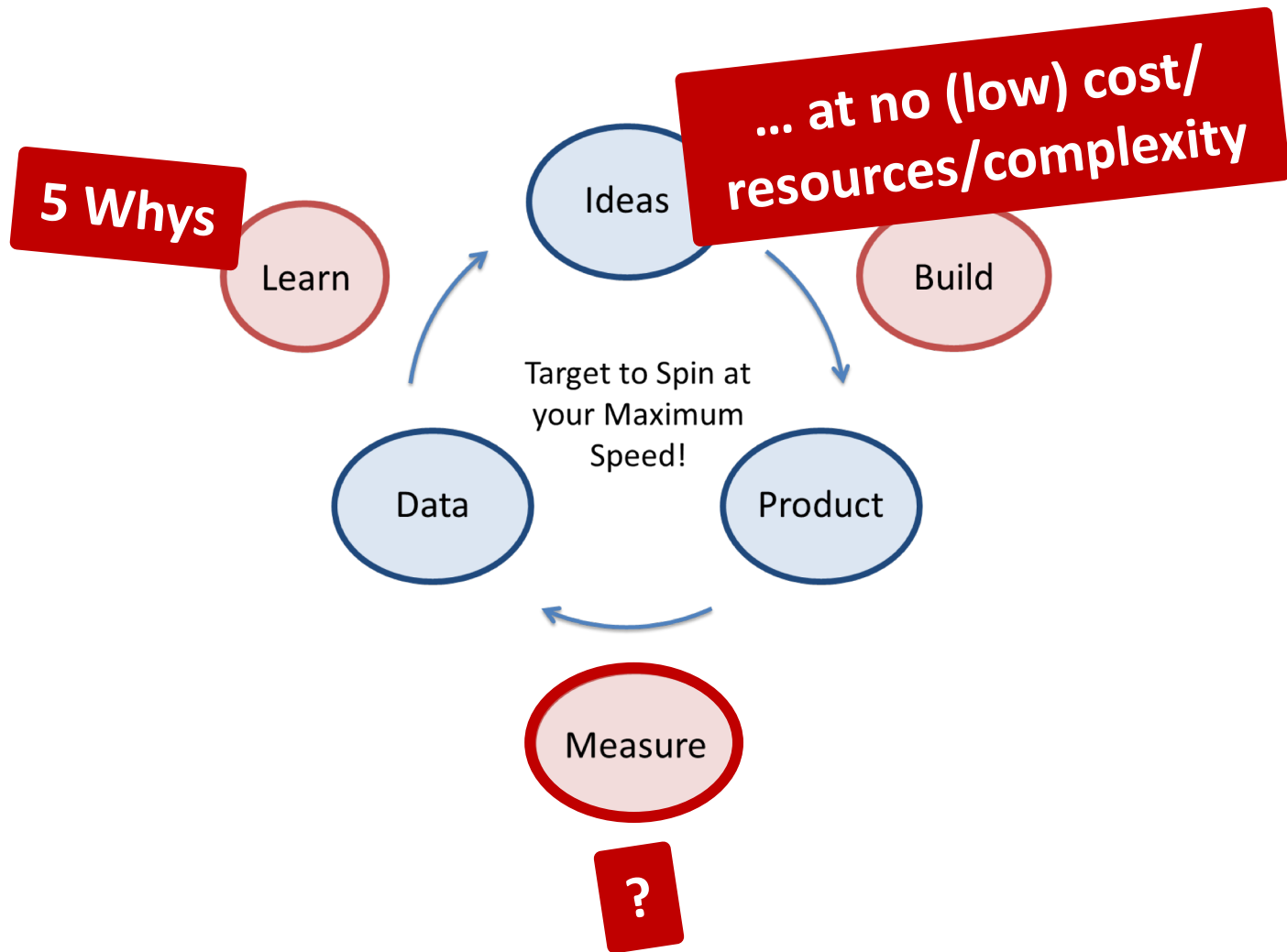CS, NTHU

Battle 2: Retaining Users
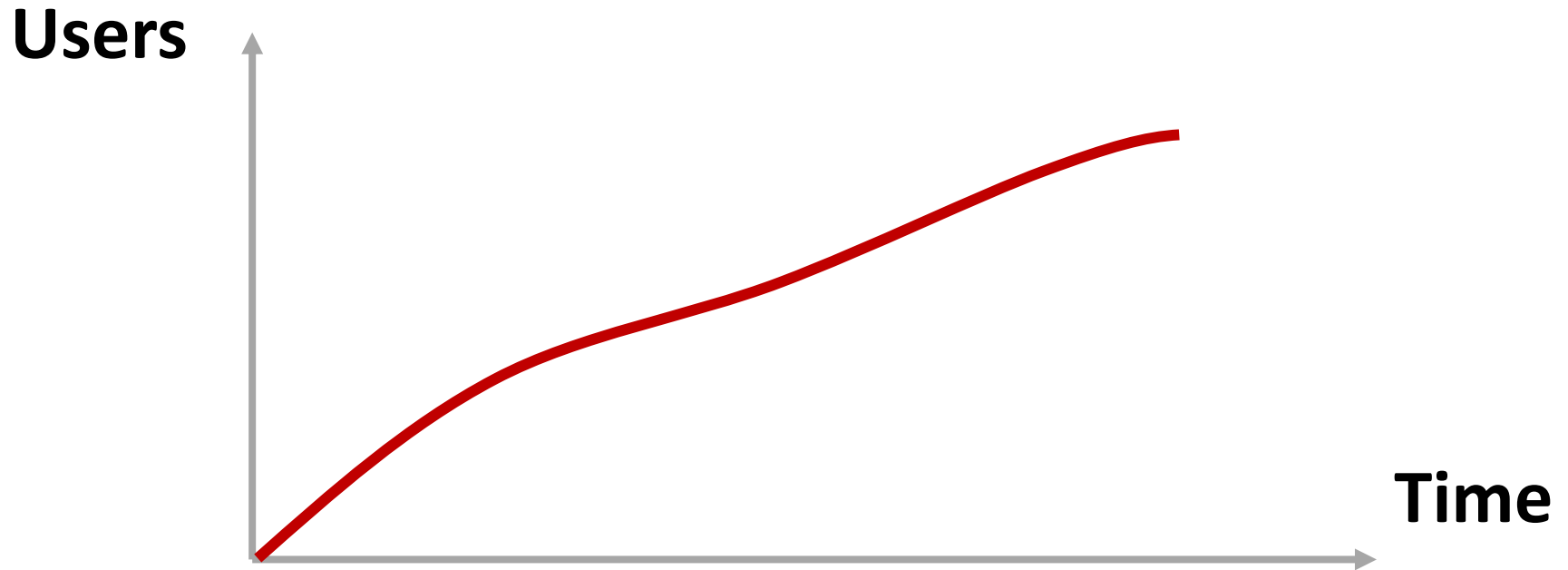
- Today's topic

Outline

- Metrics
- The Psychology of Retention

Lean Experiments

Avoid Vanity Metrics

- Vanity metrics are those *you cannot act upon*
- E.g., #total users

Users

Time

Engagement Funnel

- Aware (App store or web) → downloaded → launched → **active** → engaged (tier 1) → engaged (tier 2) → …
- Track conversion rate for each step
- General benchmark for activeness?
- **Retention rates**: % of returning users after ? days
  - 1 day: False advertising?
  - 7 days: Value delivery?
  - 30 days: PSF? The "first" to think of?

DAU, WAU, and MAU

DAU
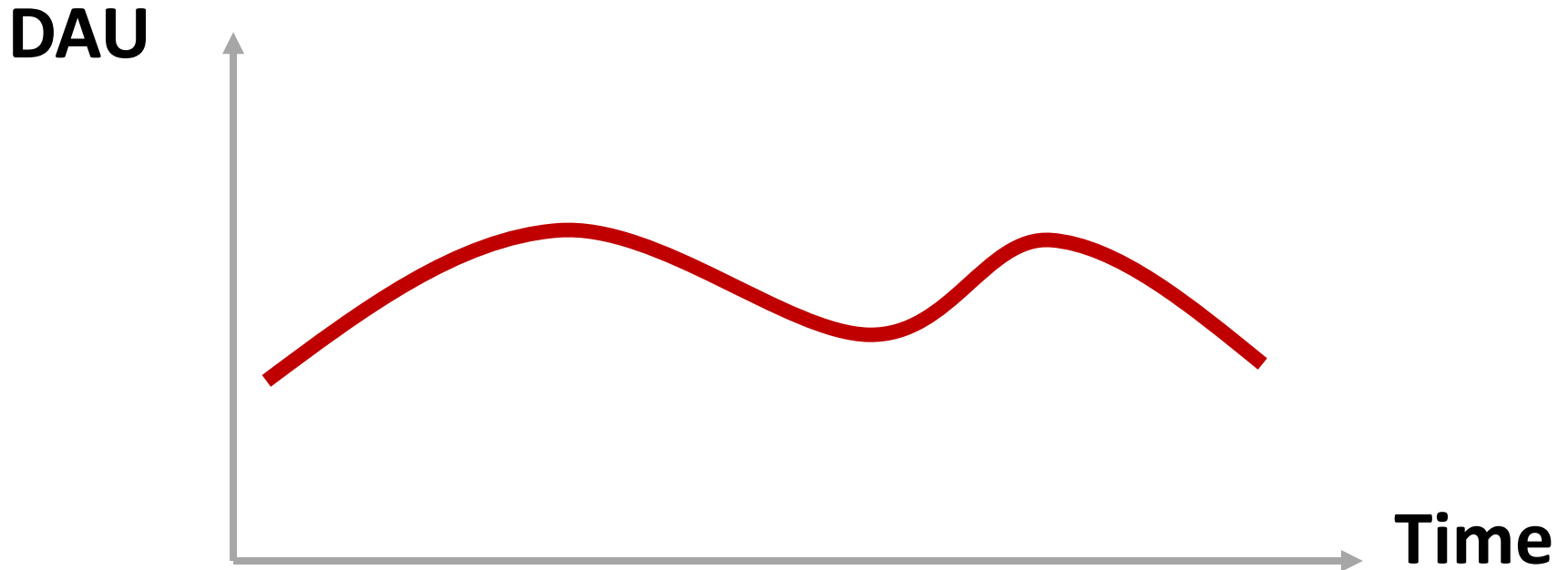
Time

- Daily/weekly/monthly active users
- Better than #users, *but still not enough*

Cohort Analysis

- Your product is changing
- The lifecycles of users coming at different time may be different
  - Aware→ downloaded→ active → engaged 1 → engaged 2 → … → paid
- A *cohort* is a group of users coming at a particular period of time
- *Cohort analysis* compares the lifecycles of different cohorts

Exercise: How's the Product Going?

	Jan	Feb	Mar	Apr	May
#Customers	1,000	2,000	3,000	4,000	5,000
Avg sess time	5.5min	4.5min	4.33min	4.25min	4.5min

- Static growth in #customers
- Stable average session time

- Growing idled?

Exercise: How's the Product Going?

	Jan	Feb	Mar	Apr	May
#Customers	1,000	2,000	3,000	4,000	5,000
#New	1,000	1,000	1,000	1,000	1,000
Avg Sess time	5.5min	4.5min	4.33min	4.25min	4.5min
Month 1	5.5min	6min	7min	8min	9min
Month 2		3min	4min	6min	7min
Month 3			2min	2min	5min
Month 4				1min	1min
Month 5					0.5min

Cohort 1   *Cohort 2*   *Cohort 3*

- The product is in fact flourishing!

Cohort Retention Rates

- Available in most analytic tools
  - E.g., Google Analytics

Extensions

- Segmentation
  - Split a cohort into segments based on attributes (e.g., age, gender, country, device, etc.)
- A/B testing
  - Randomly split a cohort into 2 segments
  - Deliver A and B to different segments

- Compare results of ***the same cohort***

We have 15% retention rate after 30 days. Is it good enough?

Know Your Industry

- "[80% of app users churn in 90 days]"

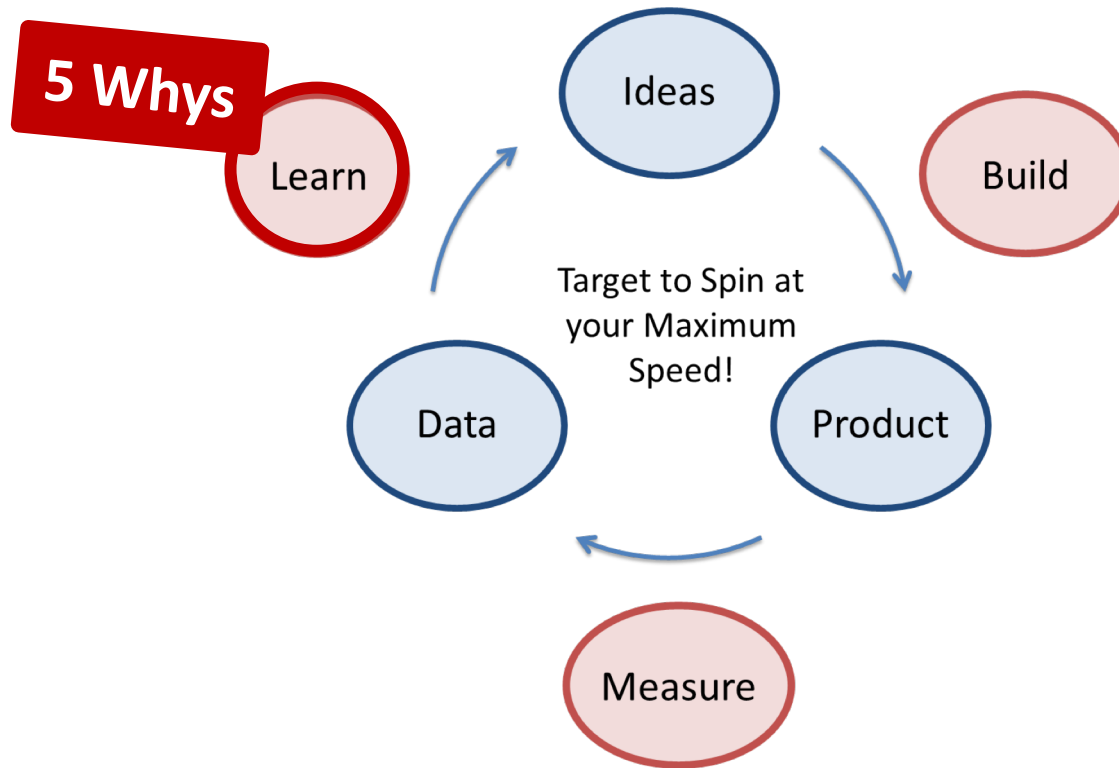**Performance Metrics on Day 1 vs. Day 30 for iOS App Installs Worldwide, by App Category, Q1 2016**

1 Retention rate   **3** Time spent per session (seconds)

2 Sessions per user

	Day 1			Day 30		
	1	**2**	**3**	**1**	**2**	**3**
Books & magazines	26.1%	1.75	487.0	4.4%	1.55	265.0
Education	26.5%	1.77	513.5	6.0%	1.57	334.0
Entertainment	26.4%	1.86	509.0	5.1%	1.62	361.0
Finance & business	26.3%	1.74	411.5	6.9%	1.65	287.0
Food & drink	26.0%	1.81	555.0	5.1%	1.55	318.0
Games	27.1%	1.84	566.0	4.5%	1.57	348.0
Hobbies	29.7%	1.93	646.0	5.5%	1.63	403.0
Lifestyle	26.7%	1.94	637.0	5.2%	1.58	373.0
Social & communication	24.6%	1.82	531.0	5.8%	1.67	299.0
Travel & transport	25.9%	1.80	501.0	5.9%	1.70	310.5
Utilities	25.8%	1.84	551.0	5.2%	1.65	372.5

Note: represents activity on adjust's platform, broader industry metrics may vary; all values represent median; app classification based on categories used by Apple App Store
Source: adjust, "Mobile Benchmarks Q1 2016," May 17, 2016

211330   www.**eMarketer**.com

14

Lean Experiments

5 Whys

Learn

Ideas

Build

Target to Spin at your Maximum Speed!

Data

Product

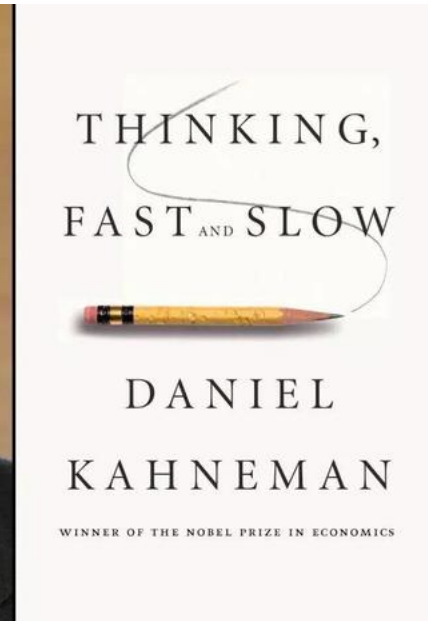Measure

- Measurements → *psychology* → new features

Why Psychology Matters?

- Human are evolved to survive in a changing world

- You brain has "shortcuts" to react fast

- Most successful products are ***encode themselves into a shortcut***
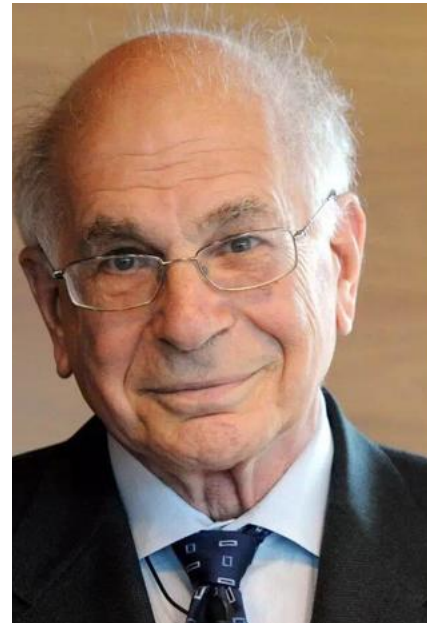
Exercise: Non-Stoppable Swiping on Facebook/YouTube/PTT?

- Information hunting
  - You expect "the next interesting story"
  - Evolution-supported*!*

- How primitive mans hunt?
  - Persistence hunting

- How to turn Facebook/YouTube/PTT into a shortcut of information hunting?

The Hook Canvas
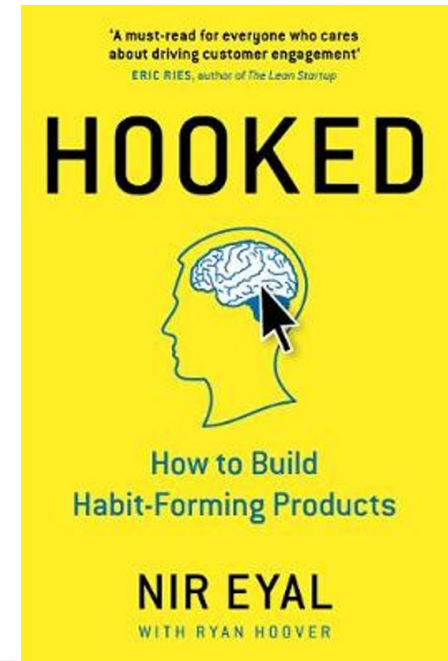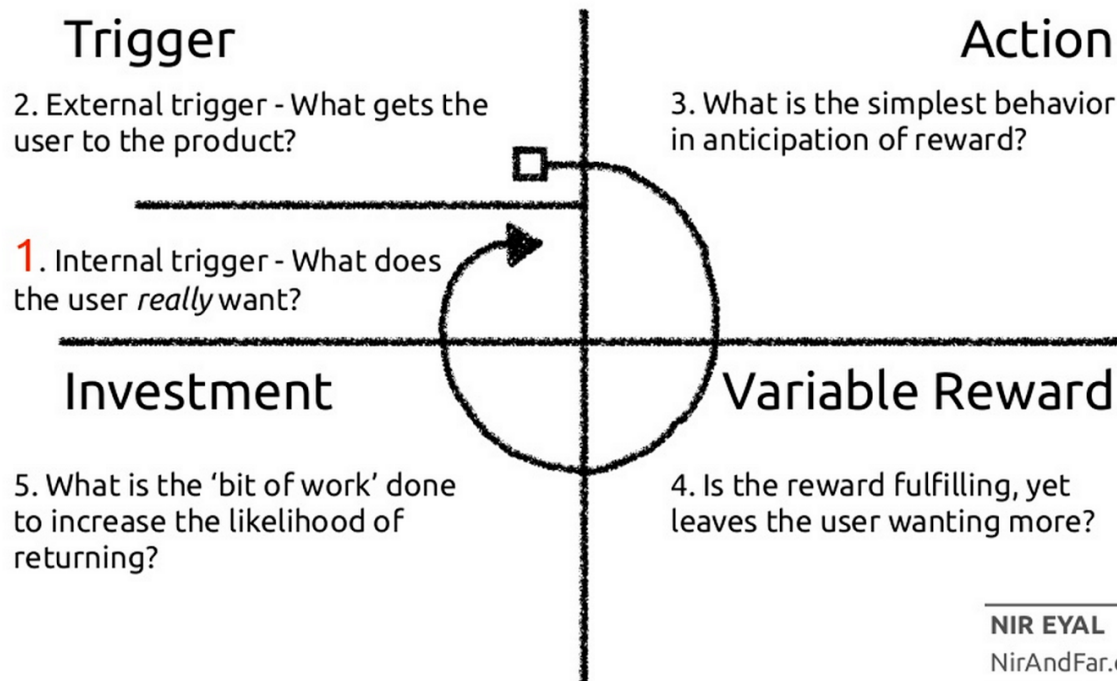
- 2 keys of habit forming:
  - Action frequency
  - Perceived rewards

Trigger

2. External trigger - What gets the user to the product?

1. Internal trigger - What does the user *really* want?

Action

3. What is the simplest behavior in anticipation of reward?

Investment

5. What is the 'bit of work' done to increase the likelihood of returning?

Variable Reward

4. Is the reward fulfilling, yet leaves the user wanting more?

NIR EYAL
NirAndFar.com
@nireyal

'A must-read for everyone who cares about driving customer engagement'
ERIC RIES, author of The Lean Startup

HOOKED

How to Build
Habit-Forming Products

NIR EYAL
WITH RYAN HOOVER

18

The "Facebook Shortcut"

- Triggers
  - Internal: information hunting, social approval, etc.
  - External: notifications, emails, etc.
- Actions at low cost
  - Relevant stories selected by algorithms
  - Only swiping needed to consume the feed
- Rewards with dynamics
  - Some interesting stories
- Input for the next triggers
  - Like, comment, share, post, photo tag, check in, etc.

Triggers

- 3 types internal triggers?
  - Searching for joy; avoiding pain
  - Searching for hope; avoiding fear
  - Searching for social acceptance; avoiding rejection
- Google is associated with "avoiding the uncertainty pain"
- External triggers *at the right time*

Actions

- Six barriers
  - Time
  - Money
  - Effort
  - Brain power
  - Deviation from social norm
  - Breaking convention

Rewards

- Bio fact: dopamine are released (by nucleus accumbens) at the time people "want" to get rewards
- Rewards must be ***wanted***
  - Correspond to the internal triggers
- Rewards must be ***dynamic***
  - If you don't get it this time, you want it more
  - E.g., gambling
- 3 types of dynamic rewards:
  - Hunting
  - Self-satisfaction
  - Social

Input/Investment

- Goal 1: for the next (external) triggers
  - Increase action frequency
- Goal 2: to make users *like your product*
  - The more people input, the more they like you
  - Commit and consistency
  - Rationalization
- Input *after* rewards
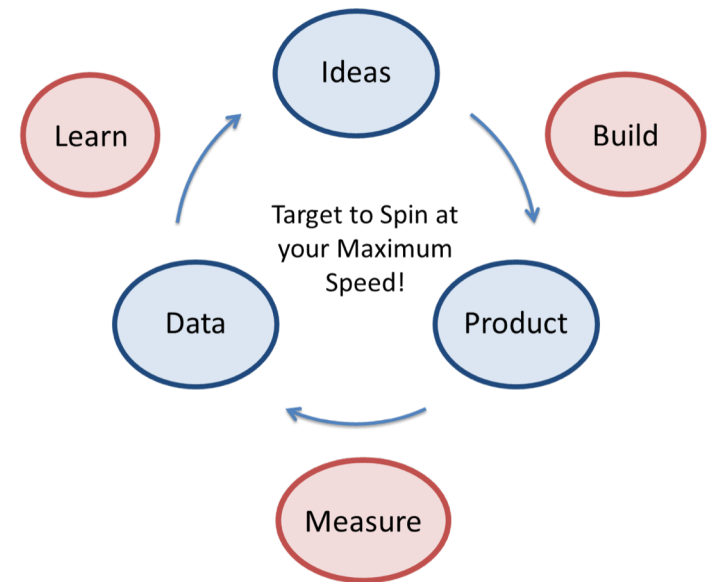 - Reciprocation

Exercise: The Flora Shortcut

- Triggers

- Actions at low cost

- Rewards with dynamics

- Input for the next triggers

Which Idea First?

- Internal triggers
- Actions at low cost
- Rewards with dynamics
- Input for the next triggers
- External triggers

- Measure the effectiveness of each step
- Then solve the bottleneck first

Your Next Presentation

- Topics:
  - Your landing page
  - Measure(s)
  - Results

- Use a baseline to justify your results
  - A/B testing
- 6 min / team