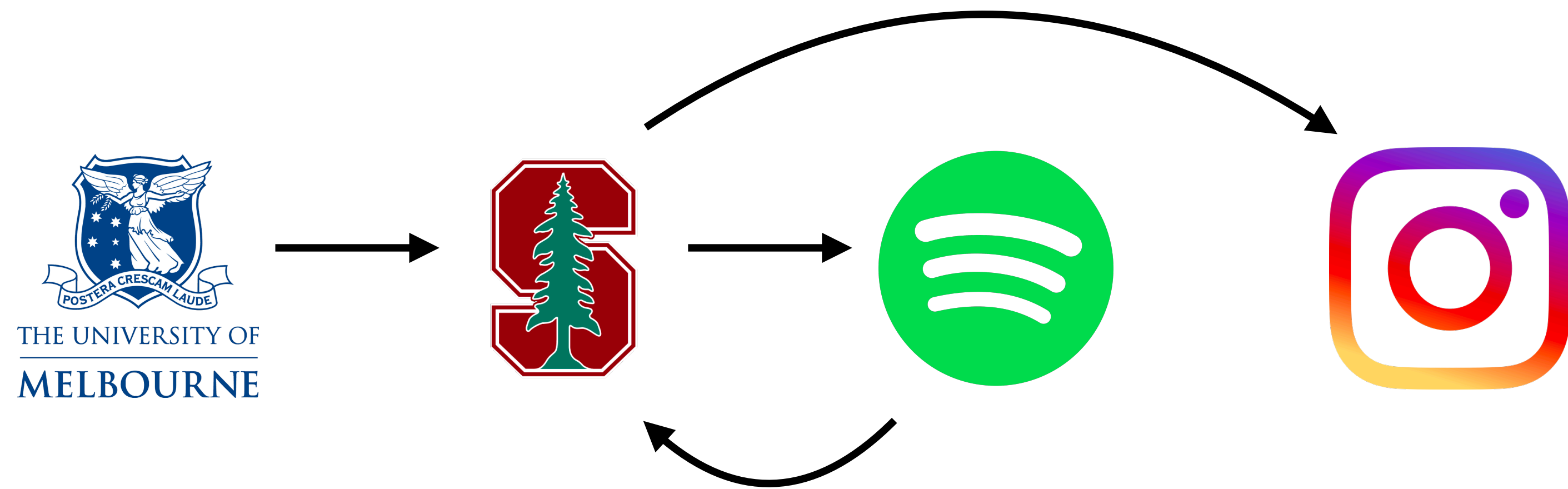


Data-Driven Product Development

How Data Science helps build better products

Ron Tidhar, May 2021

About Me



1. Product Strategy
2. Goals & Key Metrics
3. Experimentation

1. Product Strategy

Why add Data Science?

- Grounding in data increases the likelihood of developing a **viable strategy**
- Frames strategy in terms of **falsifiable hypotheses**
- Using data **accelerates strategy formation** (fewer opinions, more experiments)

How Data Science adds?

- Analysing **existing product health** (incl. areas to improve)
- Finding areas of **organic traction for new products**
- Evaluating opportunities through **market sizing**

1. Product Strategy

The screenshot displays the LinkedIn homepage for a user named Bryan. The top navigation bar includes links for Home, Find People, Find Jobs (marked as NEW!), Find Services, My Profile, and My Contacts. A secondary bar shows Home, Account, and Requests. The main content area begins with a welcome message and a link for users not logged in. Below this is an 'Action Items' section with two notifications about job referrals for Matt Cohler. The 'Overview' section shows 9 connections and a network growth of 2,790 people. The 'Quick Search Your Network' section features search filters for people, jobs, and services, along with a 'Show jobs in my network first' checkbox and an 'Add Connections' button. The 'Build Your Network' section offers options to find current colleagues (e.g., DirectPixel Internet Solutions), reconnect with past colleagues (e.g., The UPS Store), invite new connections, and discover LinkedIn contacts. The 'The Total View' section provides a visual representation of the network reach, showing 9 first-degree, 73 second-degree, and 3,500+ third-degree connections, totaling 353,200+ reachable users. A 'CASE STUDIES' section highlights a success story from Orr Shakked. At the bottom, there are 'Sponsored links' for resume writing services.

LinkedIn

Home Find People Find Jobs **NEW!** Find Services My Profile My Contacts

Home Account Requests

Welcome back to LinkedIn, **Bryan**. [You're not Bryan? Click here.](#)

Action Items

- 3rd Contact Matt Cohler**
Your request, Re: Job Referral for Bryan Veloso, was accepted. | July 29, 2005
- 2nd Contact Matt Cohler**
Your request, Re: Job Referral for Bryan Veloso, was accepted. | July 29, 2005

Overview

You have **9** connections.

2,790 people have joined your network since your last login.

Quick Search Your Network

Find People:

Find Jobs:
Accounting / Auditing
Administrative
Advertising

Find Services:

☒ Show jobs in my network first.

Search **+ Add Connections**

Not finding what you're looking for? Make sure that you've added all your friends and colleagues.

Build Your Network

Find current colleagues.

DirectPixel Internet Solutions [Find new since 7/29/2005](#) [Find all](#)

Reconnect with past colleagues.

The UPS Store [Find new since 7/29/2005](#) [Find all](#)

Invite new connections.

first name last name
email address **Send Invitation**

Discover your LinkedIn contacts.

It takes less than two minutes to find all the people you know on LinkedIn.

The Total View

You → **1st** 9 → **2nd** 73 → **3rd** 3,500+ [4th and more](#)

Total users contactable through a trusted referral: **233,500+**
Your network also includes **119,600+** users who can be contacted without a referral. In total, you can reach **353,200+** professionals.

CASE STUDIES

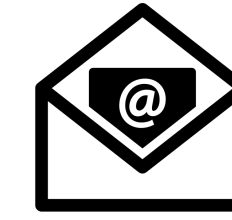
Success: Found Ideal Job
"I was hired, and the person that referred me [received a \\$2,500 referral bonus!](#)"
Orr Shakked, Software industry
[Share your success](#) | [View all case studies](#)

Sponsored links [Your ad here](#)

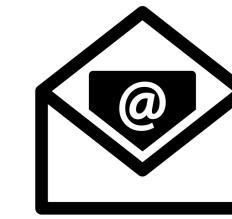
[Resume Writing/Coaching](#)
Professional Recruiter providing Resume Writing & Career

2. Goals & Key Metrics

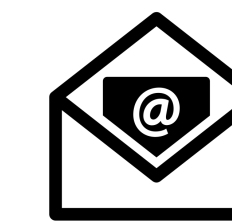
- **Hypothetical:** Your team is running an email marketing campaign to attract new signups for your product.
- Without much thought, the team adopts “**Email Open Rate**” as the key metric.*
- What email subject line would lead to the highest open rate?



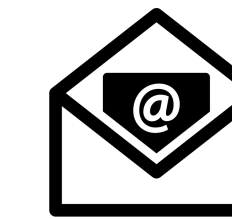
“Sign up today to discover these 3 great new features”



“Here’s an exclusive offer just for you!”



“Sign up and earn \$100”



“FREE BEER!!!”




* Email open rate = (# of opens) / (# of emails sent)

2. Goals & Key Metrics

The role of Data Science

- Define **quantified measures of success**
- Design the **right incentives**
- Develop a structured way to **evaluate tradeoffs** (e.g., identify **guardrails**)
- Build projections to set **challenging but fair targets**

3. Experimentation

Cell 1 (Control)	Cell 2	Cell 3
 <p>A Netflix Original THE SHORT GAME</p>	 <p>A NETFLIX ORIGINAL THE SHORT GAME</p>	 <p>A NETFLIX ORIGINAL THE SHORT GAME</p>
Default artwork	14% better take rate	6% better take rate

NETFLIX

3. Experimentation

A



B



C



D



E



F



3. Experimentation

A



B



C



D



E



F

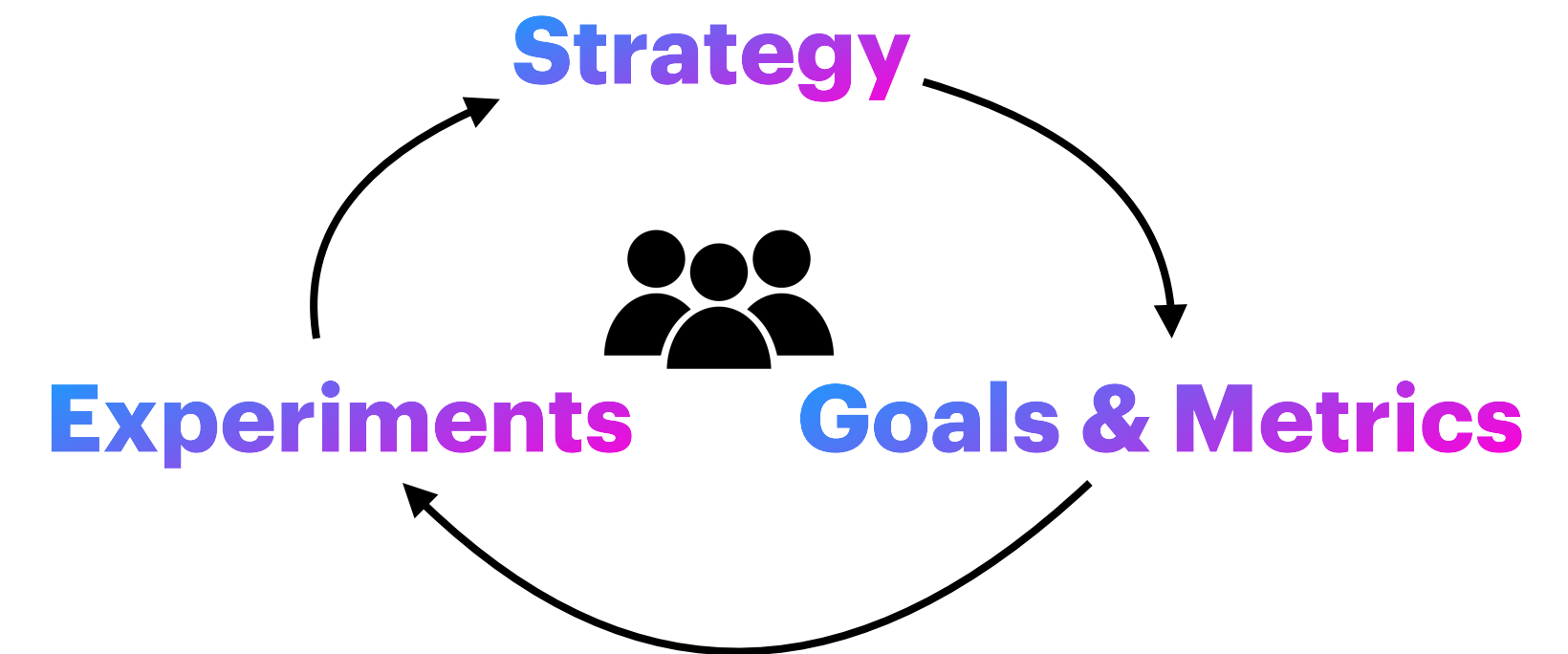


Prerequisites

Prerequisites*

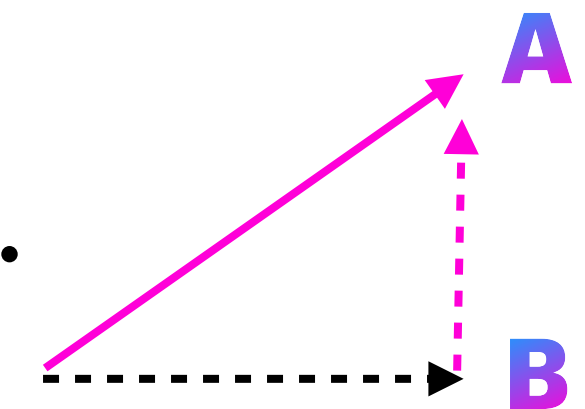
Product Strategy ⇨ Organisational Structure

- Data Science is embedded in Product teams



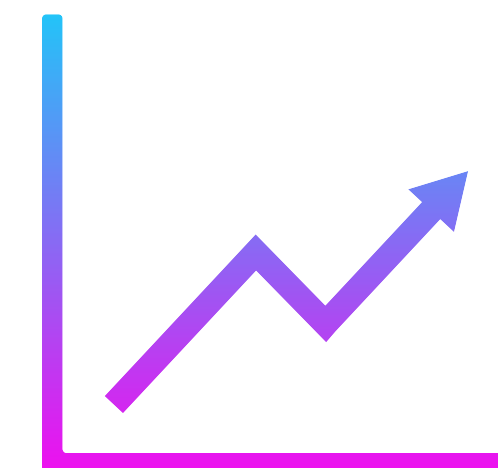
Goals & Key Metrics ⇨ Incentives:

- Product teams are rewarded based on hitting goals (or not).



Experimentation ⇨ Engineering:

- Sufficient engineering resources to conduct experiments at scale.



* A non-exhaustive list...

Recommended Reading

Organisational Structure at Stitch Fix:

<https://cultivating-algos.stitchfix.com/>

Data-Informed Product Building by Sequoia Capital:

<https://medium.com/sequoia-capital/data-informed-product-building-1e509a5c4112>

Experimentation basics by Optimizely:

<http://www.abtestingbook.com/>

On Incentives by Steven Kerr:

“On the folly of reward A while hoping for B”

Thank you!

Ron Tidhar, May 2021