The People & Organization Components of Data Maturity

17-08-2022

Our Mission

Our mission is to democratize data skills for everyone

Future-proof your business with DataCamp

Best in class learning

Give your employees access to market-leading training with DataCamp Learn

Build work ready skills

Apply your skills in a risk-free online coding environment with DataCamp Workspace

Grow your data team

Upskill your existing talent or hire data professionals faster with DataCamp Recruit

Trusted by more than 10 million learners and 2,500 data-driven companies

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PayPal Uber Deloitte. CREDIT SUISSE Mercedes-Benz BNP PARIBAS

Adel Nehme

Adel Nehme

Data Science Evangelist

DataCamp

adelnehme

- Graduate in Economics from the American University of Beirut
- MSc in Business Analytics & Data Science from ESSEC Business School & CentraleSupelec
- Data Science Educator & Evangelist @ DataCamp
- 🎤 Host of the DataFramed Podcast 🎤

A better webinar experience for you

Ask questions

Open Q&A at the end!

Handouts

We have tons of goodies in the handouts section including today's slides — make sure to check them out!

Share it!

A recording of the webinar will be sent you — make sure to share it with your colleagues!

Agenda

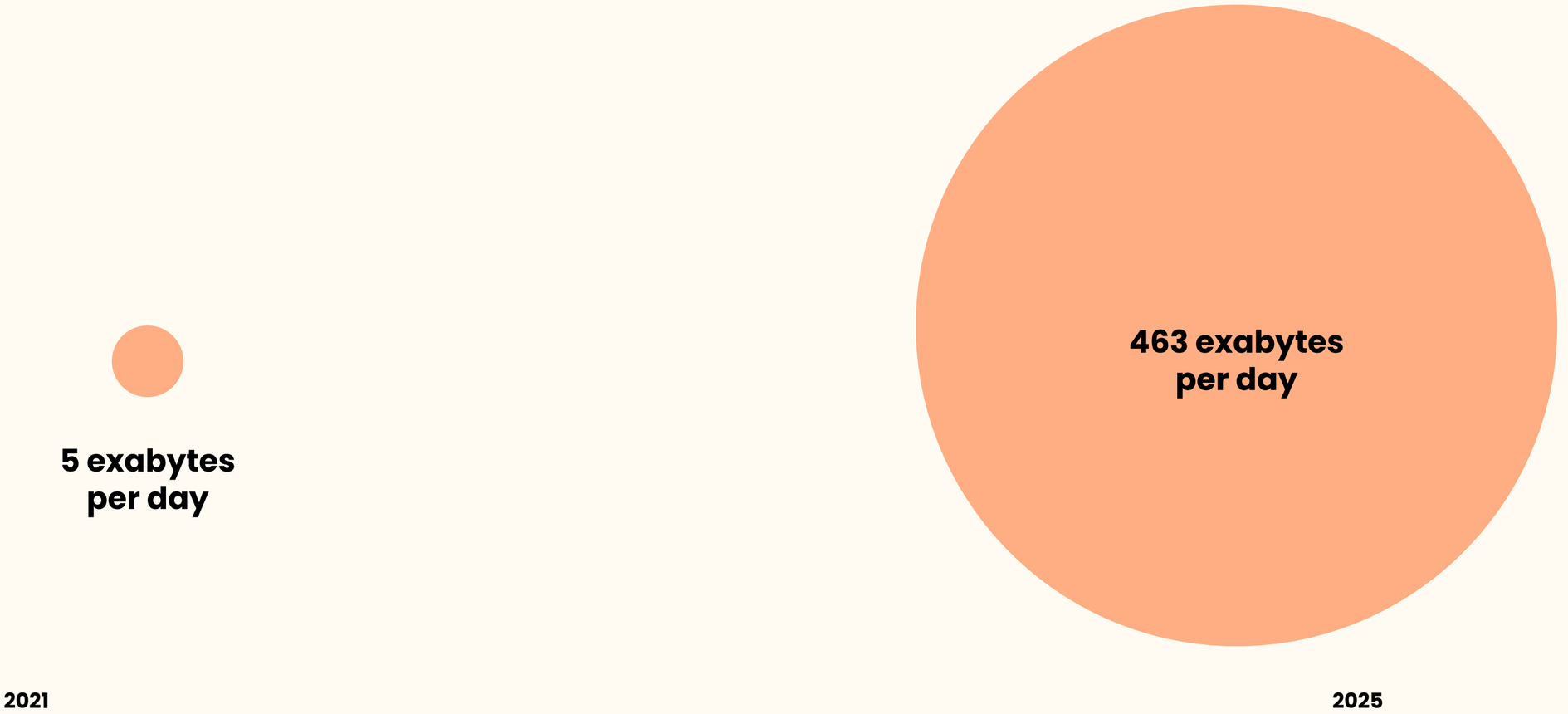
1. The path to data maturity
2. The IPTOP framework for data maturity
3. Scaling People & Organization for data maturity
4. Closing notes & next steps
5. Q&A

1

The path to data maturity

The amount of data generated is increasing exponentially

*The amount of data generated from 2021 to 2025 will increase by **92x***



Accenture

Organizations want to derive value from data

Organizations are making active investments in becoming data-driven

92%

Of organizations are increasing investments in data science and AI initiatives

NewVantage Partners CXO Survey 2022

260%

In data scientists in enterprise organizations over the past two years alone

Refinitiv

2x

Cloud infrastructure market is expected to double in size by 2025

Cloudwards

But organizations are facing headwinds

Despite investments, organizations are far away from their desired state

26%

Of organizations claim they are “data-driven” — **with 92% of respondents blaming culture and skills**

NewVantage Partners CXO Survey 2022

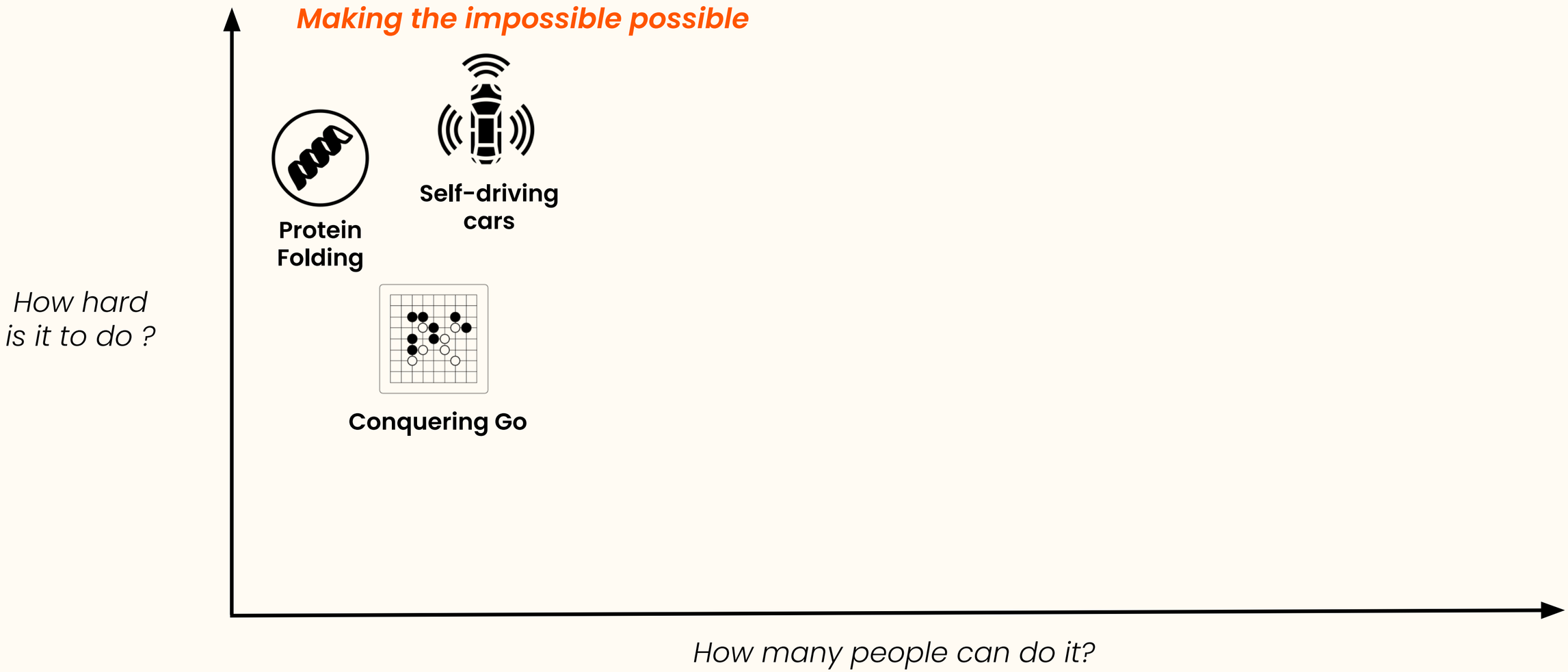
48%

Of employees still value gut instinct over data driven decision making

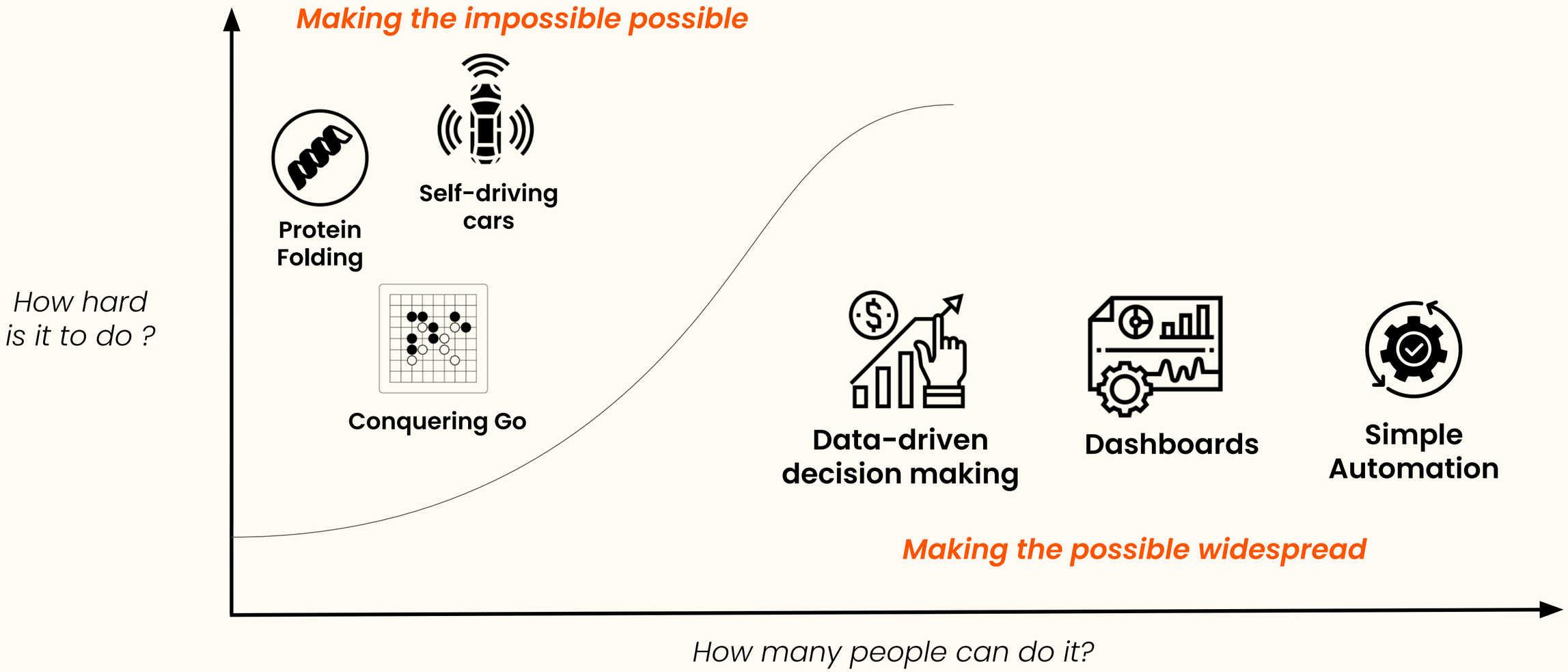
Accenture

The pitfall of shiny toys

The pitfall of shiny toys



The pitfall of shiny toys



Data transformation is more than just a technology investment

Data transformation requires a multi-pronged approach that puts data culture and literacy at the center

"Data culture is not just an option to succeed in data analytics initiatives, it is business-critical"

Sudaman Thoppan Mohanchandralal

Regional Chief Data and Analytics Officer
Allianz Benelux

🎥 *Watch the webinar here*

🎙️ *Listen to his podcast here*

2

The IPTOP framework for data maturity

The five dimensions for data maturity

Tools
Which data tools to use?

Organization
Bespoke organizational models

Processes
Data processes for scale

People
Transforming talent for the data-driven age

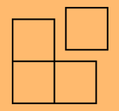
Infrastructure
Enabling data access

What that means in practice

Scaling infrastructure, people, tools, organization, and processes — to scale data culture and put data literacy at the center

People

Everyone in the organizations has the skills and culture to scale data-driven decision-making



Hiring the right talent

Upskilling and continuous learning

Data-Driven Decisions at Scale

Infrastructure

Data is trusted, useable, findeable, and actionable

Solid data discovery

Scalable data governance

High impact operationalization

Tools

Modern tooling accessible, with frameworks to lowering barrier to entry

Modern tooling accessible

Frameworks to lower high barrier to entry

Organization

Data team set in place to scale democratization and high-impact data science

Data team is strategic

Democratization for all

Processes

Mature data processes for **all**

Data processes are inclusive

Data team maturing efficiency

The data maturity spectrum

Data reactive

No one accesses or uses data in their daily work. Your company rarely reports on or presents data

Data scaling

Very few people have the skills and access they need to analyze, report, and present data confidently

Data progressive

Every team has at least one data literate employee who can analyze, report, and present their data, regardless of role

Data literate

Everyone knows how to access the data they need to do their job (this doesn't mean that everyone needs to code)

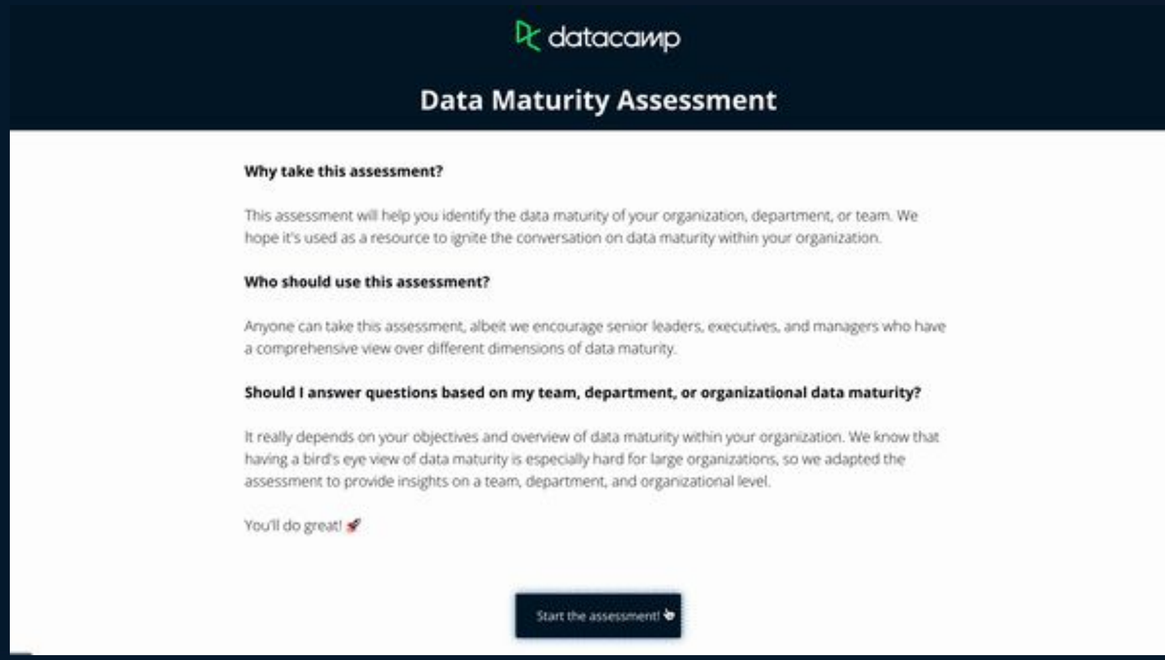
DataCamp's Data Maturity Assessment

Understand where your team, department and organization are located on the data maturity spectrum, by taking our 10-minute maturity assessment survey.

This assessment will help you pinpoint areas for improvement and the strategies you can take in order to become a data-driven organization.

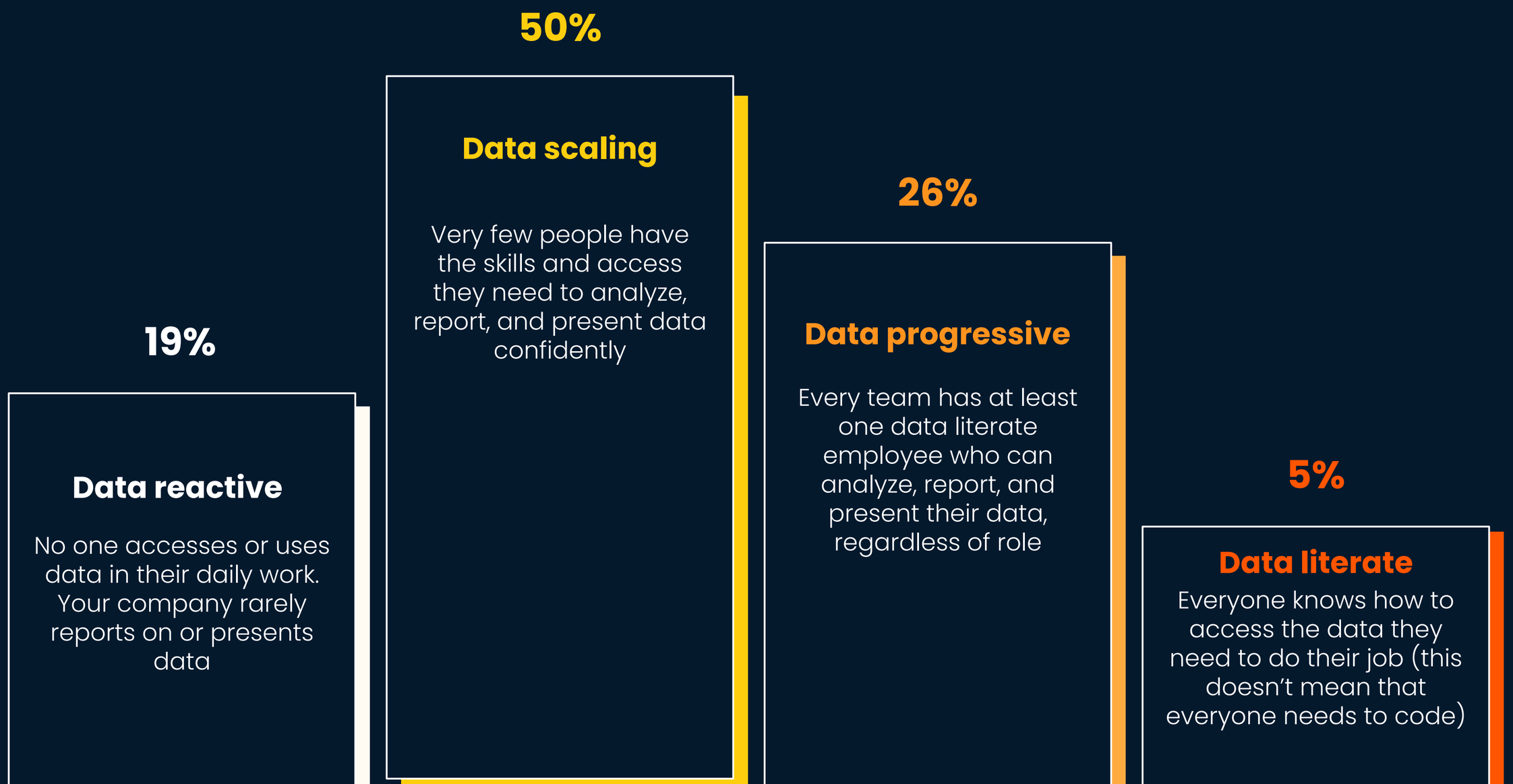
10 minutes
29 questions

Start Now



Results from the data maturity assessment

** 500+ respondents from data practitioners and leaders from across industries*

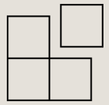


What we talked about last week

Scaling infrastructure so that data is trusted, useable, findeable, and actionable

People

Everyone in the organizations has the skills and culture to scale data-driven decision-making



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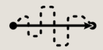


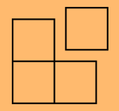
Data team maturing efficiency

What we'll talk about today

Scaling people and organization so that people have the skills, culture, and mindset to work with data effectively

People

Everyone in the organizations has the skills and culture to scale data-driven decision-making



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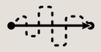


Data team maturing efficiency

3

Scaling People & Organization for data maturity

From Data Reactive to Data Scaling

What data reactive looks like — People & Organization

People

No one has the **skills** to work with data — the organization does not have a **data culture**

Gut Instincts over Data

The organization's culture is centered around gut instincts and subject matter expertise

No data talent

There have been no serious efforts to hire any data talent that can showcase the art of the possible

No upskilling strategy

The organization has not given thought to data literacy upskilling

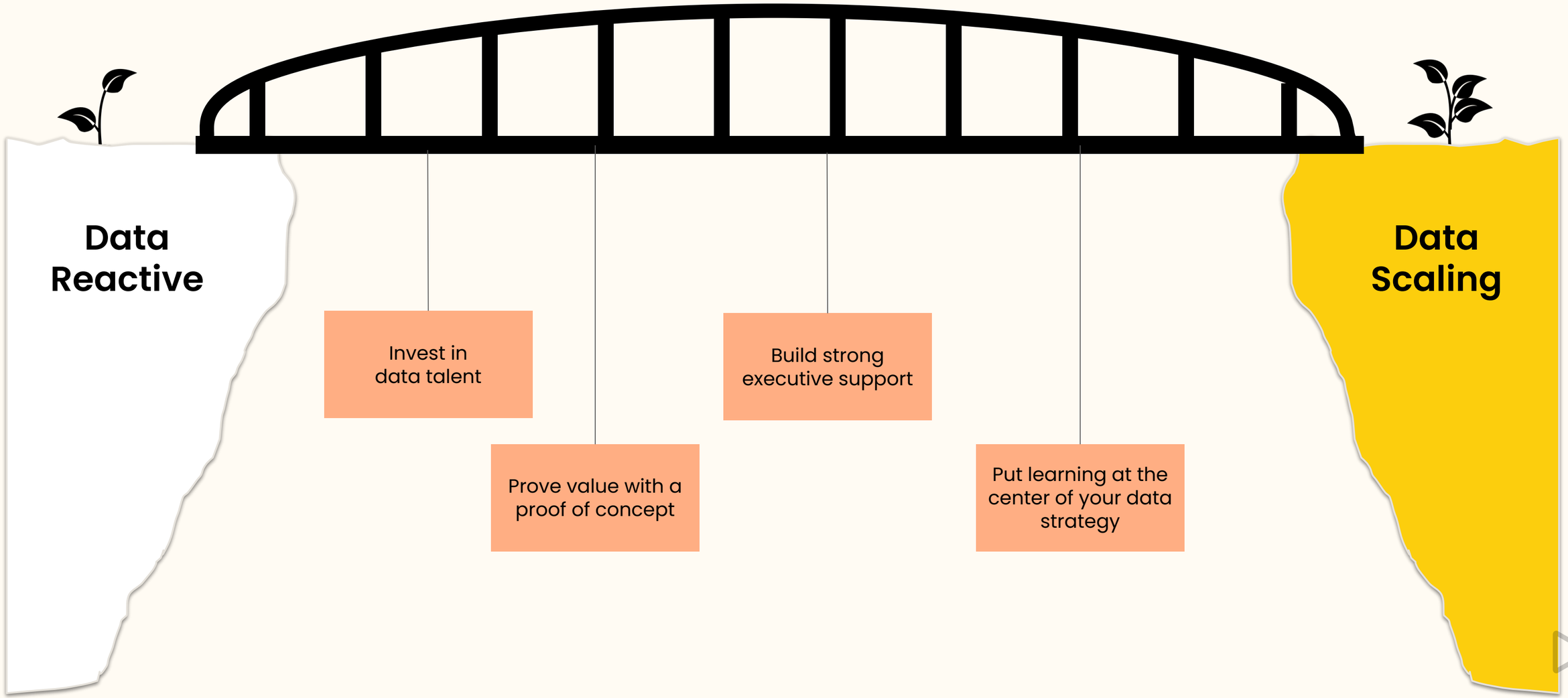
Organization

Data team is non-existent as there is no data talent

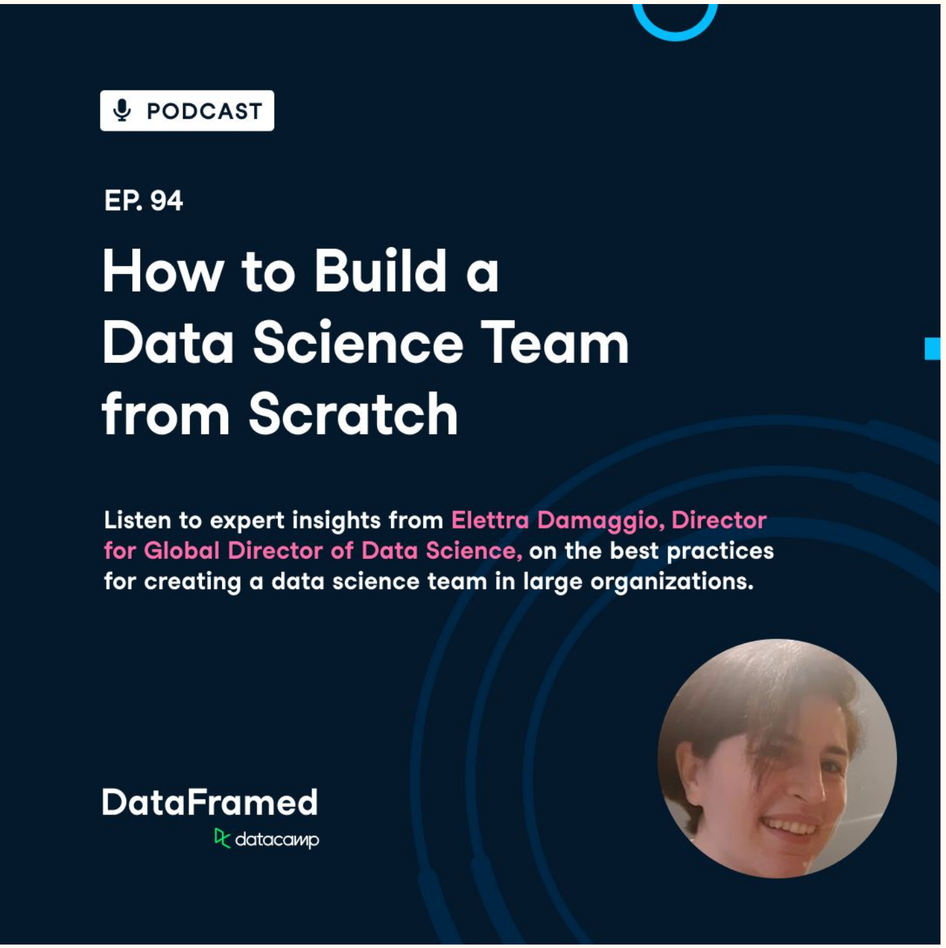
Data team non-existent

Transitioning to data scaling

Centering your data strategy around culture, continuous upskilling, and strong executive buy-in



Hiring a first data scientist



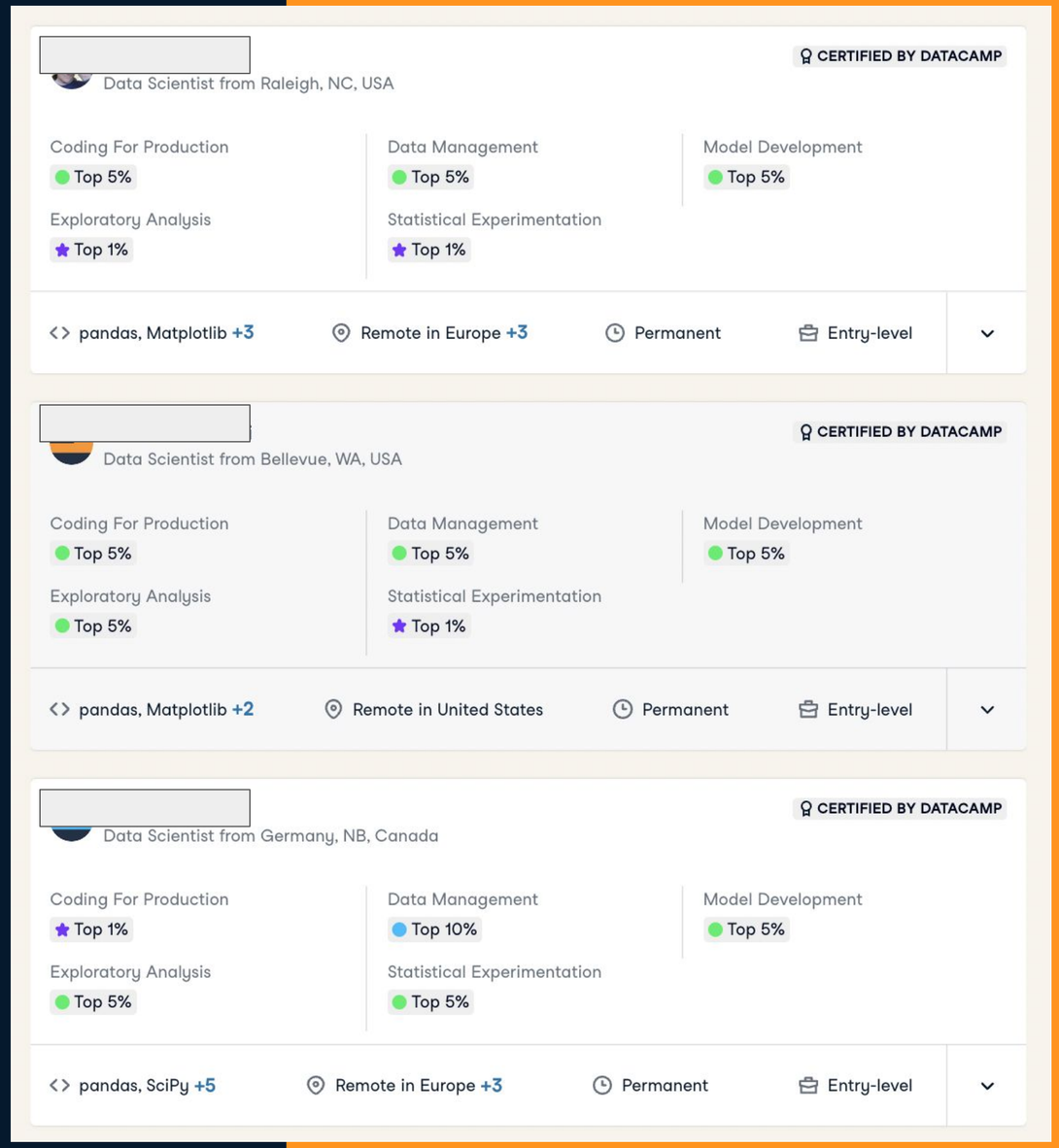
🎙 *Listen to his podcast here*

DataCamp Recruit simplifies hiring data professionals

Improve your hiring practices with access to pre-qualified job ready data talent

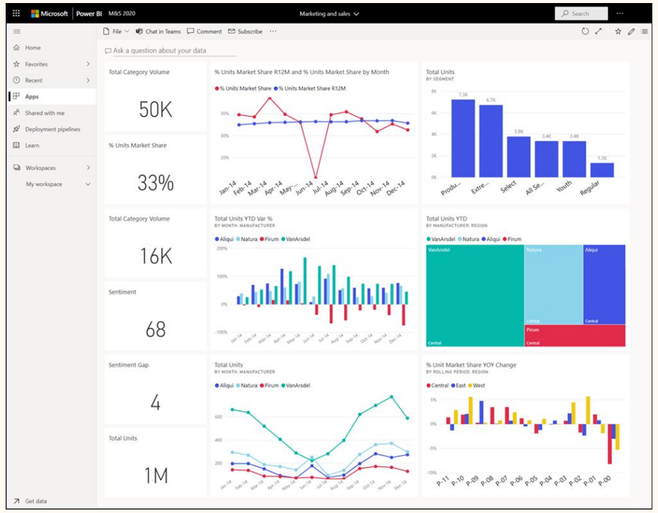
Focus your team's effort on finding the right fit as opposed to time consuming technical assessments

Filter through the noise, with all candidates on our platform actively looking for data focused roles

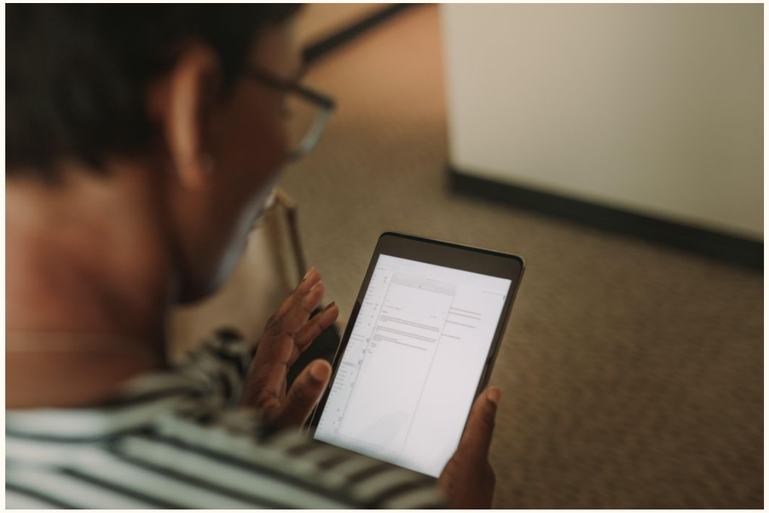


The path to data scaling — Analytics low hanging fruit

Simple Customer Churn Model



Simple POC Dashboard



A/B Testing Email Subject Lines

The path to data scaling — The importance of learning

“Data Literacy, skills, and culture, should be a key ingredient of any organization’s data strategy and should be driven from the top-down”

Jordan Morrow

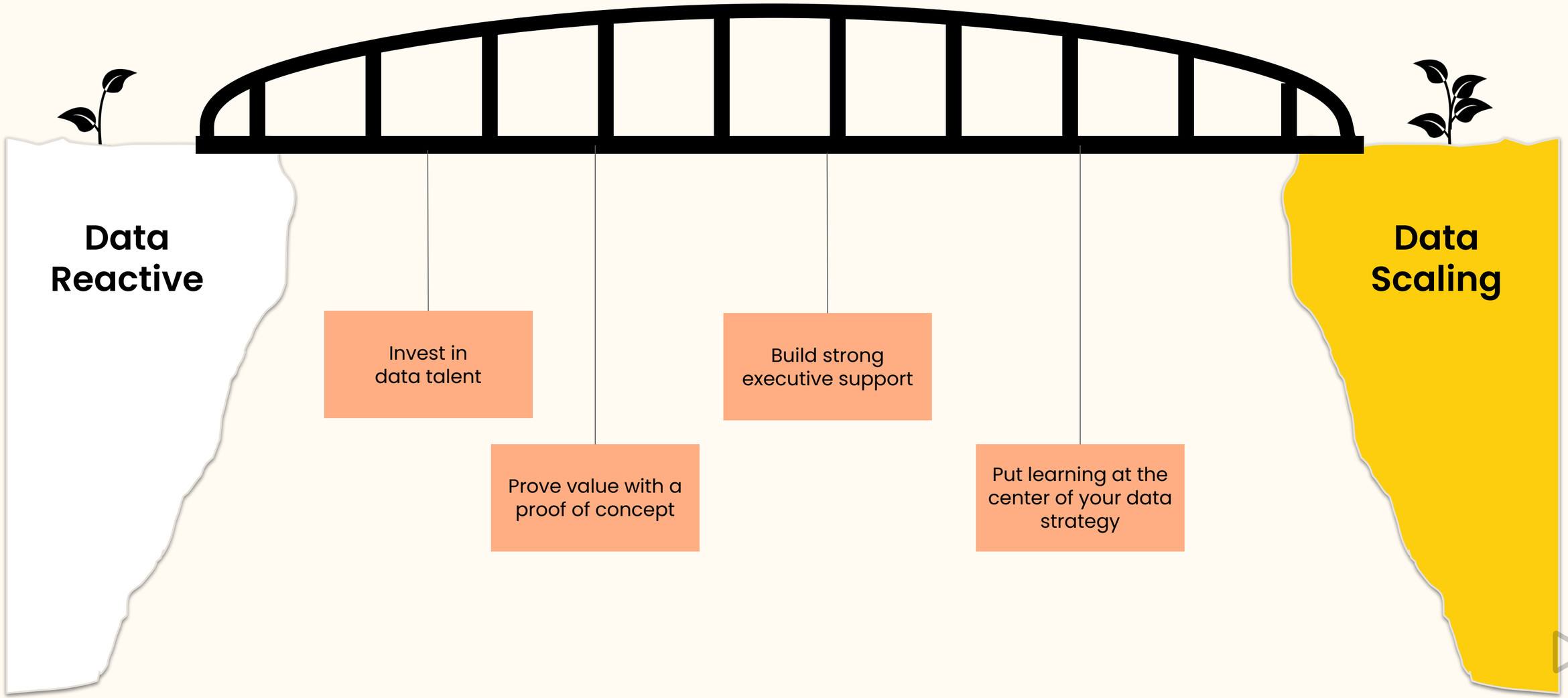
Author
Be Data Literate

📚 *Get the book here*

🎥 *Register for our upcoming webinar*

Transitioning to data scaling

Centering your data strategy around culture, continuous upskilling, and strong executive buy-in



From Data Scaling to Data Progressive

What data reactive looks like — Infrastructure

People

Minimal data culture with very few people believing in the importance of data or **having the skills** to work with data

Data culture is undefined

The practices, rituals, and best practices centered around data are undefined — there is no organizational buy-in on data culture yet

Data believers

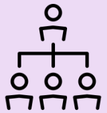
There are some data champions who are proactive in data-driven decision making and leveraging data-driven techniques

Self-motivated learning

There are some learners that are self-motivated around learning and what that looks like

Organization

Data strategy in place — with **no centralized data team or embedded expertise set in motion**



Organizational model is undefined

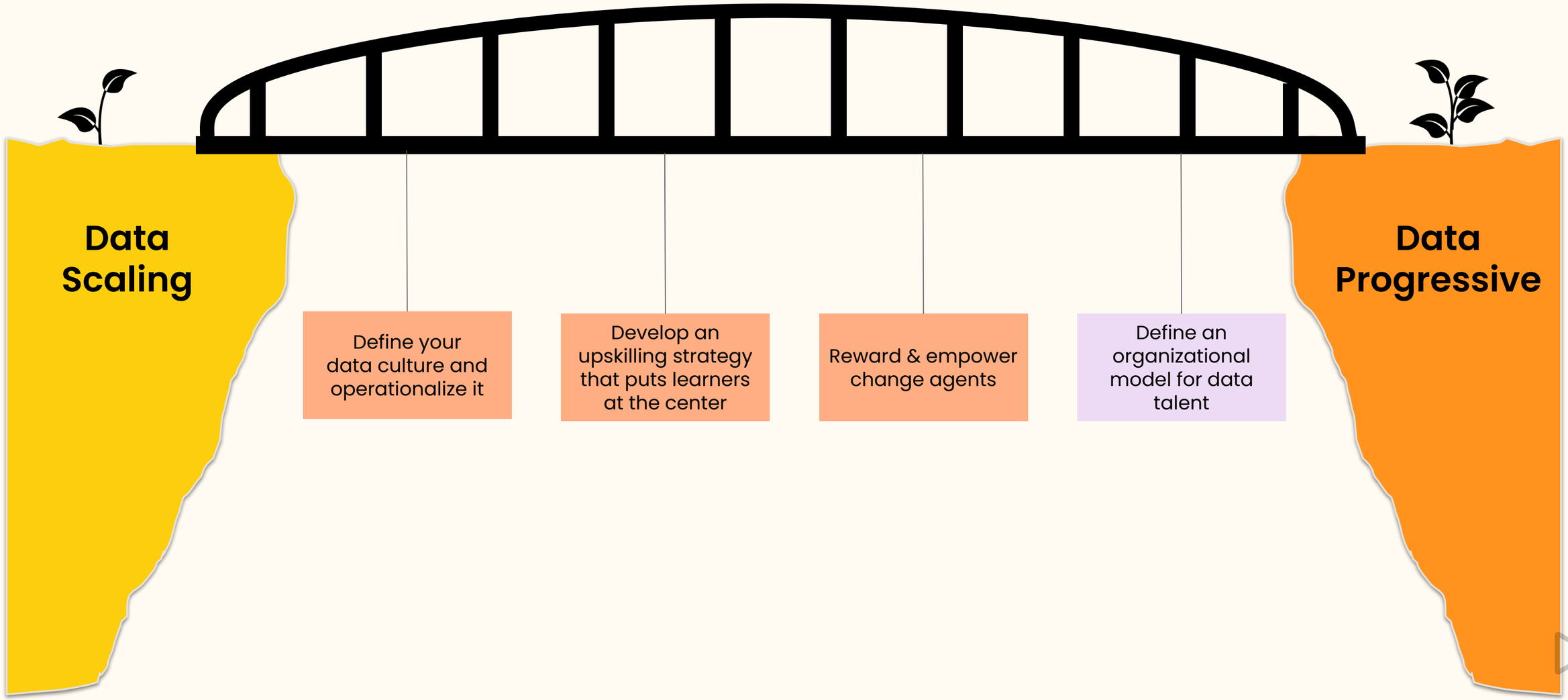
Data talent is growing, but organizational model has yet to been defined

Change management taking place

Change management and reorganization not yet finalized

Transitioning to data progressive

Operationalizing a data culture and upskilling program that rewards change agents



The path to data progressive - Defining a data culture

Defining a
data culture

Data-driven
project management

Incentivize new
behaviors

Drive continuous
education

"Culture is nothing more than a series of organizational habits and behaviors"

Sudaman Thoppan Mohanchandralal
Regional Chief Data and Analytics Officer
Allianz Benelux

🎥 *Watch the webinar here*

🎙 *Listen to his podcast here*

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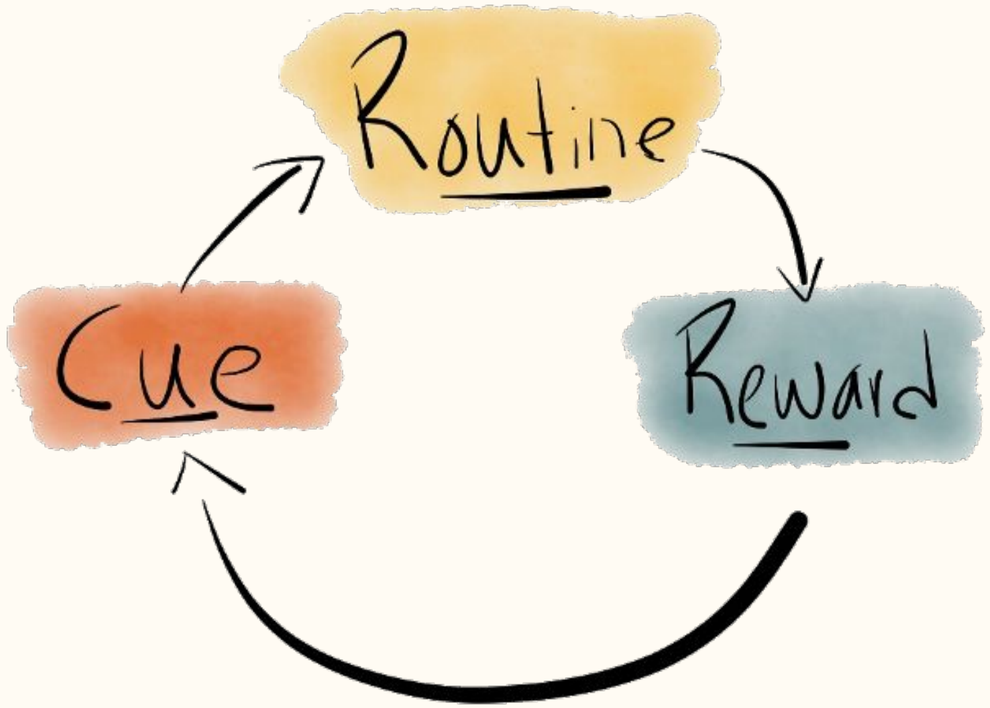


The path to data progressive - Develop an upskilling strategy

Skill based goals

Transformational goals

Skill based goals

“We want to upskill 1,000 employees on Python by end of year”

Transformational goals

Skill based goals

“We want to upskill 1,000 employees on Python by end of year”

Transformational goals

“We want to reduce supply chain costs by upskilling supply chain analysts on time-series forecasting techniques using R”

Understand data personas

Supply Chain Manager
Manages a team of supply chain analysts, ensures quality forecasts, and challenges their rigour

Supply Chain Analyst
Produces forecasts using Excel and proprietary tools

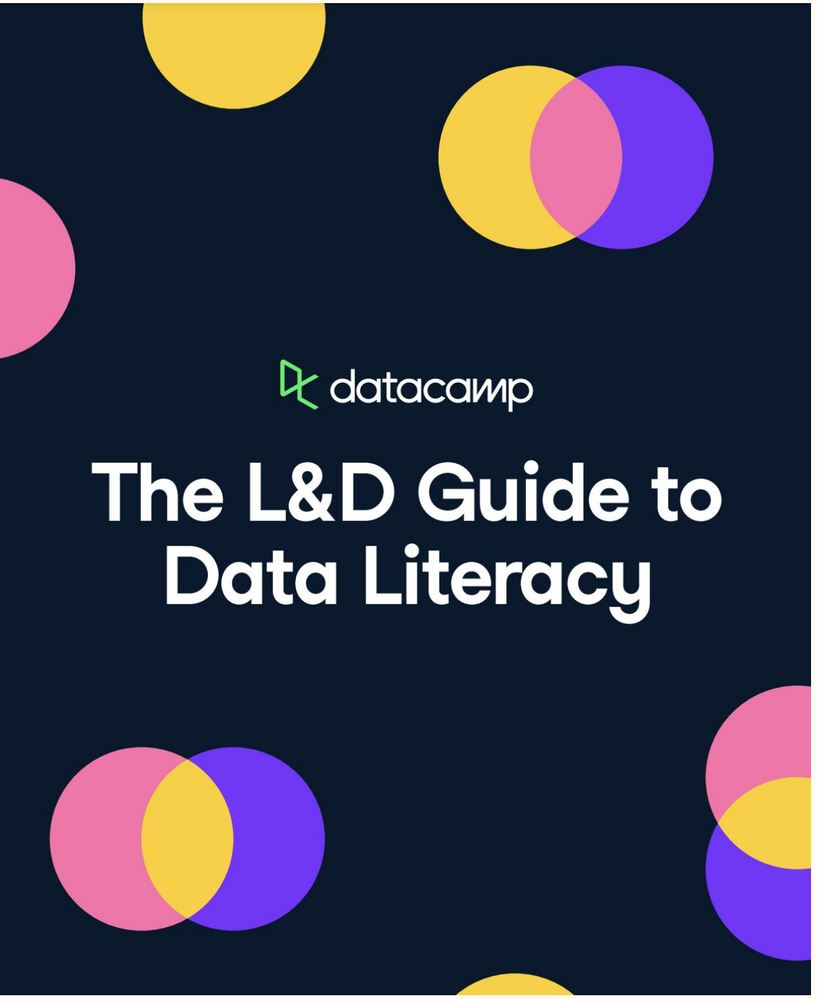
DATA ANALYSIS

PROGRAMMING

MACHINE LEARNING

DATA DRIVEN DECISION MAKING

The different types of data personas



8 data personas found in every data-driven organization

- ✓ *Data Consumers and leaders*
- ✓ *Business Analysts*
- ✓ *Data Analysts*
- ✓ *Data Scientists*
- ✓ *Machine Learning Scientists*
- ✓ *Statisticians*
- ✓ *Programmers*
- ✓ *Data Engineers*

Being persona specific at Allianz

DATA ANALYTICS ACADEMY
Powered by Group Data Analytics

datacamp

Program Launch

April 1st, 2021

6000+ Learners

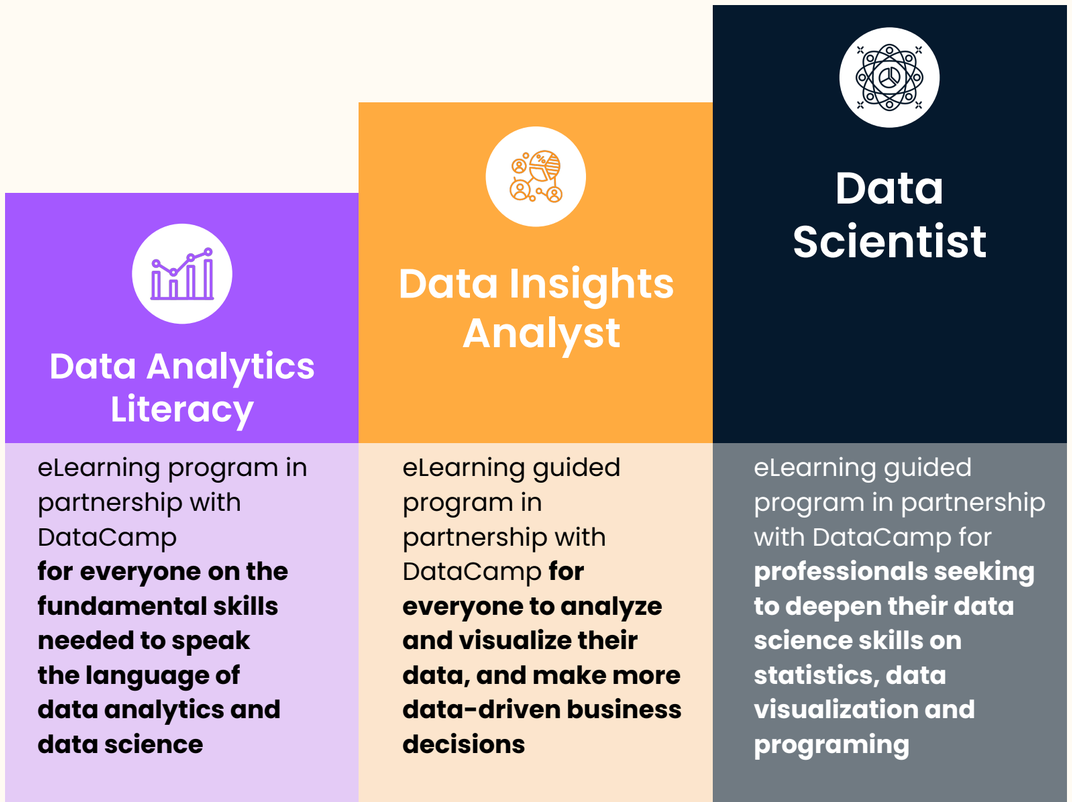
6000+ Allianzers around the world using DataCamp

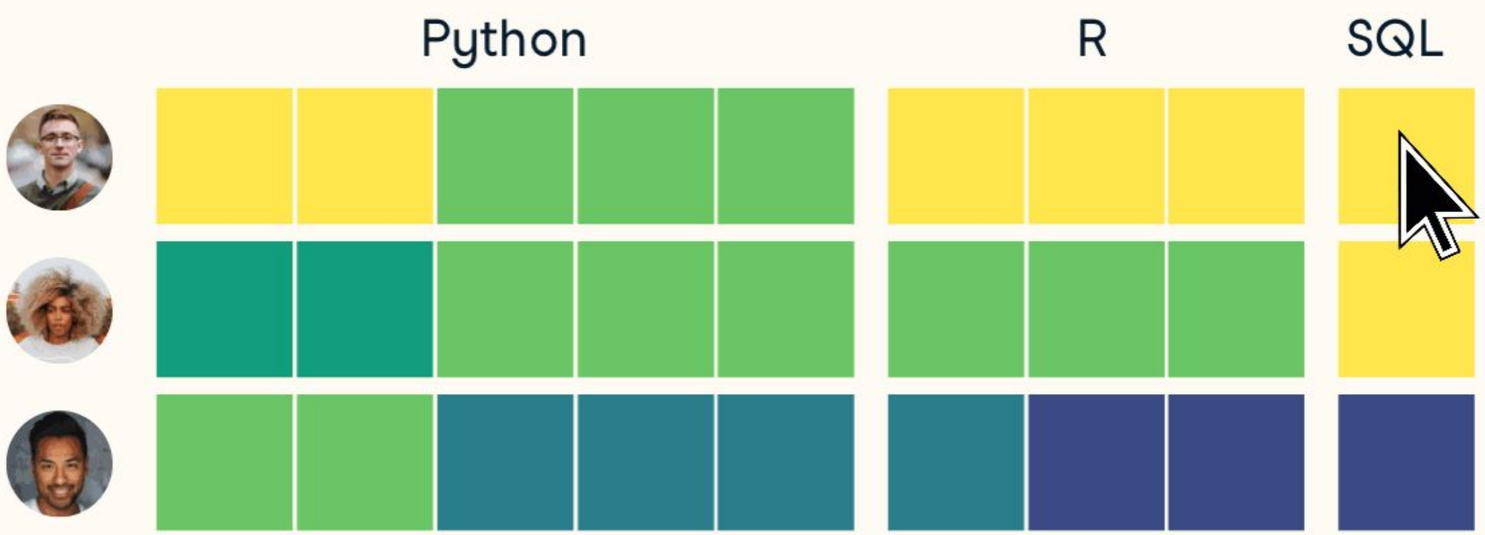
Custom Tracks

3 custom tracks designed for Allianz

Custom Capstone

Customized capstone projects using real world Allianz data





Assessing and tracking skill development

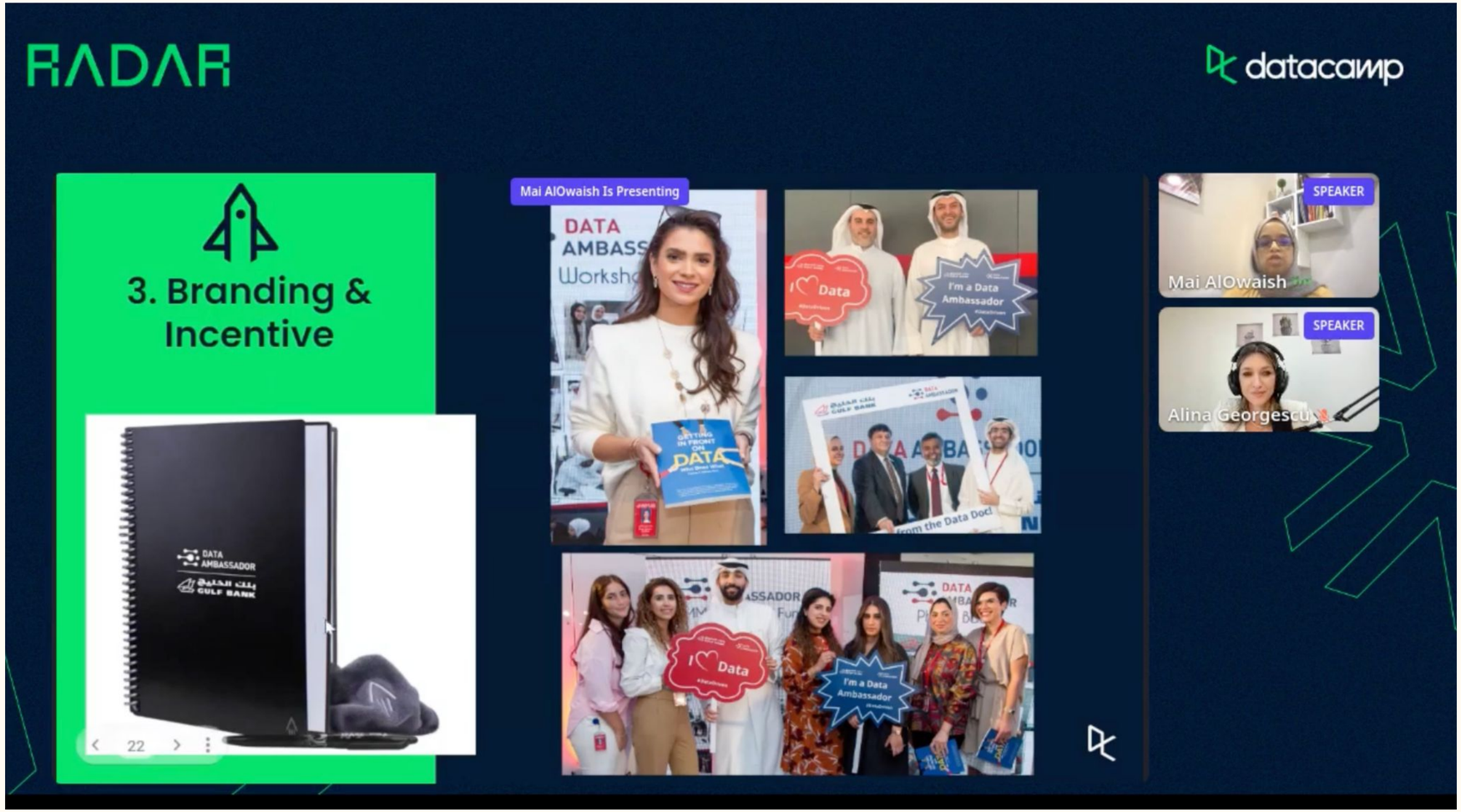
The path to data progressive - Reward change agents

Reward
change agents

Increase visibility

Promote &
Empower

Evangelize



🎥 *Watch the webinar [here]*

The path to data progressive - Organizational Model

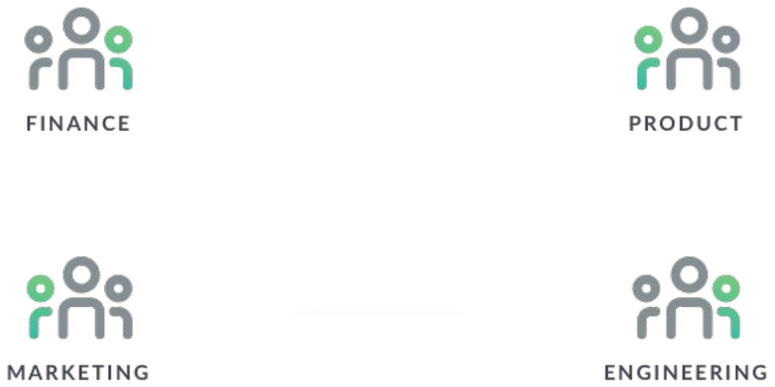
Centralized Model

Benefits

- ✓ Data Science functions as a center of excellence
- ✓ Promotes collaboration and knowledge sharing
- ✓ Data Science Manager has domain knowledge
- ✓ Incentivizes consistent technology stack and better tooling

Drawbacks

- X Limits coordination between Data Science and other stakeholders
- X Risk of misalignment between Data Science and Business Units
- X Risks isolating Data Science as a Support Function



Decentralized Model

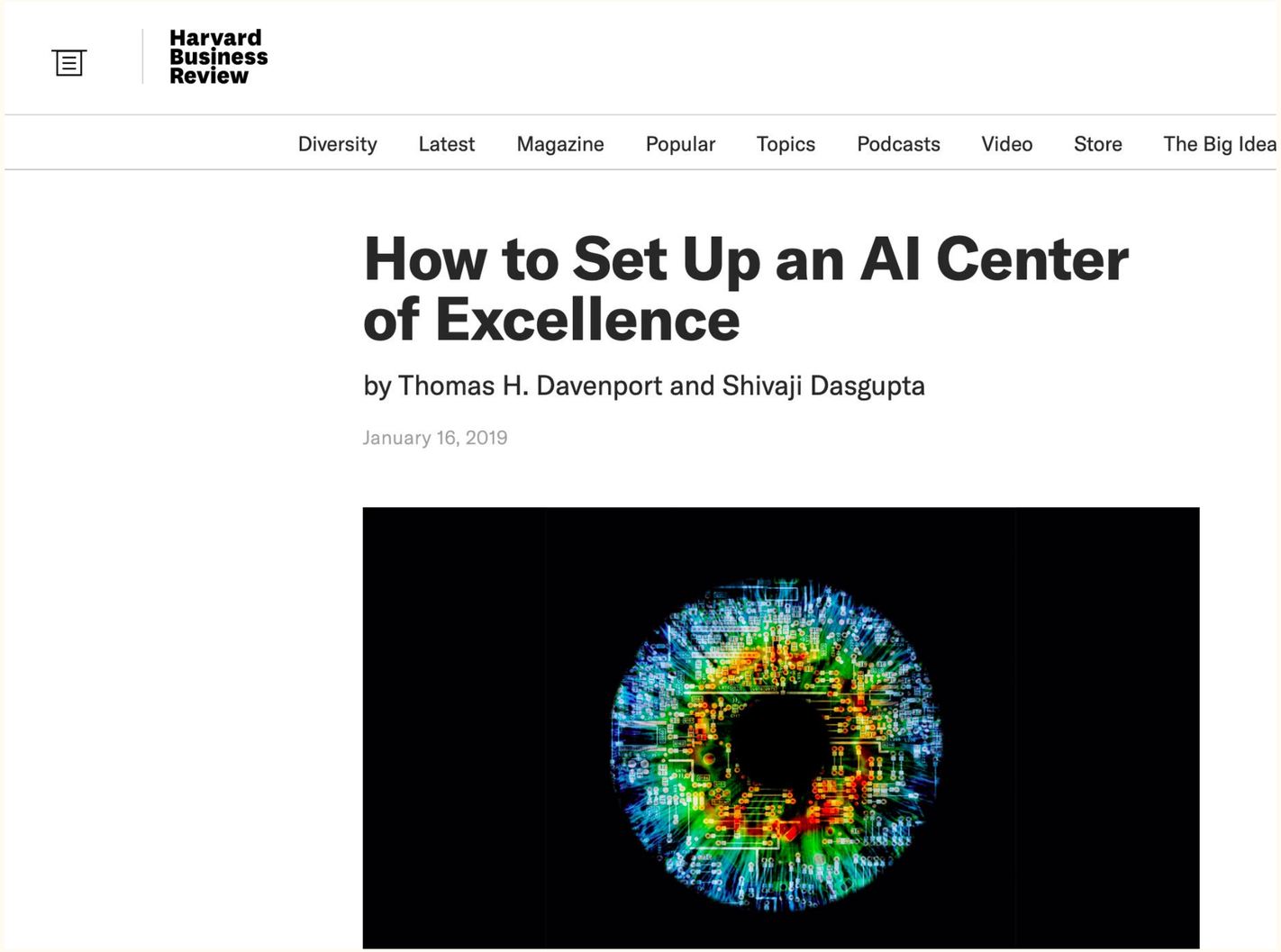
Benefits

- ✓ Each team has a dedicated Data Scientist
- ✓ Cross-functional alignment
- ✓ Data science has a more natural “seat at the table”
- ✓ Fewer dependencies across teams

Drawbacks

- X Harder to move Data Science resources between teams
- X Manager of the team may not have domain knowledge
- X Harder for Data Scientists to collaborate and drive long-term projects

The path to data progressive - Organizational Model



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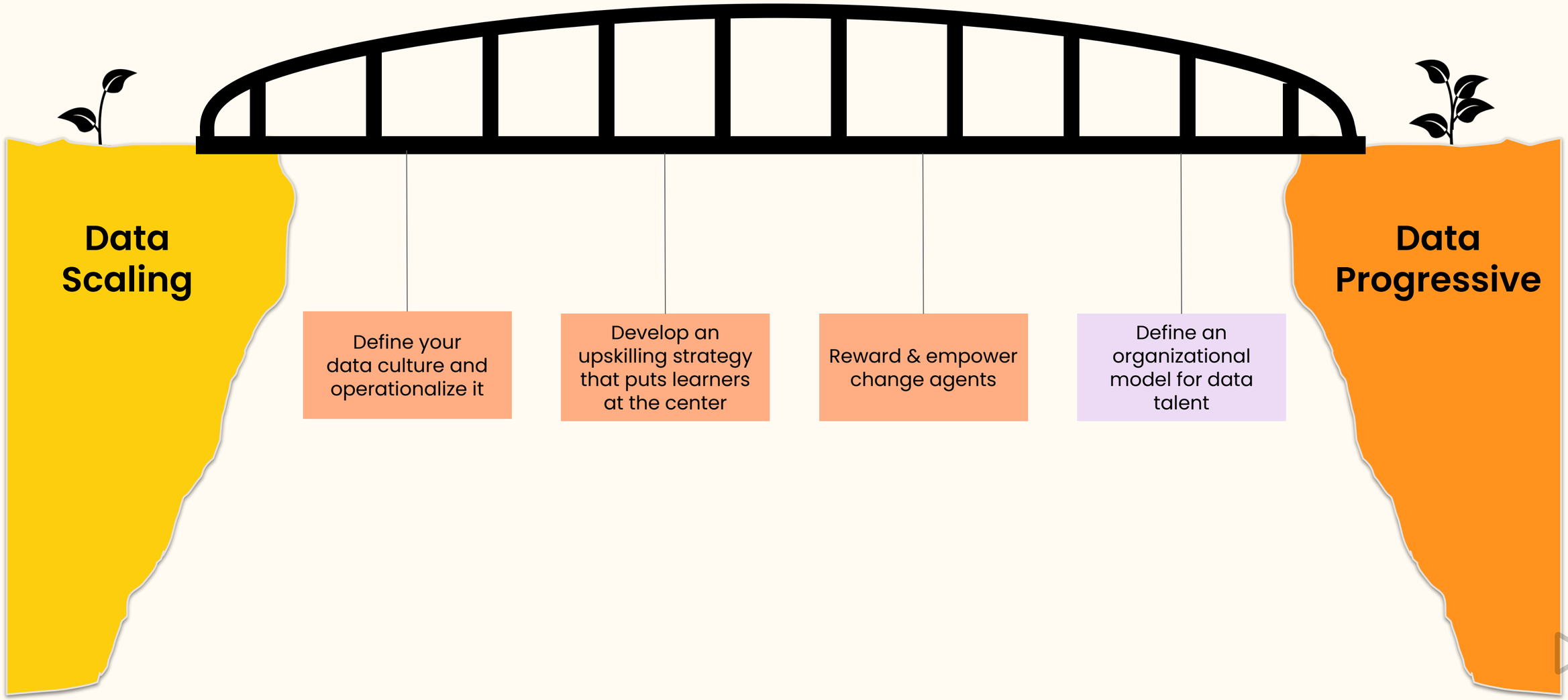
Transitioning to data progressive

Operationalizing a data culture and upskilling program that rewards change agents

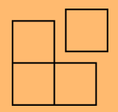


From Data Progressive to Data Literate

What data reactive looks like — Infrastructure

People

Data is strategic, but **underutilized** throughout the organization. Organization-wide **data literacy is lacking**, and data upskilling is still limited.



Departemental Learning

Certain departments are leading the way when it comes to data upskilling

No common data language

There is a data literacy skill inequality within the organization and no common data language between business stakeholders and data practitioners

Reporting is majority of value

The majority of the value the organization gets from data is from reporting or analysis

Organization

Data team set in place, however **impact is limited** to requests and analysis

Data team is siloed as support function

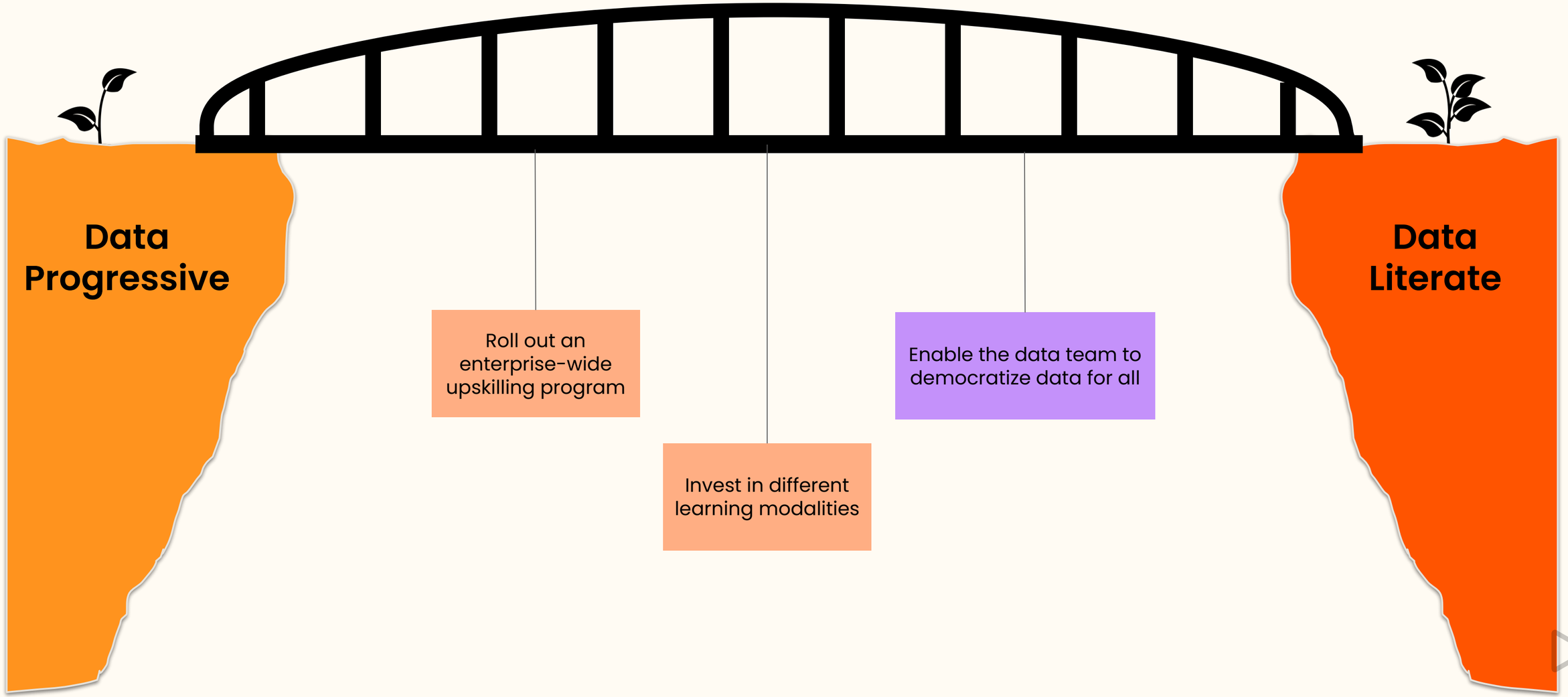
The data team is a function that operates on a request basis an

Democratization stalled

The data team does not work on democratizing data for everyone

Transitioning to data literate

Roll out an organization-wide upskilling program and center the data team's mission around data democratization and high-value projects



MARKS & SPENCER

Launched a data academy for 1,000 employees

amazon

$700 million Upskilling program

accenture

$200M Upskilling initiative

AT&T

$1B—10 year long Upskilling initiative for 140,000 people

The path to data literacy

Broadening the scope of upskilling

Incentivizing a learning culture

HANDS-ON LIVE SESSIONS

Live training sessions with internal experts

SELF-LED ONLINE COURSES

Specialized MOOCs

BLENDED LEARNING

Blended approach to learning with different learning modalities

COMMUNITY-DRIVEN LEARNING EVENTS

Hackathons, lunch and learns, tech talks by experts in your organization

Blended Learning: Data Analysis with Python at Bloomberg

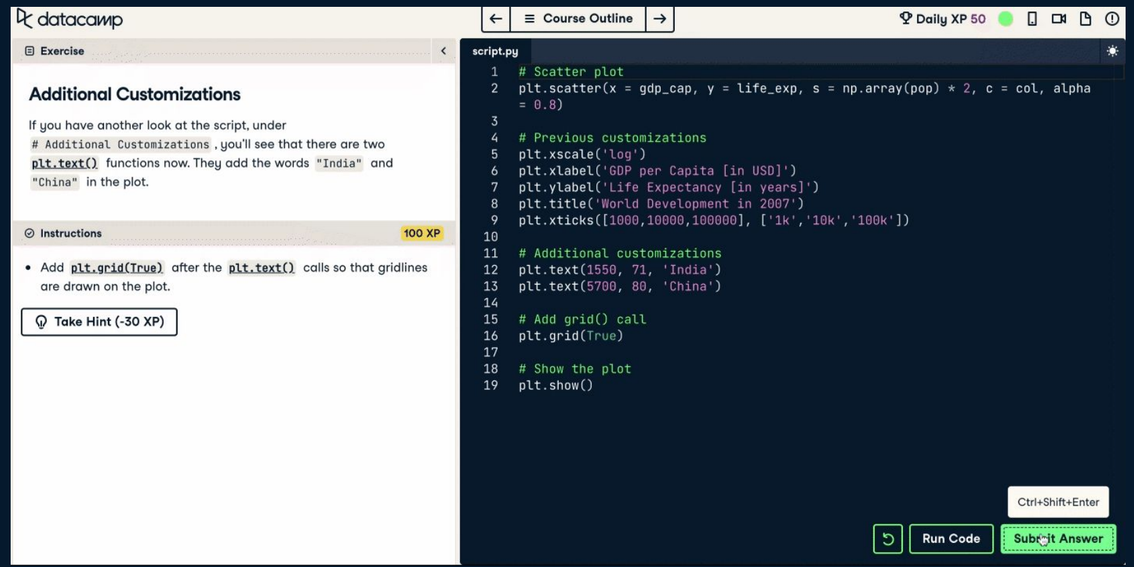
🎥 *Watch the webinar here*

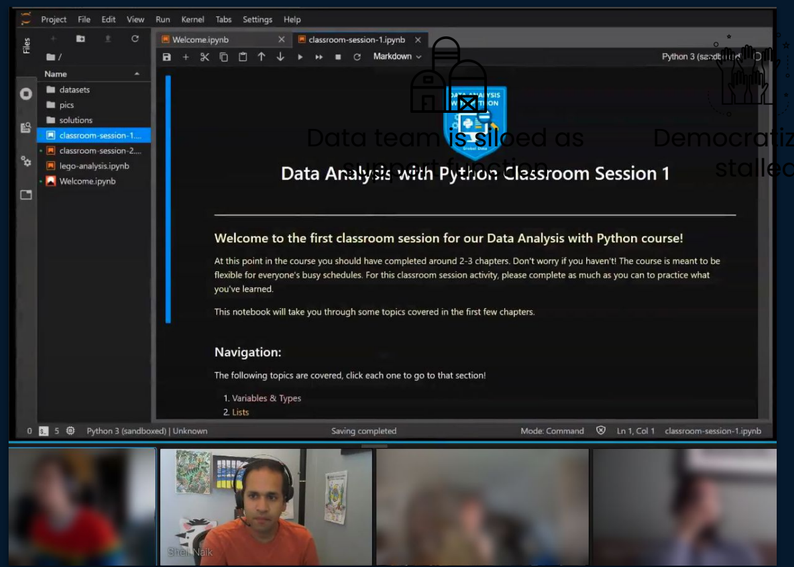
One hour **introduction class** explaining how Python is used at Bloomberg

12-20 hours of learning via **DataCamp** per quarter

Three live 1 ½ hour classroom sessions led by **technical experts** with persistent chat for help

Final project using **Bloomberg data**





The path to data literacy — Create a hybrid organizational model

The Hybrid Model

Benefits

- ✓ Data Science can function as a center of excellence.
- ✓ Data Science can drive common tech stack, tooling, frameworks, and standardization
- ✓ Data Science can collaborate and align on organizational goals.
- ✓ Better alignment between Data Science and business units

Drawbacks

- X Risk of mismatch of expectation leadership of Data Science and business unit.
- X Everyone has at least two teams.

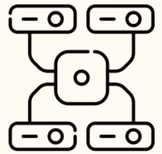
Organizational Model at Gojek

Syafri Bahar

VP of Data Science at Gojek

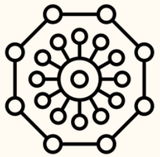
DataFramed Episode 72 — Building High Performance Data Teams

🎙 *Listen to his podcast here*



Hybrid data team

Embedded data teams



Large "consulting" centralized data team

Small Centralized data team

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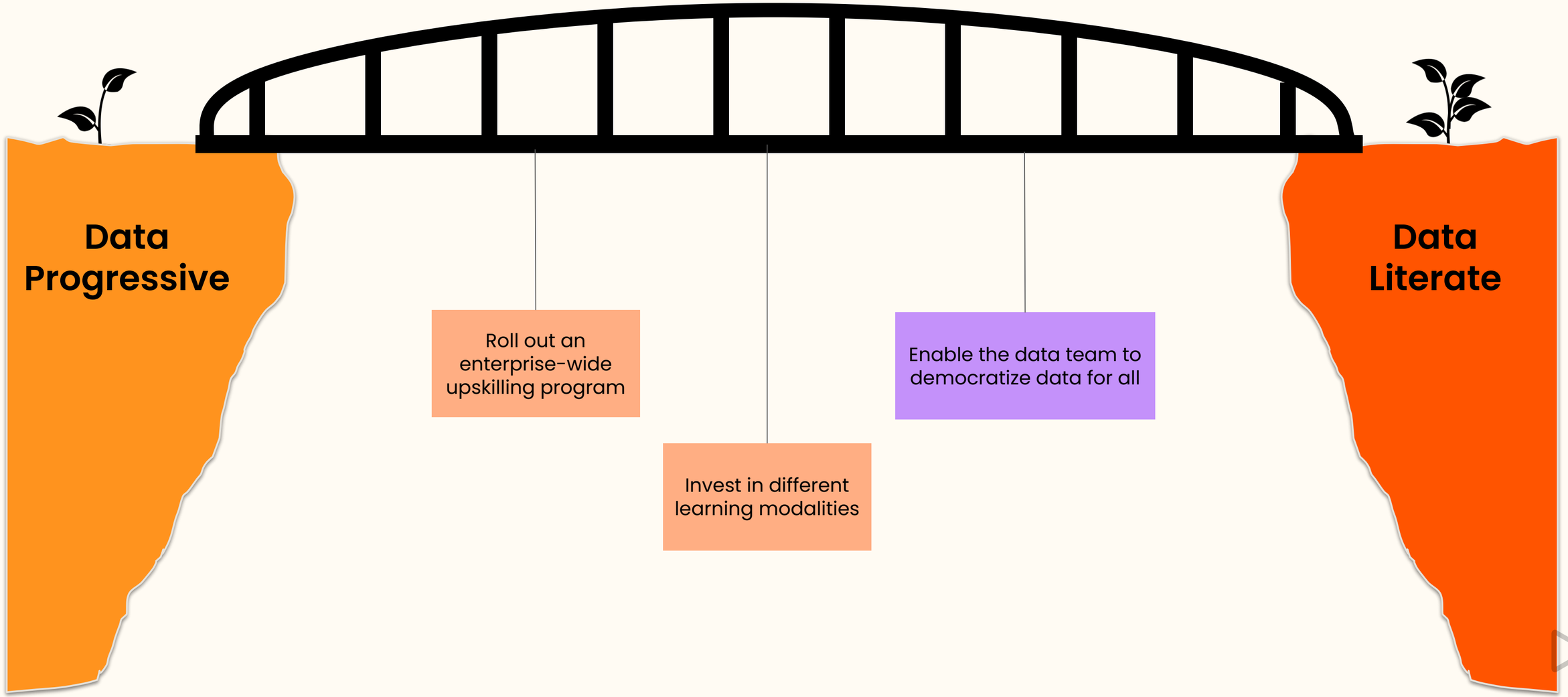
Data Maturity

Transitioning to data literate

Roll out an organization-wide upskilling program and center the data team's mission around data democratization and high-value projects



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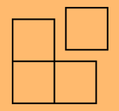
Wrap-up & Q&A

It’s a multi-pronged effort

Scaling infrastructure, people, tools, organization, and processes — to scale data culture and put data literacy at the center

People

Everyone in the organizations has the skills and culture to scale data-driven decision-making



Hiring the right talent

Upskilling and continuous learning

Data-Driven Decisions at Scale

Infrastructure

Data is trusted, useable, findeable, and actionable

Solid data discovery

Scalable data governance

High impact operationalization

Tools

Modern tooling accessible, with frameworks to lowering barrier to entry

Modern tooling accessible

Frameworks to lower high barrier to entry

Organization

Data team set in place to scale democratization and high-impact data science

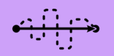
Data team is strategic

Democratization for all

Processes

Mature data processes for **all**

Data processes are inclusive

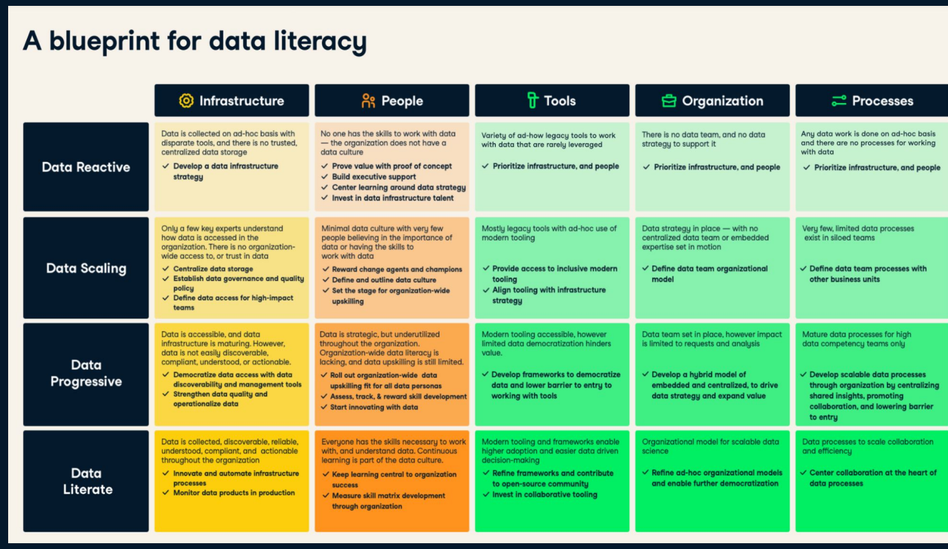


Data team maturing efficiency

Next up

The Tools and Processes Component of Data Maturity—August 25, 11 AM ET

How tools and processes evolve across the maturity spectrum, best practices to set up processes that work, pitfalls to avoid, and more



A blueprint for data literacy

	Infrastructure	People	Tools	Organization	Processes
Data Reactive	Data is collected on ad-hoc basis with disparate tools, and there is no trusted, centralized data storage ✓ **Develop a data infrastructure strategy**	No one has the skills to work with data — the organization does not have a data culture ✓ **Prove value with proof of concept** ✓ **Build executive support** ✓ **Center learning around data strategy** ✓ **Invest in data infrastructure talent**	Variety of ad-how legacy tools to work with data that are rarely leveraged ✓ **Prioritize infrastructure, and people**	There is no data team, and no data strategy to support it ✓ **Prioritize infrastructure, and people**	Any data work is done on ad-hoc basis and there are no processes for working with data ✓ **Prioritize infrastructure, and people**
Data Scaling	Only a few key experts understand how data is accessed in the organization. There is no organization-wide access to, or trust in data ✓ **Centralize data storage** ✓ **Establish data governance and quality policy** ✓ **Define data access for high-impact teams**	Minimal data culture with very few people believing in the importance of data or having the skills to work with data ✓ **Reward change agents and champions** ✓ **Define and outline data culture** ✓ **Set the stage for organization-wide upskilling**	Mostly legacy tools with ad-hoc use of modern tooling ✓ **Provide access to inclusive modern tooling** ✓ **Align tooling with infrastructure strategy**	Data strategy in place — with no centralized data team or embedded expertise set in motion ✓ **Define data team organizational model**	Very few, limited data processes exist in siloed teams ✓ **Define data team processes with other business units**
Data Progressive	Data is accessible, and data infrastructure is maturing. However, data is not easily discoverable, compliant, understood, or actionable. ✓ **Democratize data access with data discoverability and management tools** ✓ **Strengthen data quality and operationalize data**	Data is strategic, but underutilized throughout the organization. Organization-wide data literacy is lacking, and data upskilling is still limited. ✓ **Roll out organization-wide data upskilling fit for all data personas** ✓ **Assess, track, & reward skill development** ✓ **Start innovating with data**	Modern tooling accessible, however limited data democratization hinders value. ✓ **Develop frameworks to democratize data and lower barrier to entry to working with tools**	Data team set in place, however impact is limited to requests and analysis ✓ **Develop a hybrid model of embedded and centralized, to drive data strategy and expand value**	Mature data processes for high data competency teams only ✓ **Develop scalable data processes through organization by centralizing shared insights, promoting collaboration, and lowering barrier to entry**
Data Literate	Data is collected, discoverable, reliable, understood, compliant, and actionable throughout the organization ✓ **Innovate and automate infrastructure processes** ✓ **Monitor data products in production**	Everyone has the skills necessary to work with, and understand data. Continuous learning is part of the data culture. ✓ **Keep learning central to organization success** ✓ **Measure skill matrix development through organization**	Modern tooling and frameworks enable higher adoption and easier data driven decision-making ✓ **Refine frameworks and contribute to open-source community** ✓ **Invest in collaborative tooling**	Organizational model for scalable data science ✓ **Refine ad-hoc organizational models and enable further democratization**	Data processes to scale collaboration and efficiency ✓ **Center collaboration at the heart of data processes**

Call to action

Take DataCamp's Data Maturity Assessment

Understand where your team, department and organization are located on the data maturity spectrum, by taking our 10-minute maturity assessment survey.

This assessment will help you pinpoint areas for improvement and the strategies you can take in order to become a data-driven organization.

10 minutes
29 questions

Start Now

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Q&A

LOOKING TO GROW YOUR ORGANIZATION'S DATA MATURITY?
CHECK OUT DATACAMP FOR BUSINESS

Thank you

Adel Nehme
Data Science Evangelist