
AWS
re:Invent

ENT205

# Data-driven enterprise

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AWS

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# Data is an asset

# Data is a unique asset

# Data is a unique asset



Fixed supply

Controlled by few

Transferred

The more you use, the less you have



Limitless supply

Available to everyone

Shared

The more you use, the more you have

# Evolution of enterprise data



Data-aware



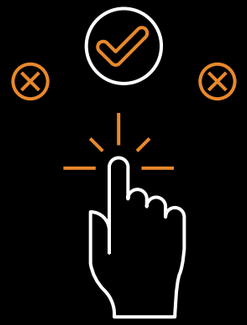
Data-informed



Data-driven

| | Data-aware | Data-informed | Data-driven |
|---|---|---|---|
| Functions | Report | Monitor | Guide |
| Capabilities | Static batch reports | Interactive dashboards, data warehouse | Data science, AI / ML, data lake |
| Users | Executives, department heads | Power users | Everyone |
| Data | Financial and operational data | Siloed data | All data |

# Why become a data-driven enterprise?



Make better decisions



Respond better to the unexpected



Enhance customer experience and engagement



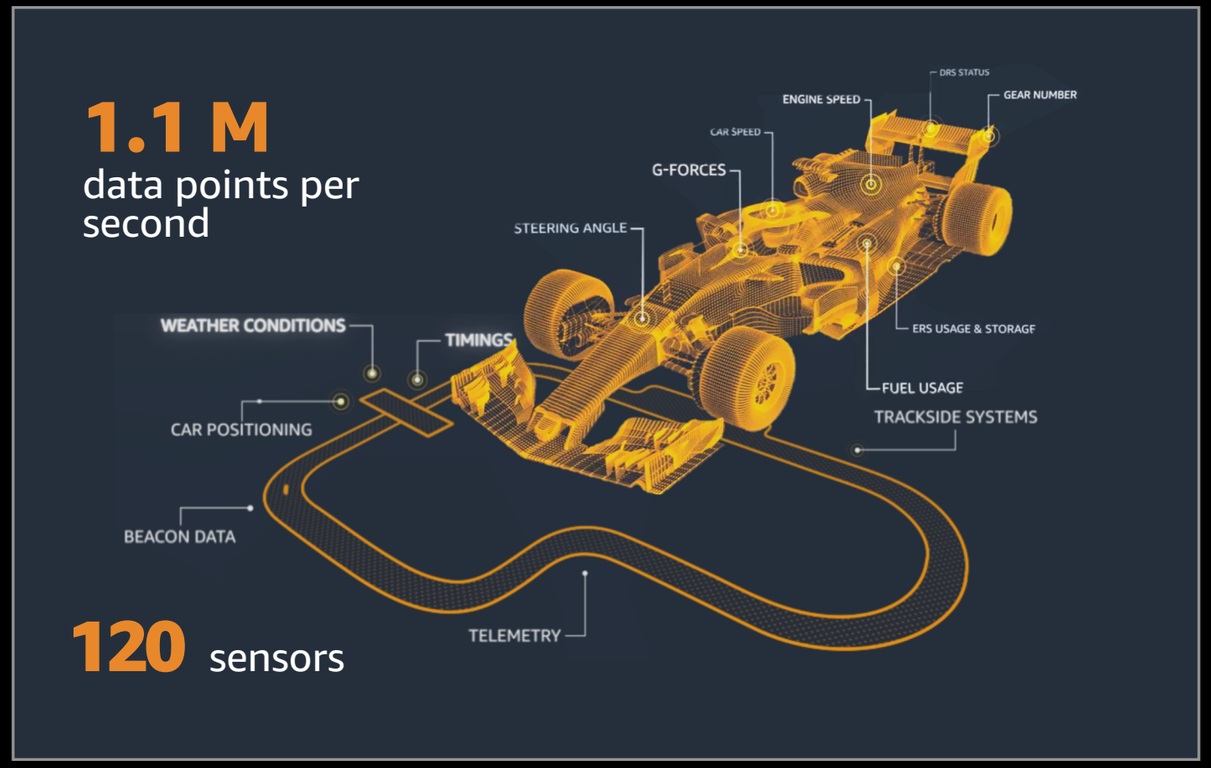
Uncover new opportunities



Improve efficiency

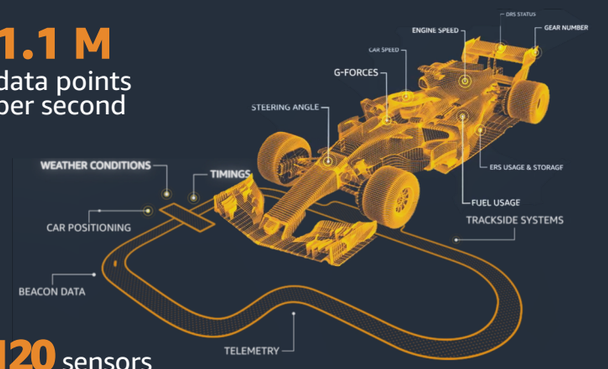


# Data is the fuel for F1



# Data is the fuel for F1

**1.1 M**
data points
per second




**120** sensors



**69 yrs**
historical data



Amazon S3



Amazon
SageMaker

**Predictions**



Overtake probability



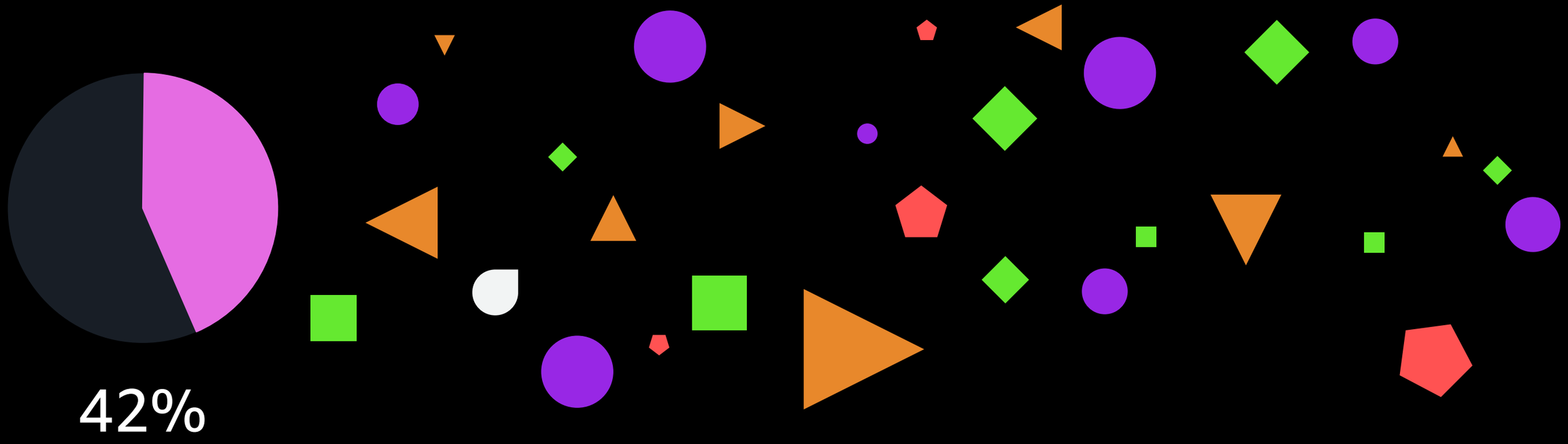
Pit strategy



**Bring fans closer to action**

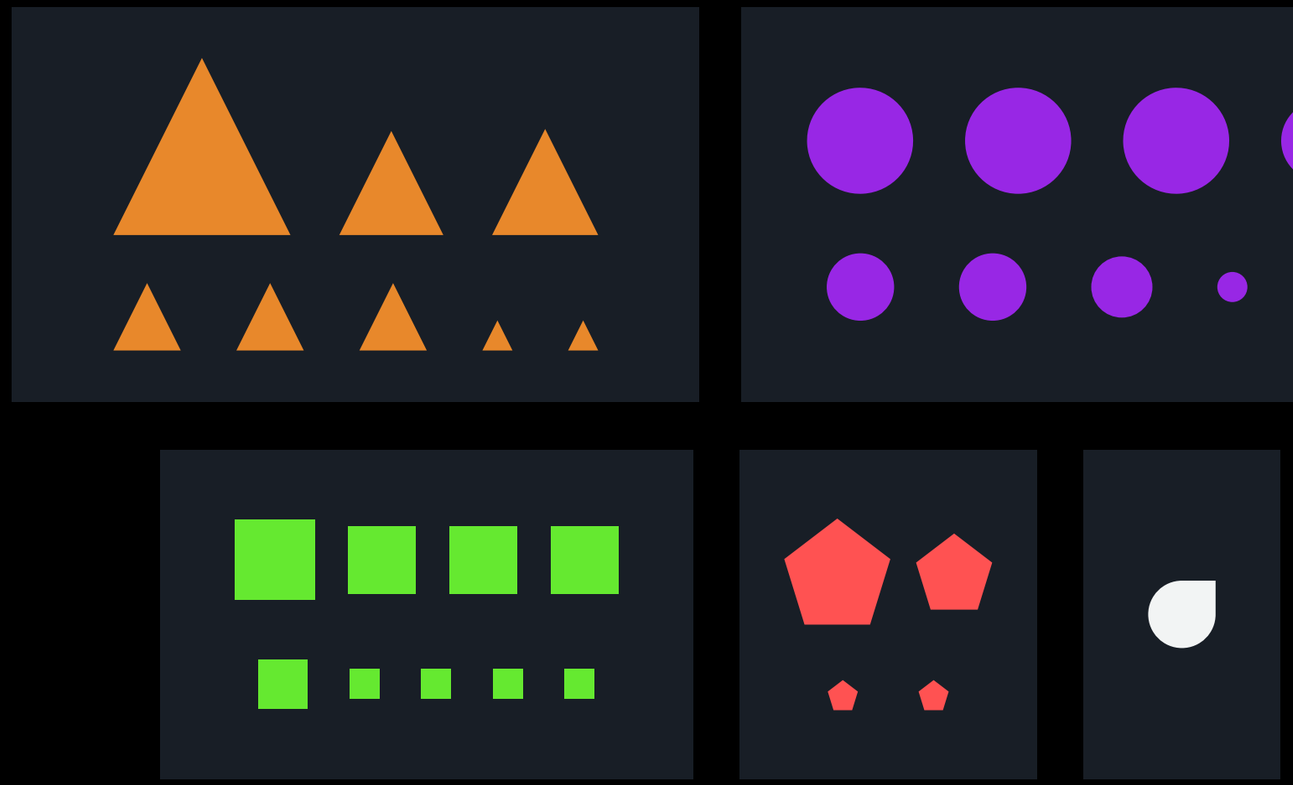

México
DHL
Heineken
Heineken
Heineken
Heineken
Heineken
Heineken
Hein

# Data-driven enterprise



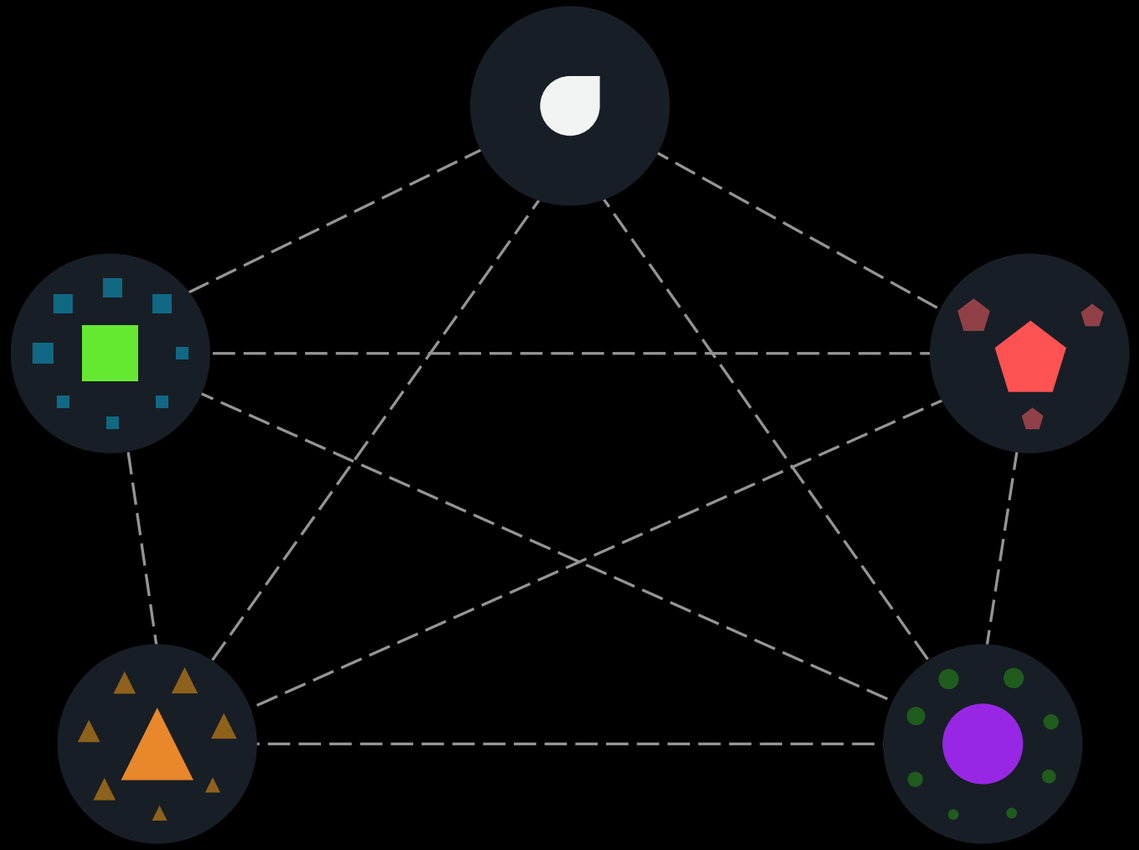

Data

# Data-driven enterprise



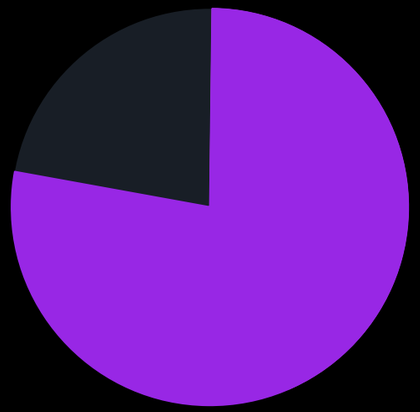
Data → Insights

# Data-driven enterprise

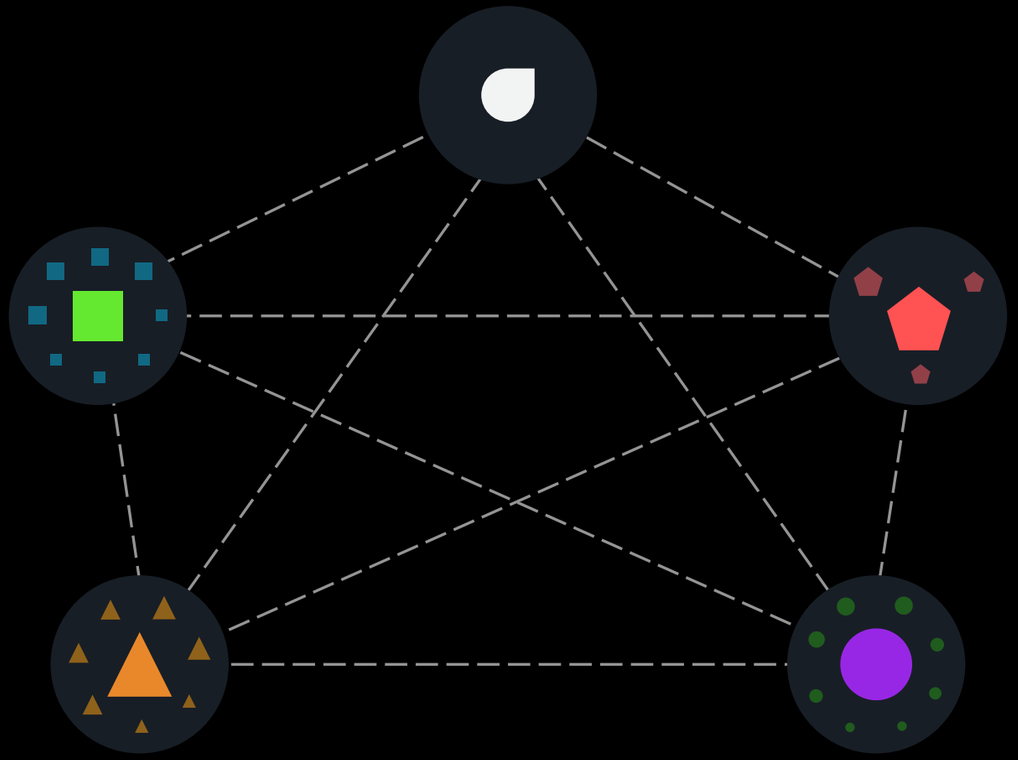


Data → Insights → Actions

# Data-driven enterprise



78%



Data → Insights → Actions → Outcome

**“Data without action is useless;
action without data is roulette.”**

*Unknown*

# How to become a data-driven enterprise

# How to become a data-driven enterprise

- ☐ Proclaim that “data is the new oil”
- ☐ Launch several “Big Data” initiatives, including an AI project
- ☐ Start by hoarding as much data as possible
- ☐ Hire a Chief Data Officer (CDO)
- ☐ Create an analytics function and funnel all requests to it
- ☐ Repeatedly say that we are in the data business
- ☐ All of the above

# There is no magic wand

(Culture + Capability) × Scale

(Culture × Scale) + (Capability × Scale)

# Culture at scale

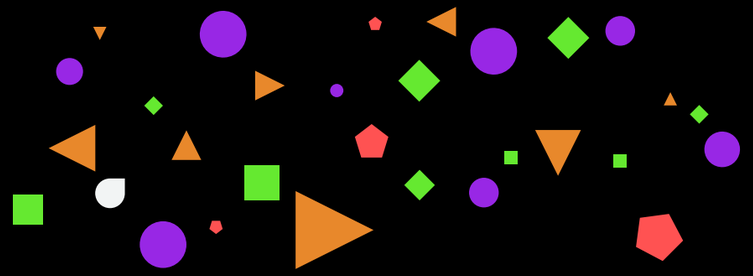



of challenges to business adoption of data are cultural

Source: NewVantage Partners, “Big Data and AI Executive Survey,” 2019.

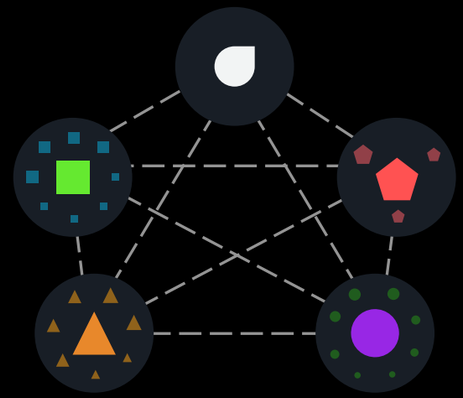
# Engage in data-driven decision-making





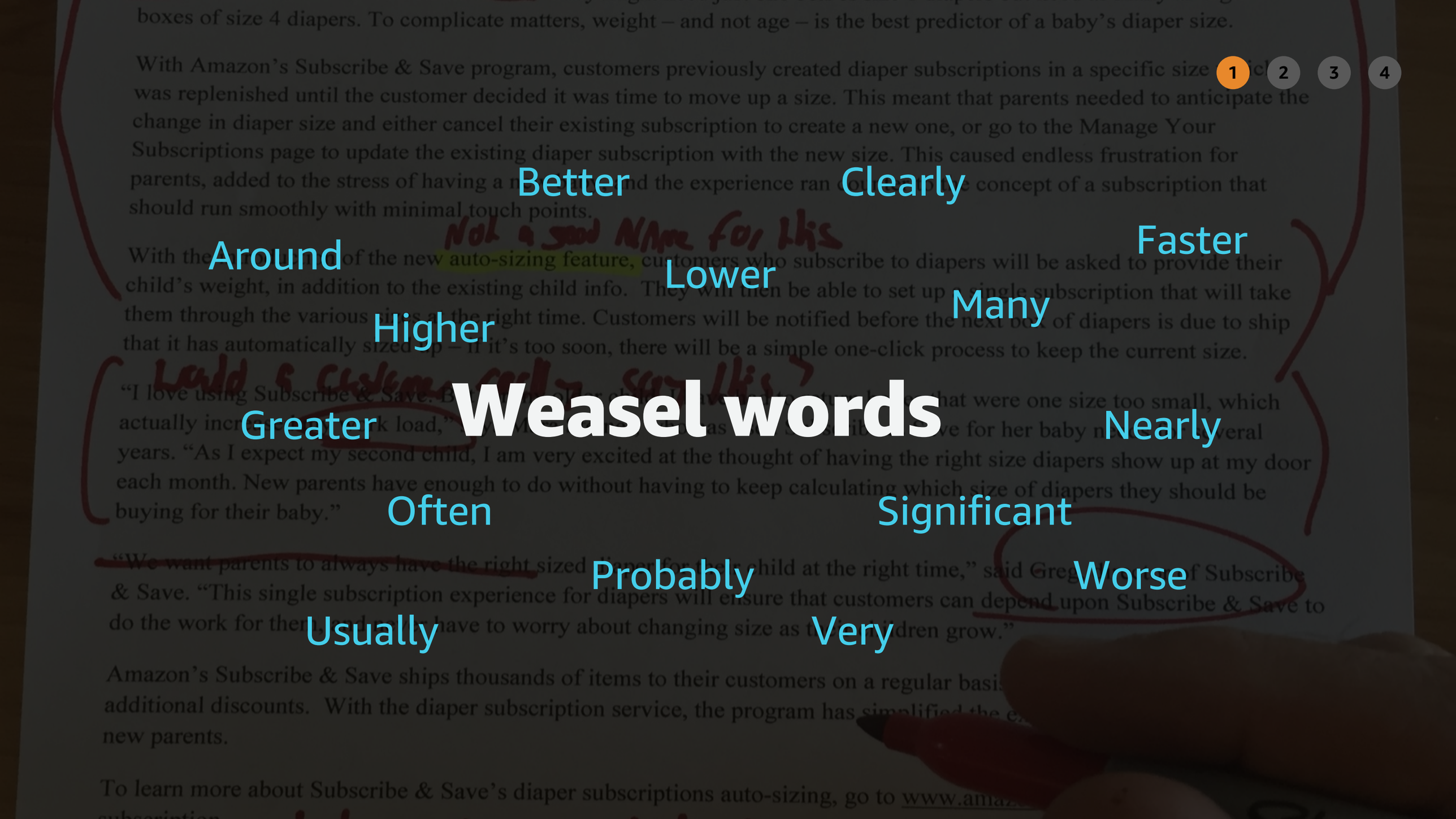
Use data to justify decisions

Executive sponsorship



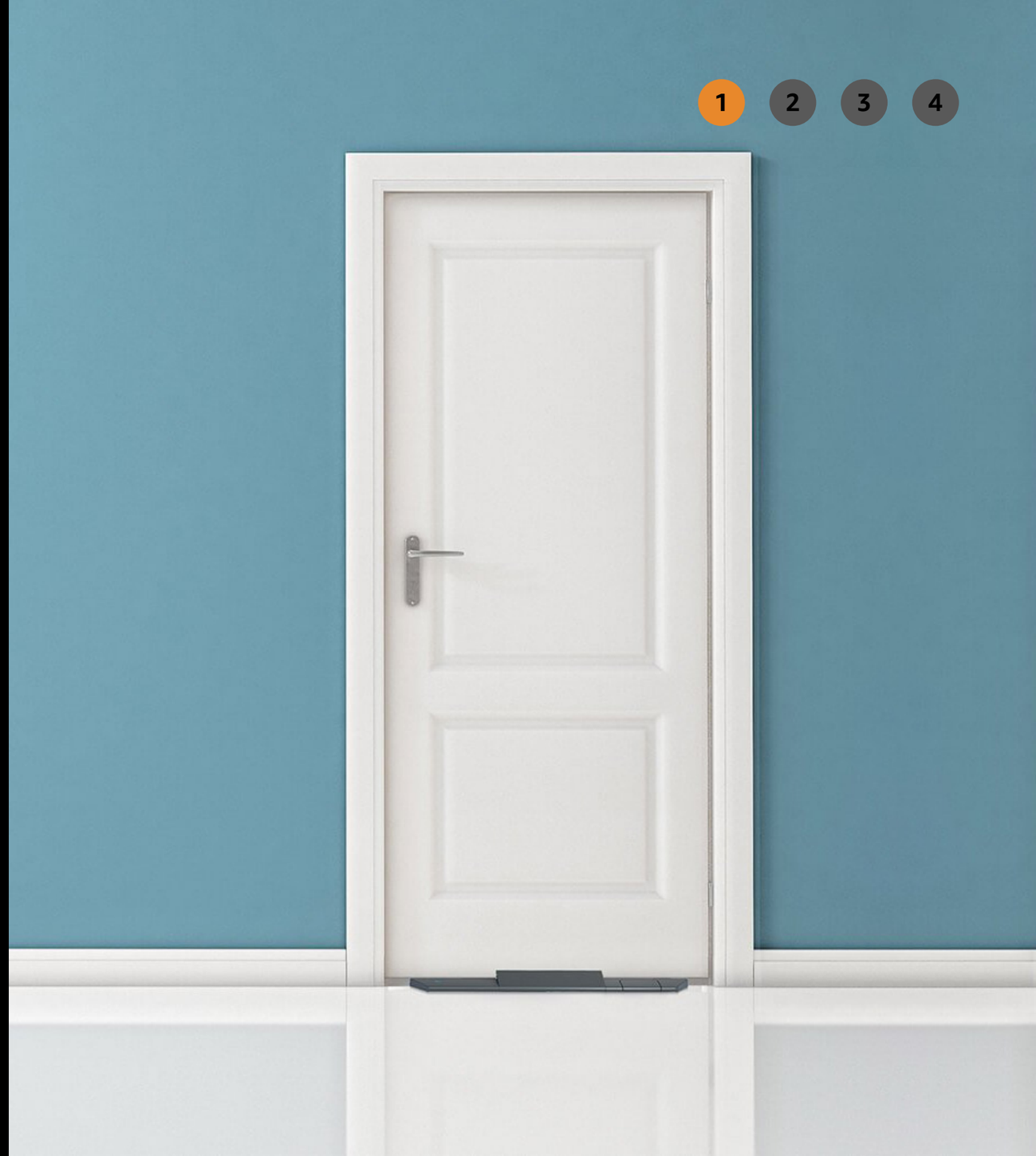
Use data to guide decisions

Executive engagement


boxes of size 4 diapers. To complicate matters, weight – and not age – is the best predictor of a baby's diaper size.
With Amazon's Subscribe & Save program, customers previously created diaper subscriptions in a specific size
was replenished until the customer decided it was time to move up a size. This meant that parents needed to anticipate the change in diaper size and either cancel their existing subscription to create a new one, or go to the Manage Your Subscriptions page to update the existing diaper subscription with the new size. This caused endless frustration for parents, added to the stress of having a
should run smoothly with minimal touch points.
With the
of the new auto-sizing feature, customers who subscribe to diapers will be asked to provide their child's weight, in addition to the existing child info. They will then be able to set up
them through the various
that it has automatically sized up – if it's too soon, there will be a simple one-click process to keep the current size.
"I love using Subscribe & Save.
actually incr
years. "As I expect my second child, I am very excited at the thought of having the right size diapers show up at my door each month. New parents have enough to do without having to keep calculating which size of diapers they should be buying for their baby."
"We want parents to always have the right sized
& Save. "This single subscription experience for diapers will ensure that customers can depend upon Subscribe & Save to do the work for them
Amazon's Subscribe & Save ships thousands of items to their customers on a regular basis
additional discounts. With the diaper subscription service, the program has
new parents.
To learn more about Subscribe & Save's diaper subscriptions auto-sizing, go to www.amaz
1
2
3
4
Better
Clearly
Not a good Name for this
Around
Lower
Faster
Many
Higher
Weasel words
Greater
Nearly
Often
Significant
Probably
Worse
Usually
Very

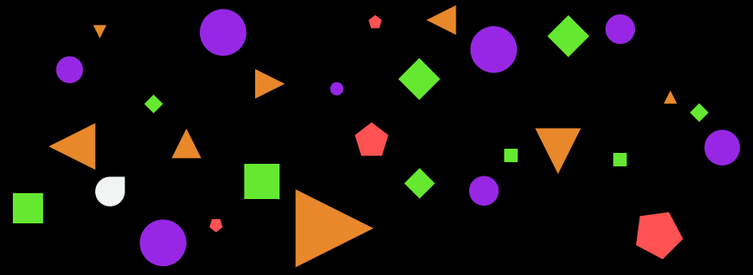
| | |
|---|---|
| “…we gained more customers this quarter” | “…we gained 100 new customers in Q1–2020 compared to 75 in Q4–2019” |
| “...response to our new marketing campaign is great” | “…our new marketing campaign resulted in 30% increase in new customer signup” |
| “…we improved the performance significantly” | “…we reduced our page-load times by 20%” |

# Is it a one-way or a two-way door?



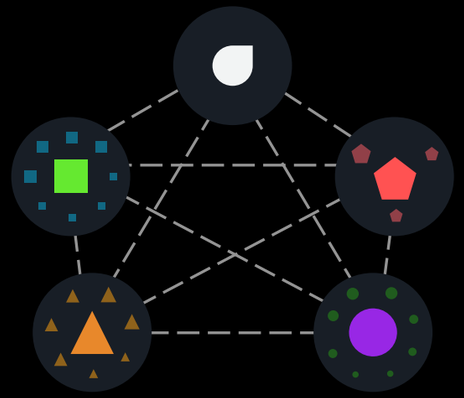
# Enable frontline action using data





HiPPO-based decision-making

Many insights, little action



Decentralized decision-making

Insights actioned in everyday activities

# Frontline action driving engagement

**250M** players around the world



**Engaging gaming experience**

Amazon S3

**100PB** of data on player behavior

Strategy

Weapons

Playtime

**New weapons, maps, and content**

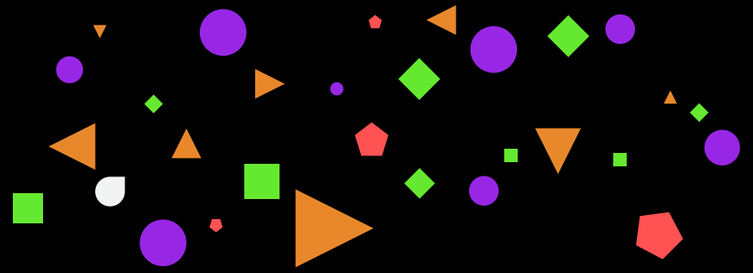


Game designer



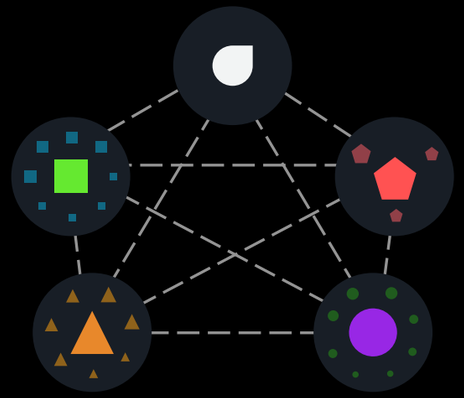
# Educate everyone on effective use of data





Data is for analysts

Start with the Master Data Management tools

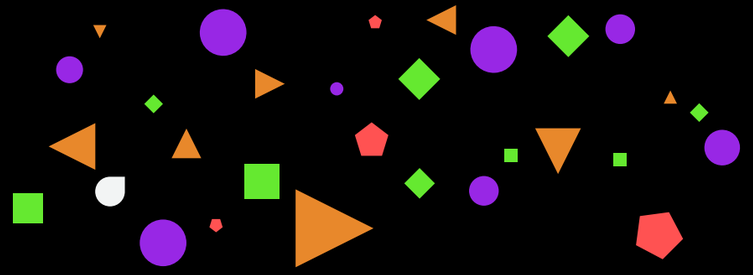


Data proficiency as a core skill

Define common entities and vocabulary

# Eliminate blockers from becoming data-driven

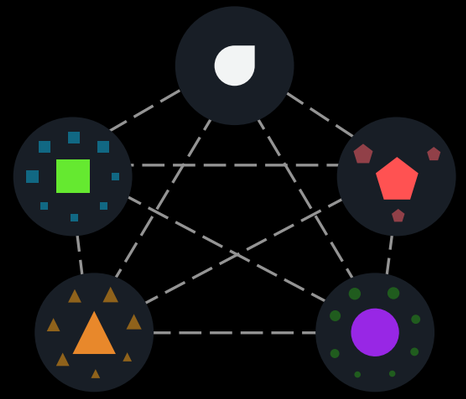




Data in departmental silos

Data as a crutch

Reporting ghost towns



Data as organizational asset

Data to seek honest inquiry

Integrate data in core products

# A+E Networks breaks down silos

Who is our customer?

Where are we spending money?




How are we making money?

What do we have in the basket to sell?



# A+E Networks breaks down silos

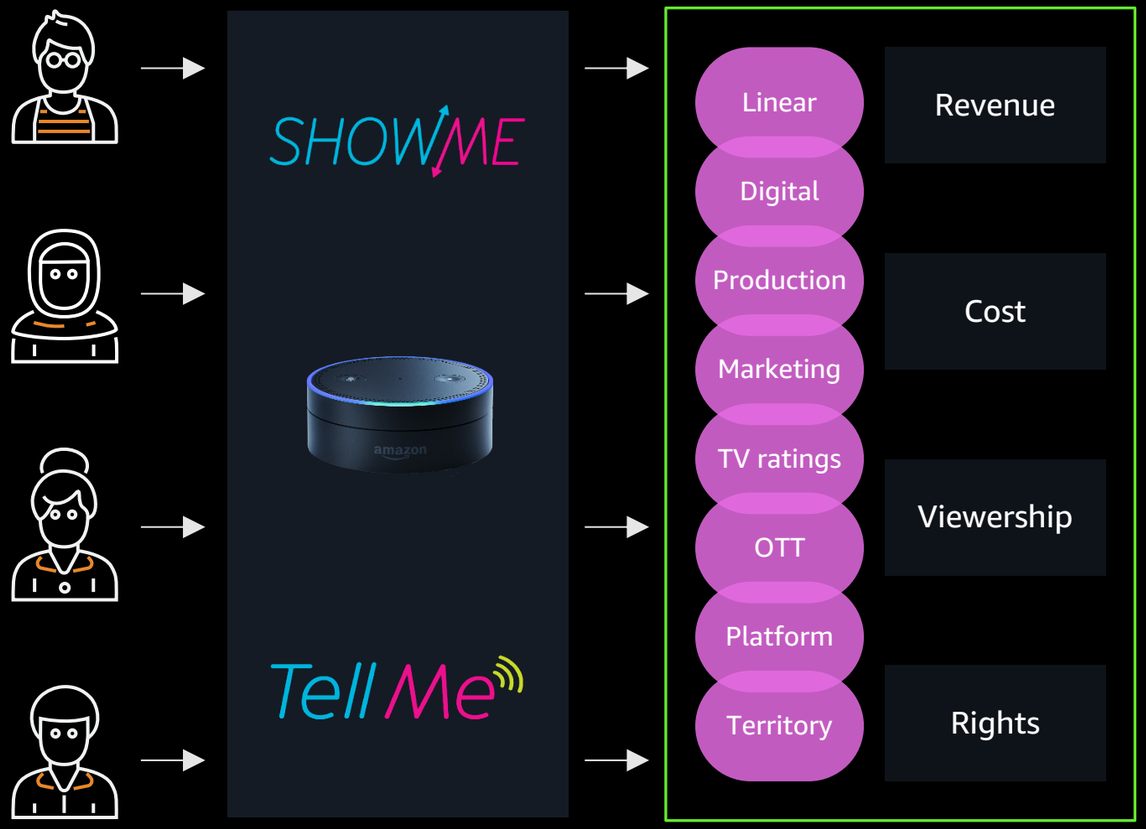
| Revenue | Cost | Viewership | Rights |
| --- | --- | --- | --- |
| Linear | Production | TV ratings | Platform |
| Digital | Marketing | Digital downloads | Territory |
| International | Talent | OTT subscribers | |
| Distribution | | | |








# A+E Networks breaks down silos




Corporate alignment across 12 common KPIs

Increased content sales with real-time rights

Data-driven optimization for inventory, price, and marketing

Better program scheduling decisions using data



# Creating and scaling a data-driven culture



Engage in data-driven decision-making



Enable frontline action using data



Educate everyone on effective use of data



Eliminate blockers to becoming data-driven

$$(\text{Culture} \times \text{Scale}) + (\text{Capability} \times \text{Scale})$$

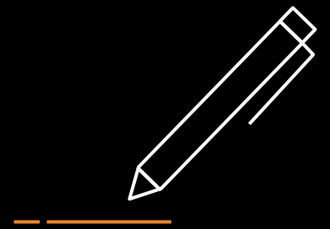
# Capability at scale



Organization

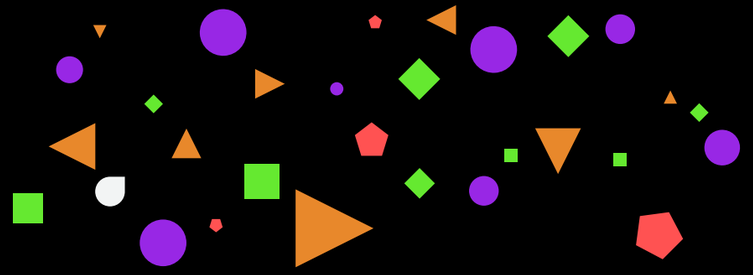


Governance



Execution

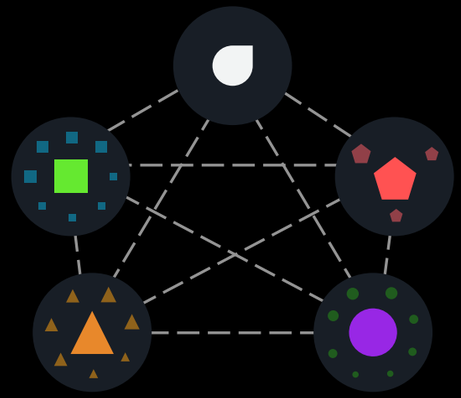
# Organization



Funnel all requests centrally

Separate data from IT

Treat data as a byproduct



Create a community

Leverage IT’s unique position as glue

Assign a single-threaded leader

# The modern data community

*Data-driven organizations enable agility by pushing responsibility to the edges, to the producers and consumers of data*

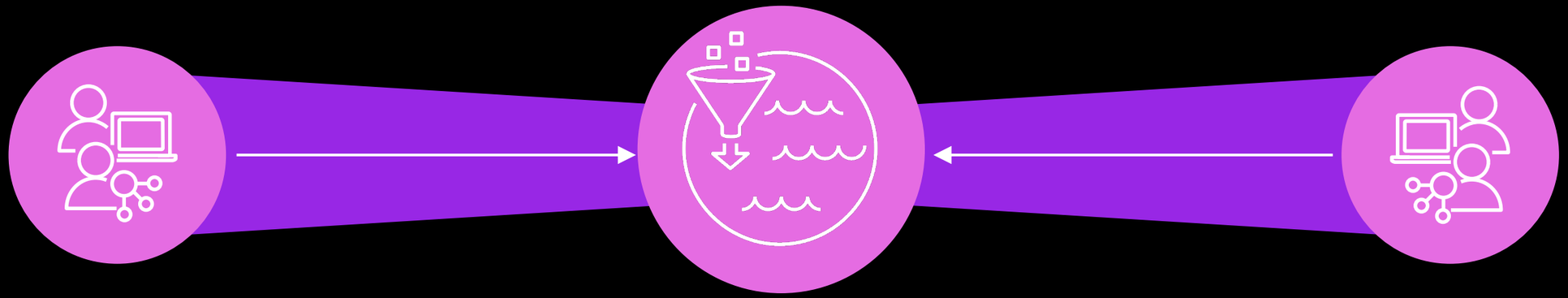
## Producers

"Teams that want to share data"

- Domain expertise
- Data ownership and governance
- Data quality
- Metadata management

## Data lake platform

"Team that runs the marketplace"



- Build security controls
- Build and run the platform
- Simplify onboarding
- Enterprise data sets
- Training and community

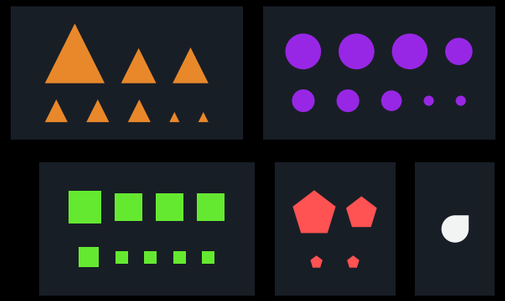
## Consumers

"Teams that want to use data"

- Execute business priorities
- Business analytics development
- Data discovery
- Data pipeline development
- Creation of new insights

Level of decentralization depends on maturity of skills, complexity of business, domain knowledge required, and pace of tech change…

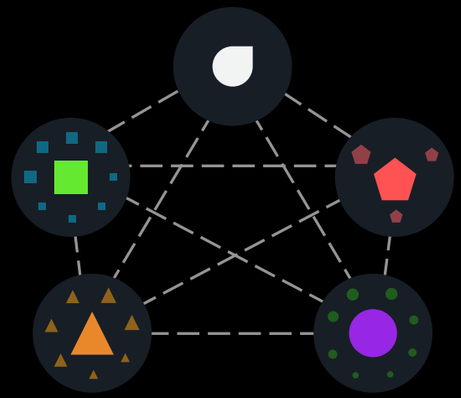
# Governance



Govern to restrict

Remedial controls for security and privacy

Data ownership

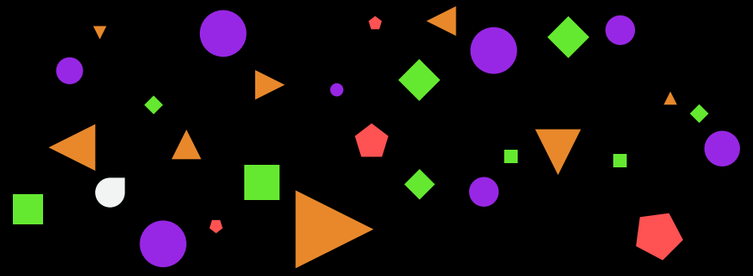


Govern to enable

Security and privacy by design

Data stewardship

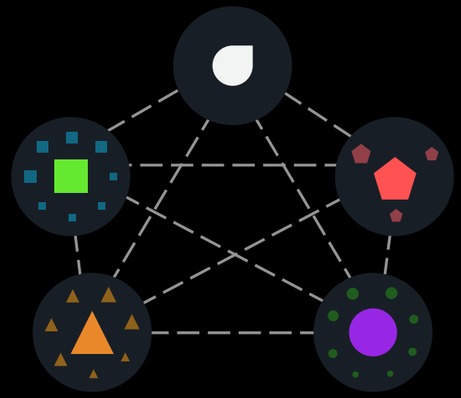
# Execution



Start data forward

Focus on consuming data

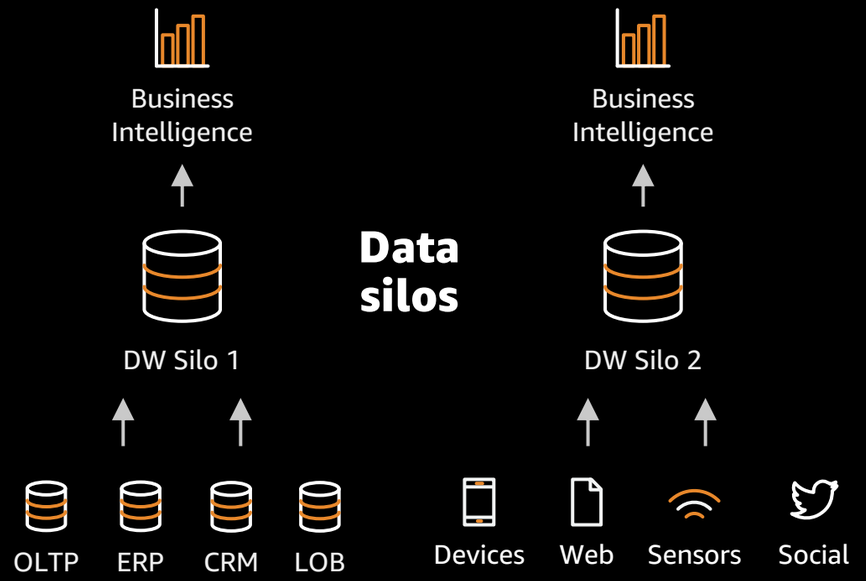
Standardize on
one-size-fits-all approach



Start business backward

Create strategy to capture data

Use a data lake, purpose-built
databases, and cloud




Predefined output

Processed and structured

Limited scale

Storage and compute tightly coupled

Expensive and slow to build and operate




One source, many ways to consume

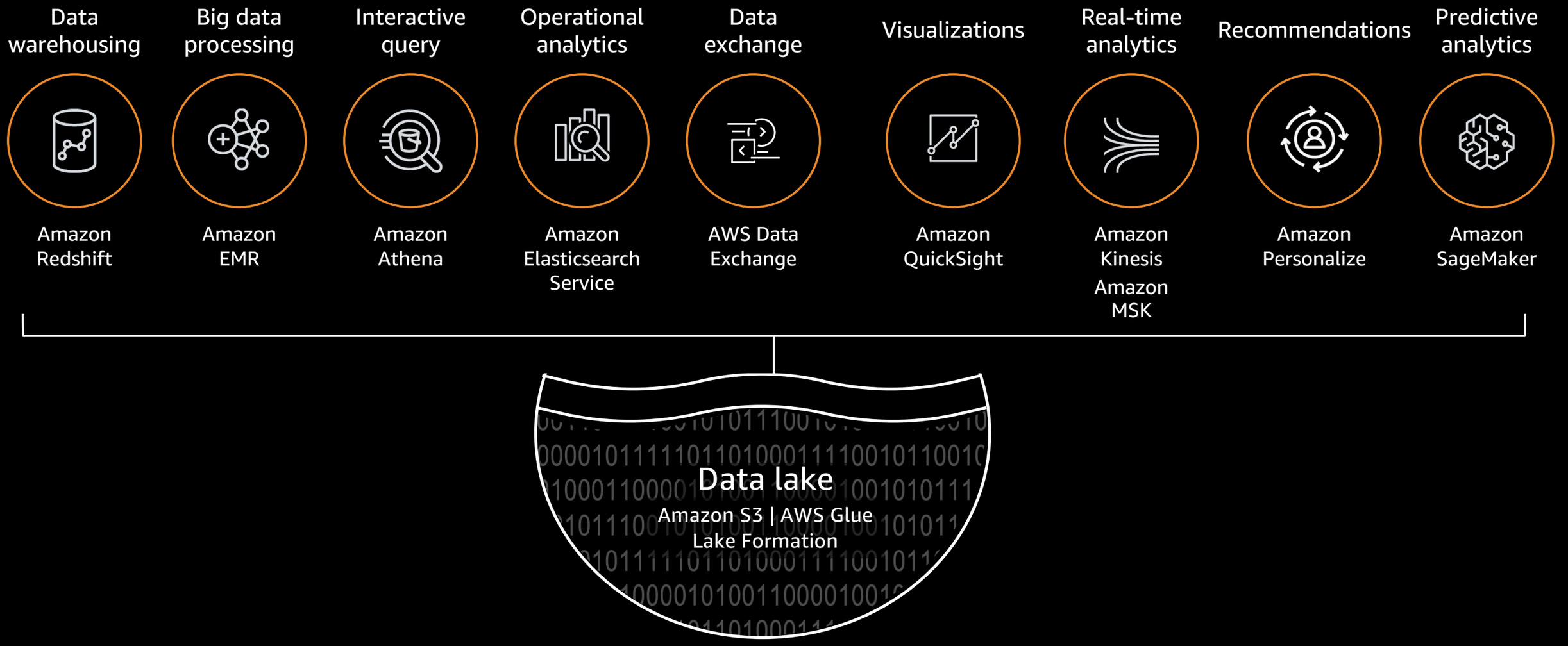
Unprocessed and raw

Exabyte scale

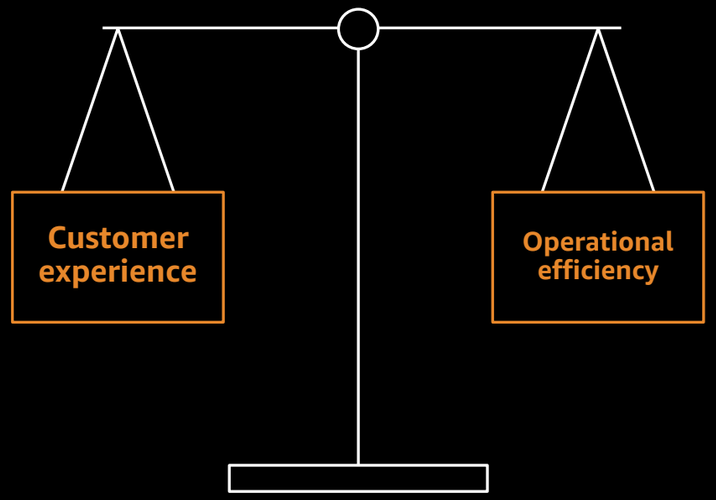
Decouple storage and compute

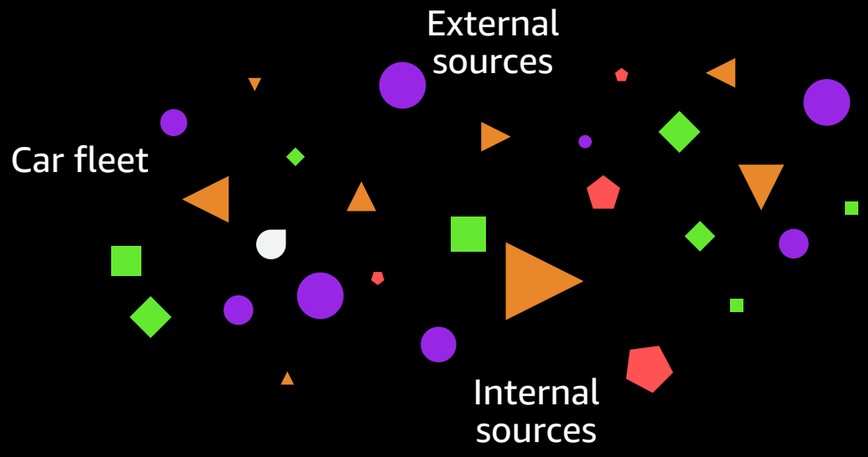
Cost effective and faster time to market

# Most comprehensive analytics platform

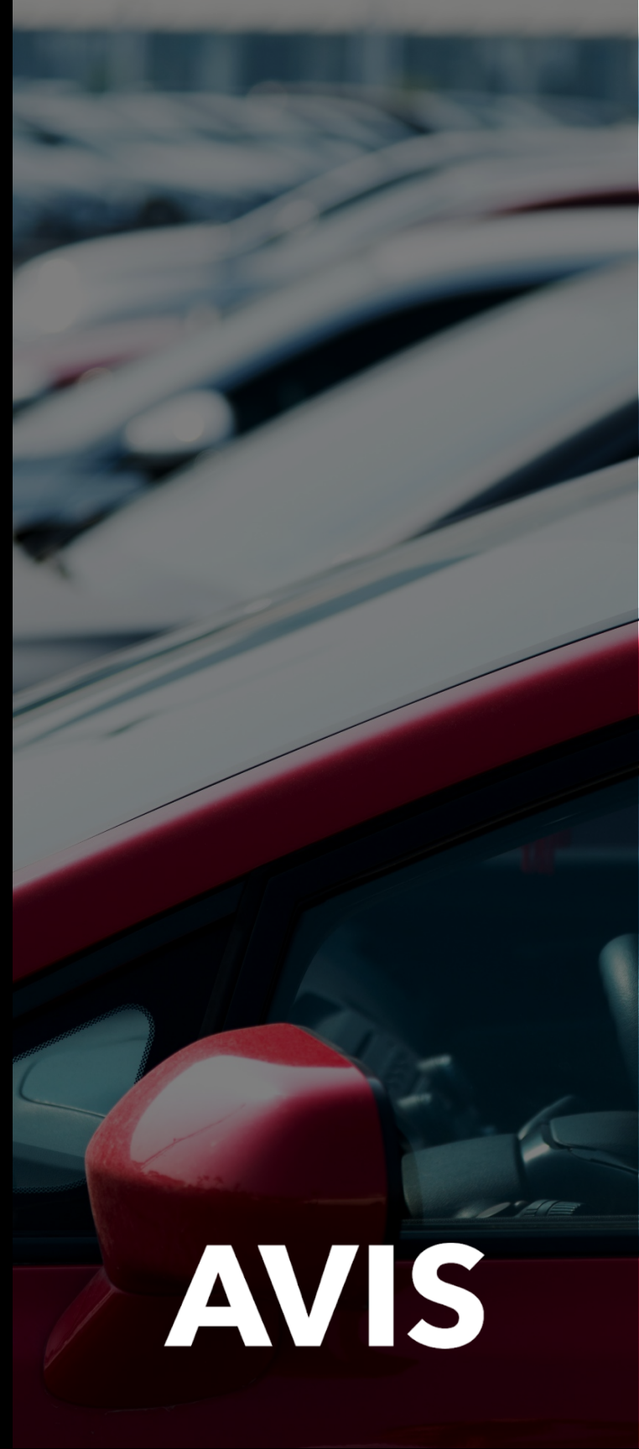


# Avis improves customer experience and operational efficiency using data




**Lots of heterogenous data but very limited insights**



# Avis improves customer experience and operational efficiency using data



Car fleet



Internal sources



External sources

Field pilot at Newark airport to understand the rental experience

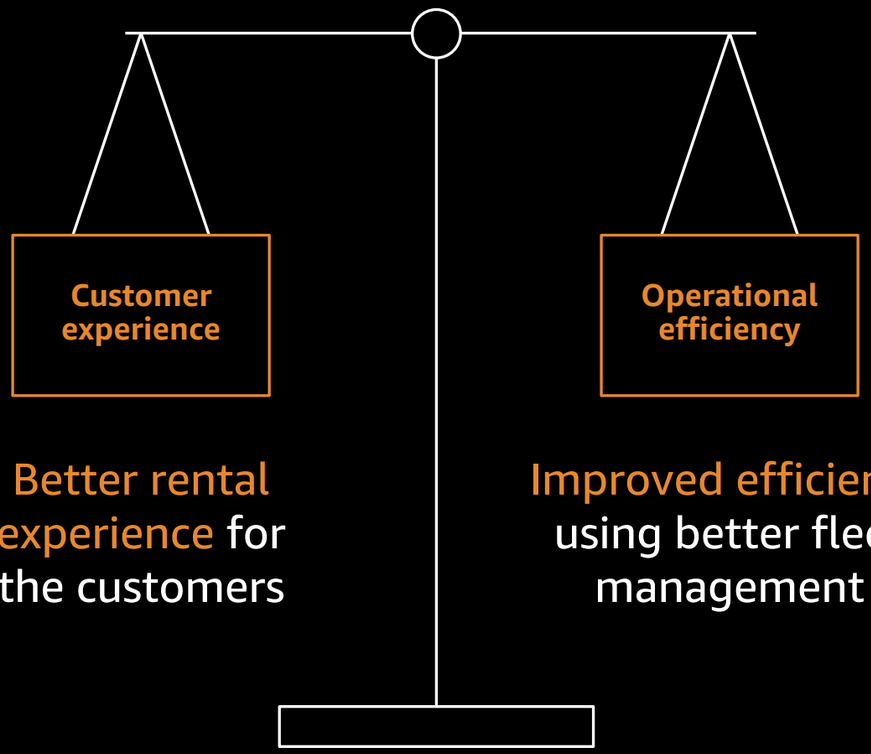




Pipeline to stream, process, and transform data



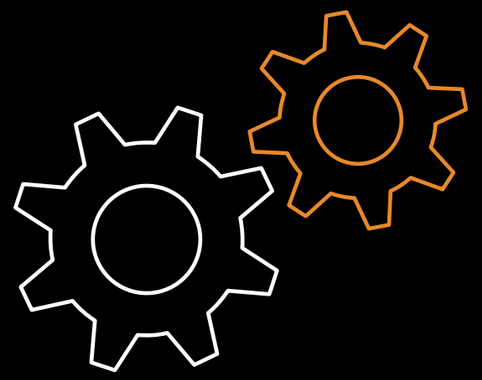
ML-based optimization engine integrated into mobile app




Better rental experience for the customers

Improved efficiency using better fleet management








# (Culture × Scale) + (Capability × Scale)


Engage


Educate


Enable


Eliminate

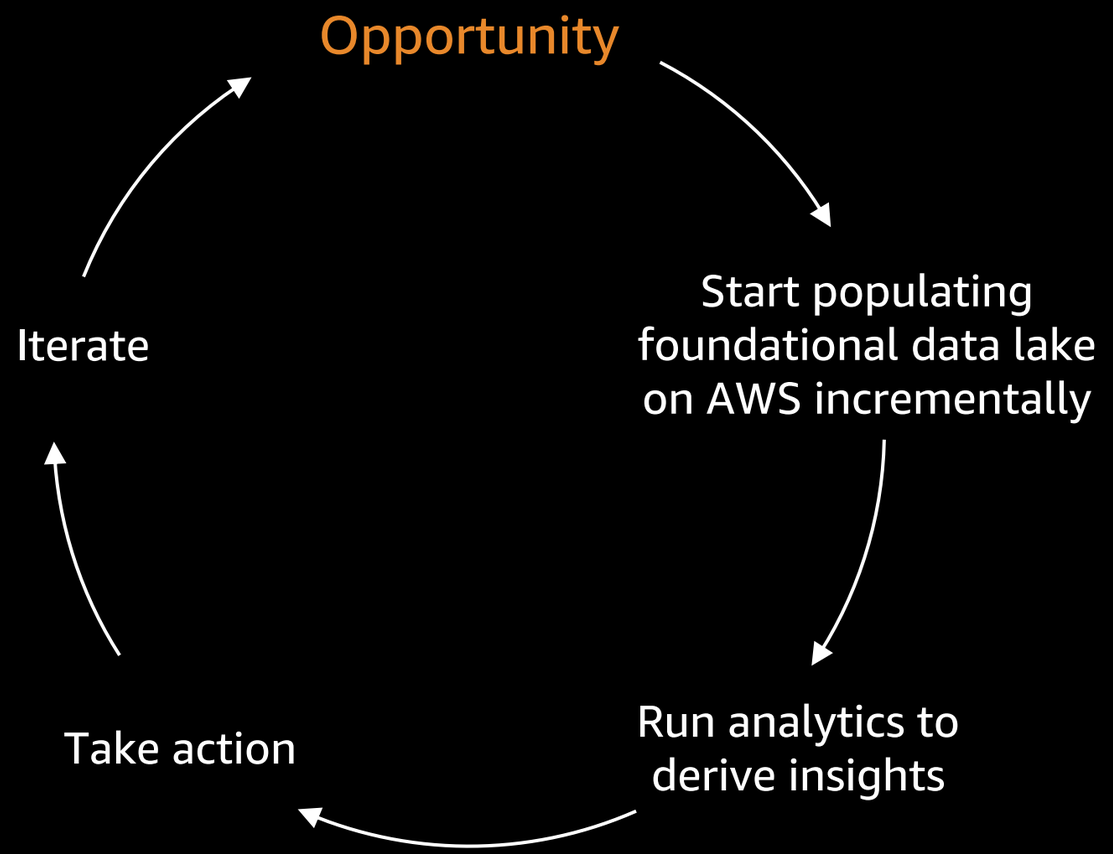

Organization


Governance


Execution

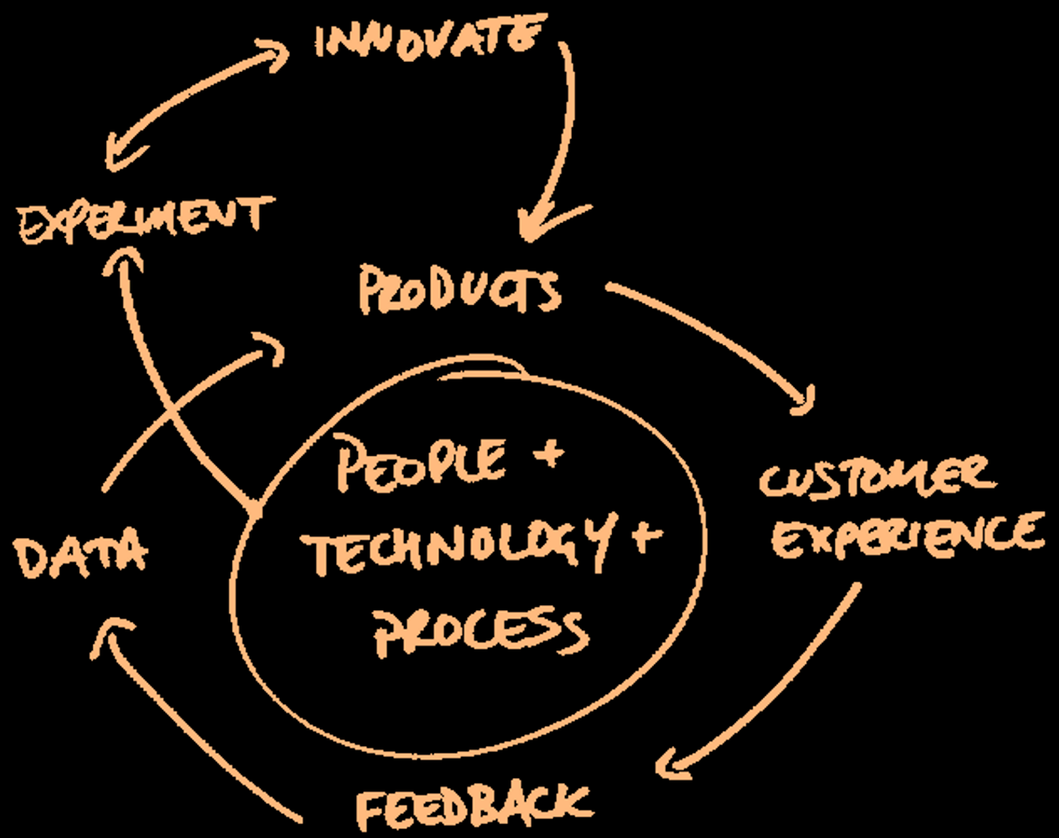
# Getting started

1. Define what data-driven means for your company
2. Assign a senior single-threaded leader
3. Commit and start by driving the cultural change
4. Pick an important but not urgent business problem to tackle



# Data-driven everything (D2E) program

Accelerating your flywheel



aws Executive Insights

https://aws.amazon.com/executive-insights/




https://open.spotify.com/show/1Qp5byBTSBeF20RdyWuIgd

aws LinkedIn Community for Executives

https://www.linkedin.com/groups/8409018/

aws Enterprise Strategy Blog

https://aws.amazon.com/blogs/enterprise-strategy/

# Thank you

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