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DATA AND AI/ML EDITION
22 February 2023

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Data-driven enterprise: going from vision to value

John Clark (he/him)
Enterprise Strategist
Amazon Web Services

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Why does it matter?

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Why does it matter?

Make better decisions, faster

swimming australia

Uses real-time data to optimize relay team order during competition

GP Georgia-Pacific

Predicts production issues months in advance

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Why does it matter?

Make better decisions, faster

Respond better to the unexpected

KOREAN AIR

Rapid pivot of passenger fleet to cargo flights during pandemic

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Why does it matter?

Make better decisions, faster

Respond better to the unexpected

Create better customer experience

Brings fans closer to the action using data and ML

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Why does it matter?

Make better decisions, faster

Respond better to the unexpected

Create better customer experience

Uncover new opportunities

Expands to 59+ countries since launch

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Why does it matter?

Make better decisions, faster

Respond better to the unexpected

Create better customer experience

Uncover new opportunities

Improve efficiency

amazon.com

Eliminates 915K tons of packaging

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USING DATA
SINCE 18000 B.C.

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The binder

hieroglyphs

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What has changed?

More data than ever before

1991 2021 2022 2023 2024

"The amount of data created over the next 3 years will be more than the data created over the past 30 years…"

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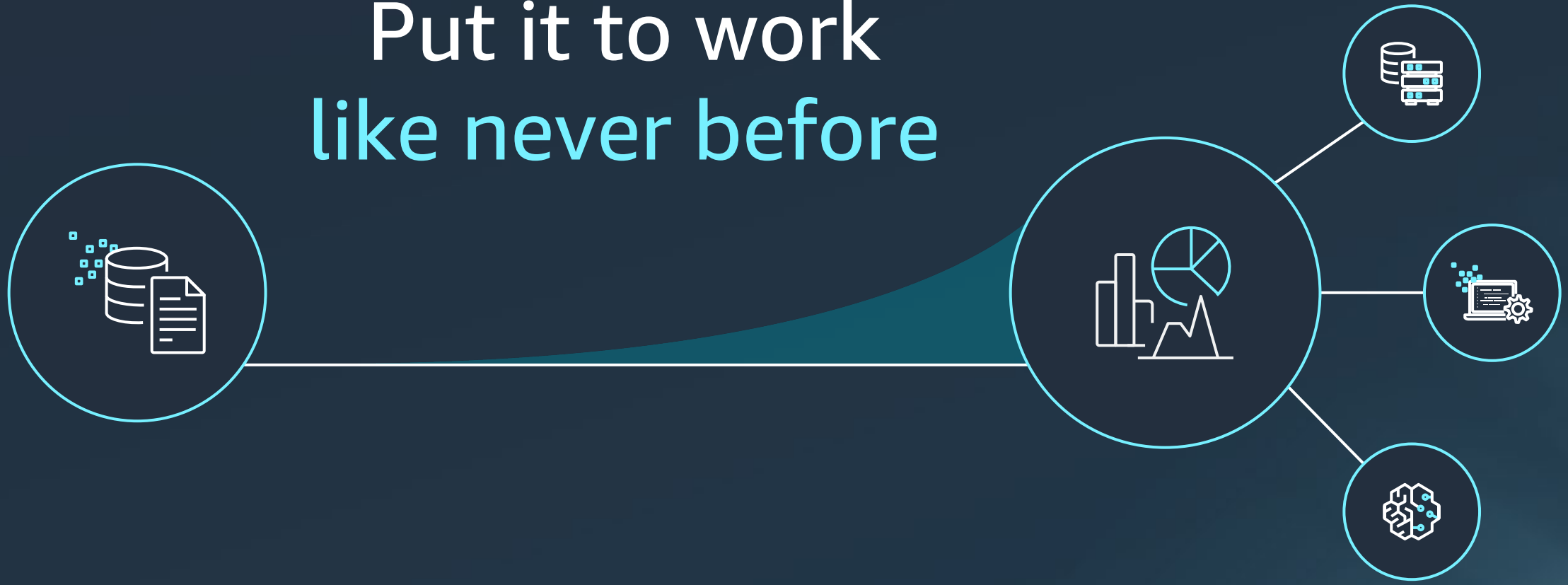
Source: IDC's Global DataSphere forecast, 2020

What has changed?

Put it to work
like never before



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Evolution of enterprise data

	Data aware	Data informed	Data driven
Capability	Data	Insights	Actions
Consumers	Executives	Functional experts	Everyone
Questions	What happened?	Why did it happen?	How can we make it happen?
Ownership	Data is no one's job	Data is someone's job	Data helps me in my job
Activity	Create reports for others to use	Analyze data to find patterns	Act and experiment every day
Nature	Heavily aggregated, highly formatted	Aggregated with some drill downs	Granular, flexible, and scalable
Technology	Old guard databases	Data warehouse/ interactive query	Cloud, AI/ML

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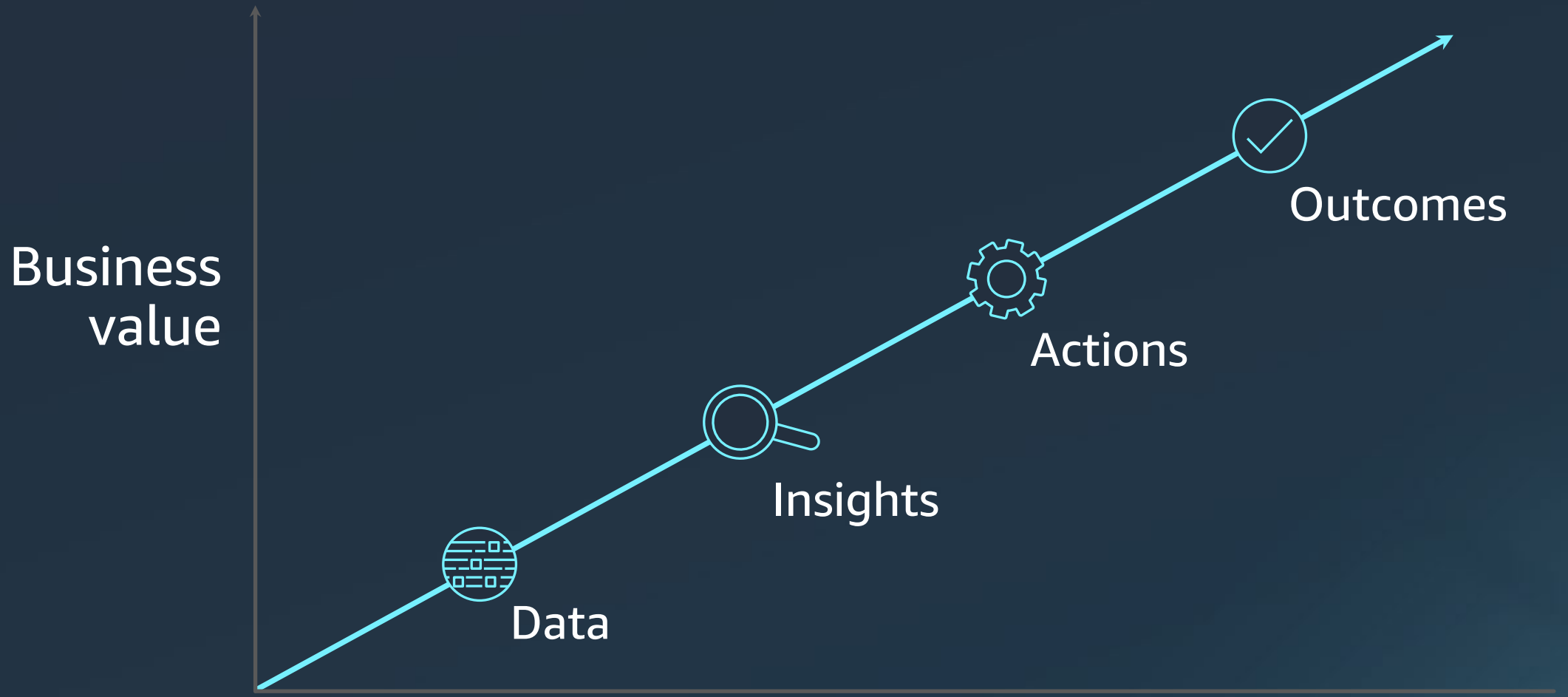
Data-driven enterprise



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And yet . . .

while 99% of the 85 leading companies are investing in data,

only 24% report being successful in creating a data-driven organization

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Source: New Vantage Partners LLC (2021). Big Data and AI Executive Survey 2021

How to realize the vision of a data-driven enterprise

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How to realize the vision of 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) but change little else
- Create centralized function and funnel all “data” requests to them
- Repeatedly say that we are in the data business
- All of the above

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Realizing the vision of a data-driven enterprise

Culture

Beliefs, values, and behaviors that create a data-driven culture

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Realizing the vision of a data-driven enterprise

Culture

Beliefs, values, and behaviors that create a data-driven culture

Organization

Structure and roles that accelerate data-driven outcomes

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Realizing the vision of a data-driven enterprise

Culture

Beliefs, values, and behaviors that create a data-driven culture

Organization

Structure and roles that accelerate data-driven outcomes

Mechanisms

Processes that enable and scale effective use of data

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Realizing the vision of a data-driven enterprise

Culture

Beliefs, values, and behaviors that create a data-driven culture

Organization

Structure and roles that accelerate data-driven outcomes

Mechanisms

Processes that enable and scale effective use of data

Execution

Execution approach and tools to rapidly unleash the value of data

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CULTURE

Facts, not feelings; freedom to act, not fiefdoms to please

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CULTURE

of challenges to business adoption of data are cultural

Source: Big Data and AI Executive Survey 2021 by NewVantage Partners

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CULTURE

Engage

Executive sponsorship	Executive engagement
Data to justify decisions	Data to guide decisions

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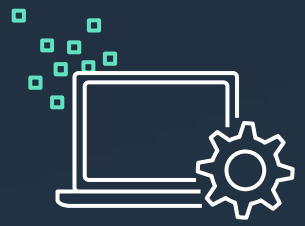
CULTURE



Engage

Enable

Democratize access to data

Democratize actions using data

Make data easy to use

Make data enjoyable to use

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CULTURE

Engage

Enable

Educate

Selective data literacy

Data proficiency as a core skill

Lack of common definitions

Common understanding and vocabulary

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CULTURE

Engage

Enable

Educate

Eliminate

Data as a departmental property

Data as an organizational asset

Reporting ghost towns

Data integrated into everyday workflows

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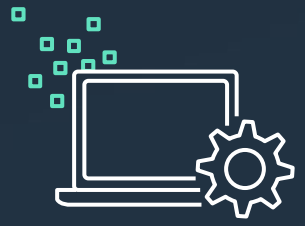
CULTURE

Engage



Enable

Educate

Eliminate

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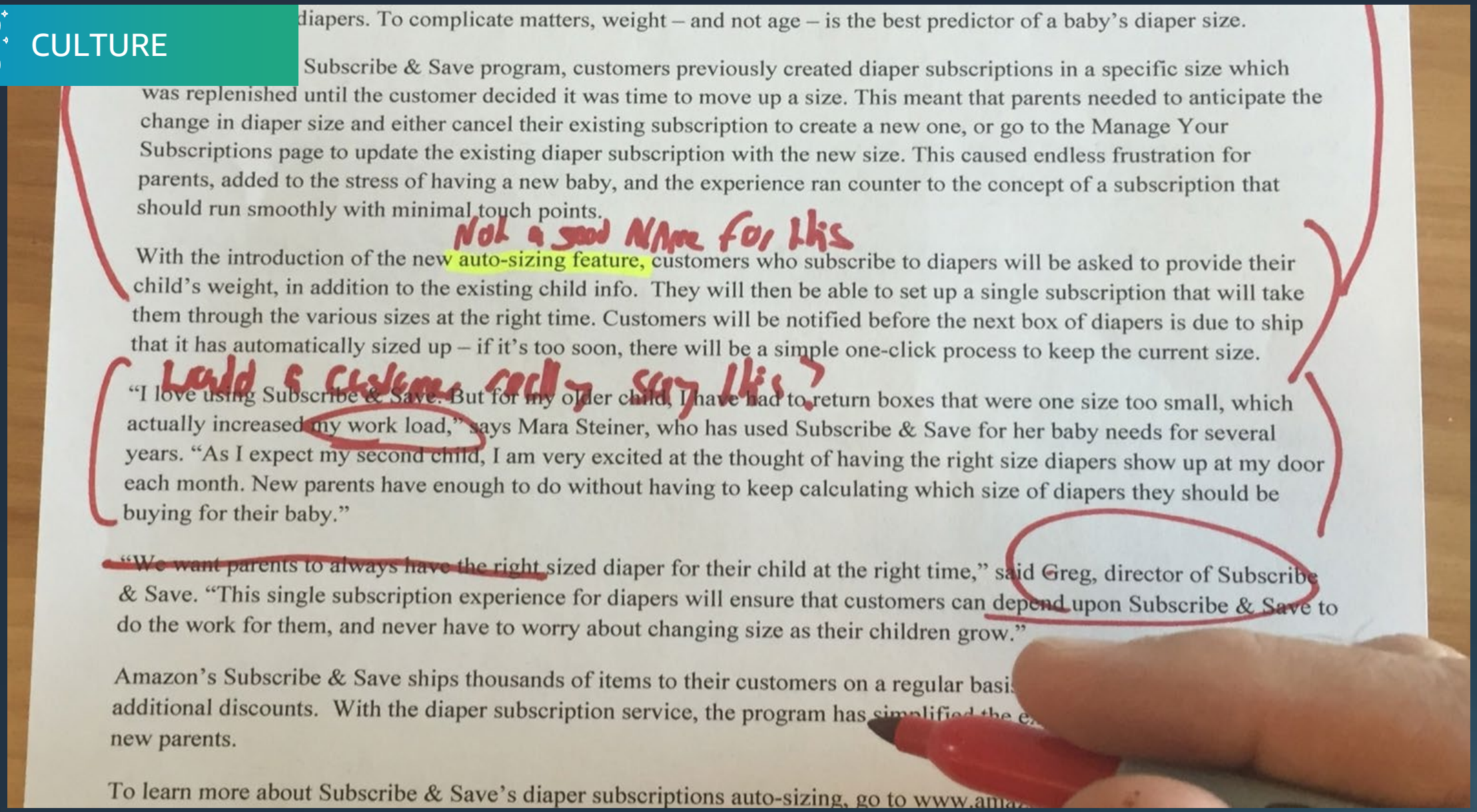

diapers. To complicate matters, weight – and not age – is the best predictor of a baby's diaper size.

Subscribe & Save program, customers previously created diaper subscriptions in a specific size which 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 new baby, and the experience ran counter to the concept of a subscription that should run smoothly with minimal touch points.

Not a good Name for this

With the introduction 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 a single subscription that will take them through the various sizes at the right time. Customers will be notified before the next box of diapers is due to ship that it has automatically sized up – if it's too soon, there will be a simple one-click process to keep the current size.

Load & Customer really say this?

"I love using Subscribe & Save. But for my older child, I have had to return boxes that were one size too small, which actually increased my work load," says Mara Steiner, who has used Subscribe & Save for her baby needs for several 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 diaper for their child at the right time," said Greg, director of Subscribe & Save. "This single subscription experience for diapers will ensure that customers can depend upon Subscribe & Save to do the work for them, and never have to worry about changing size as their children grow."

Amazon's Subscribe & Save ships thousands of items to their customers on a regular basi
additional discounts. With the diaper subscription service, the program has simplified the e
new parents.

To learn more about Subscribe & Save's diaper subscriptions auto-sizing, go to www.ama

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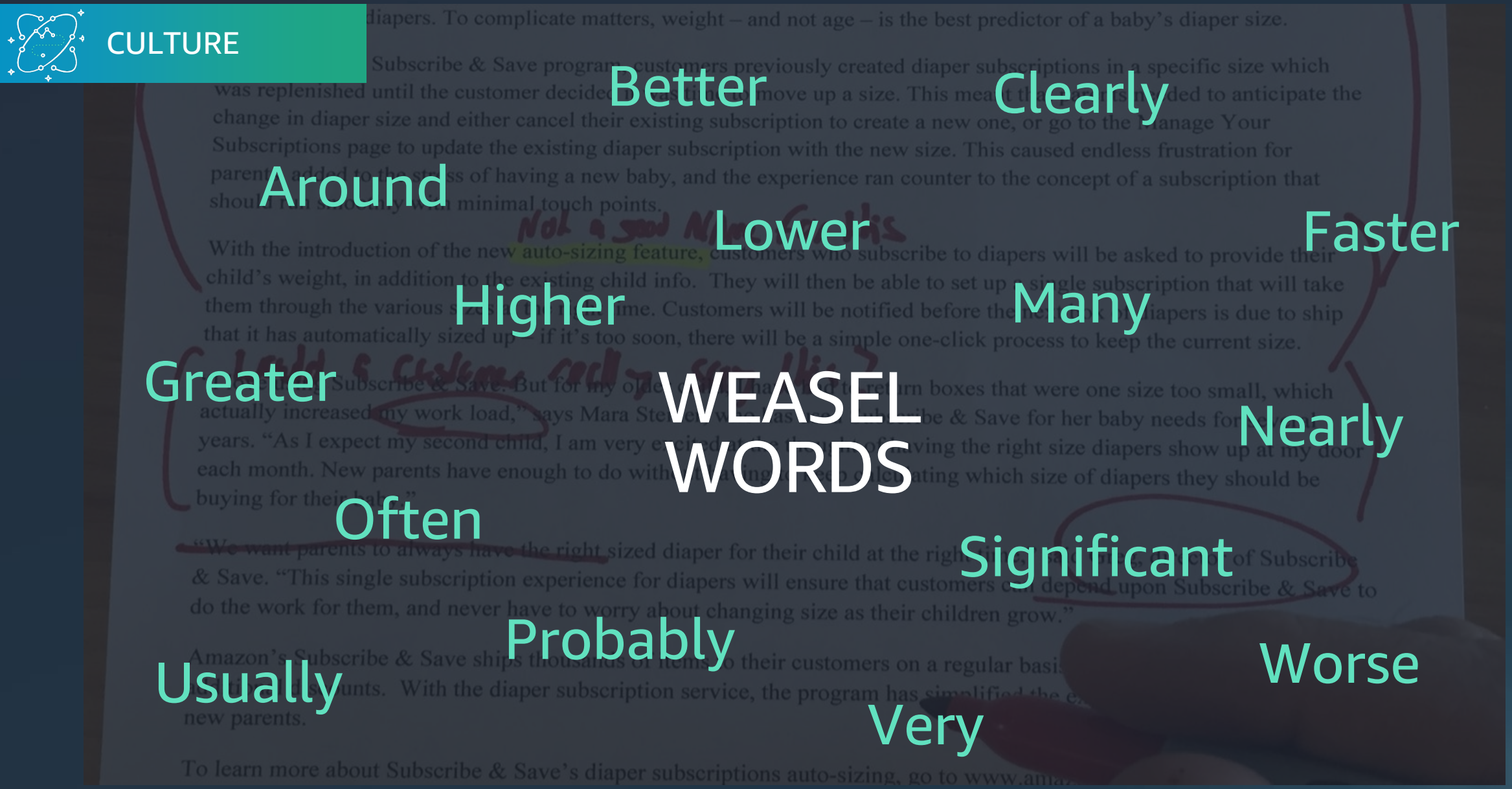

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CULTURE

"We gained more customers this quarter"

"We gained 100 new customers in Q4 of 2021 compared to 75 in Q3 of 2021"

"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%"

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CULTURE

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

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ORGANISATION

Organize for agility, not control

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ORGANIZATION

What got you here will not get you there

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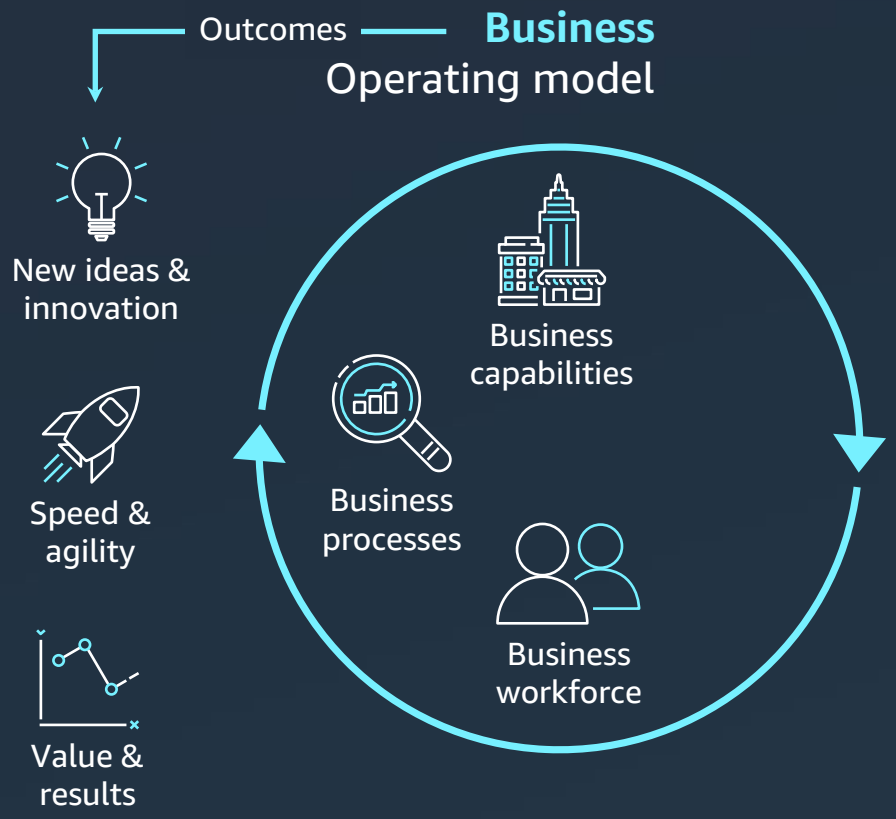
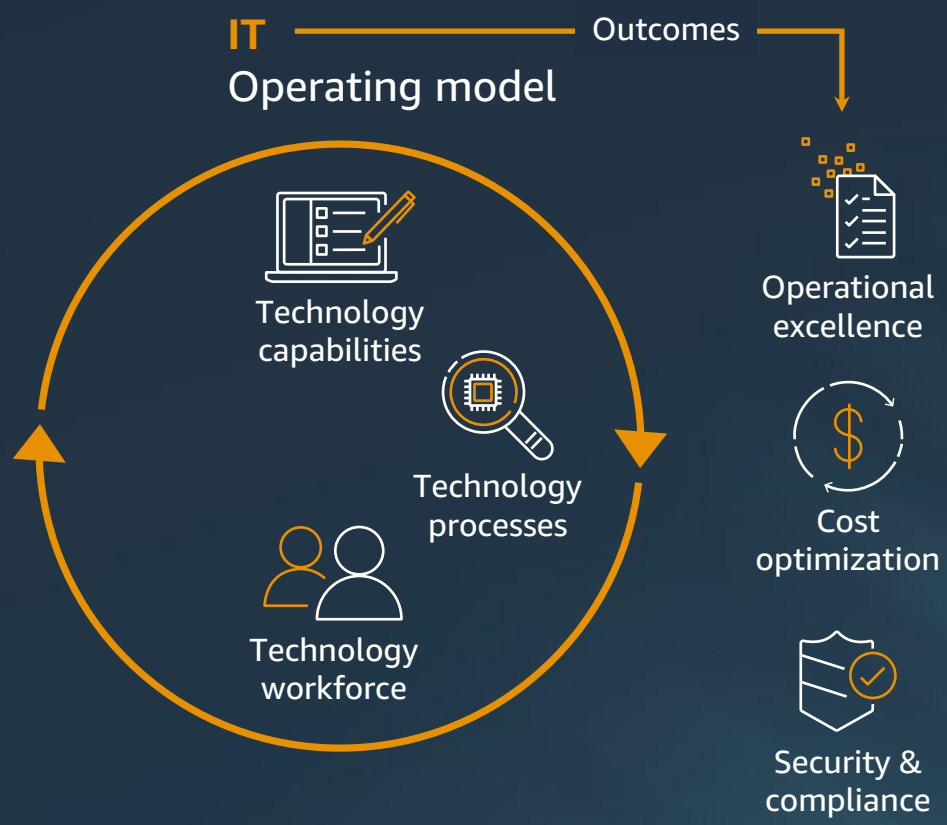
Shared outcomes across business and IT





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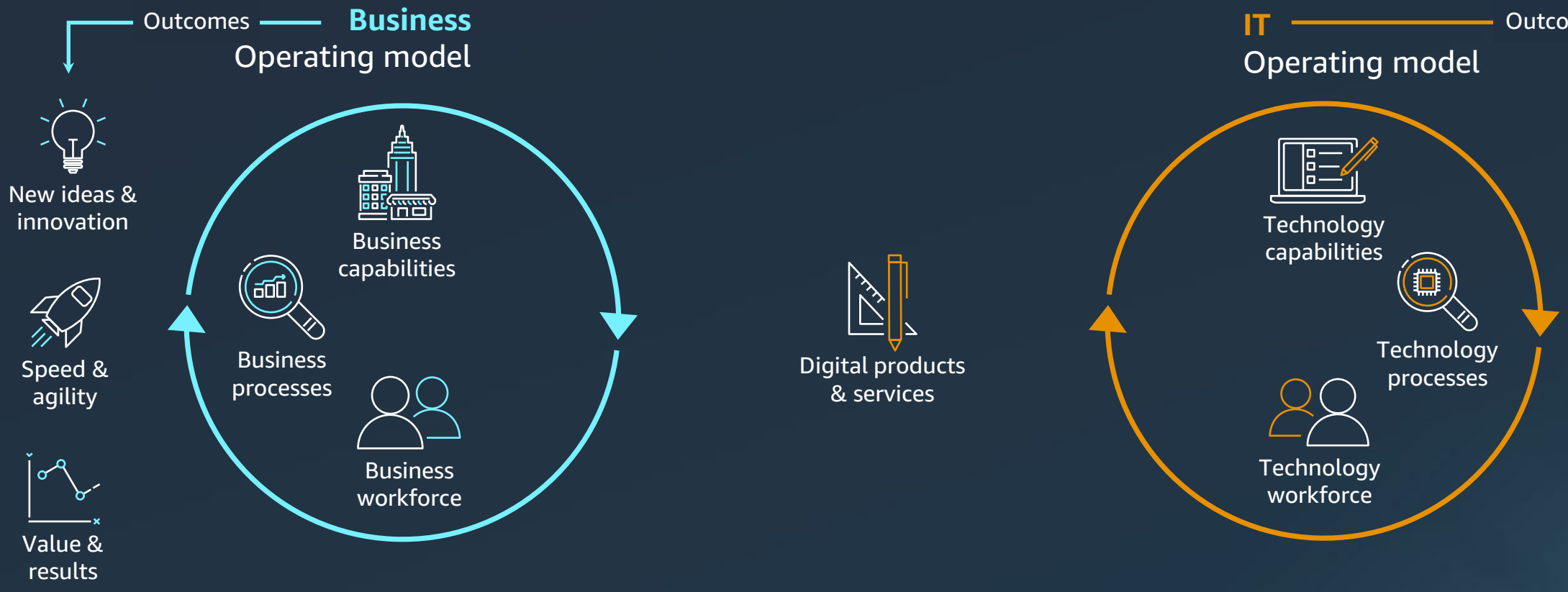
Shared outcomes across business and IT



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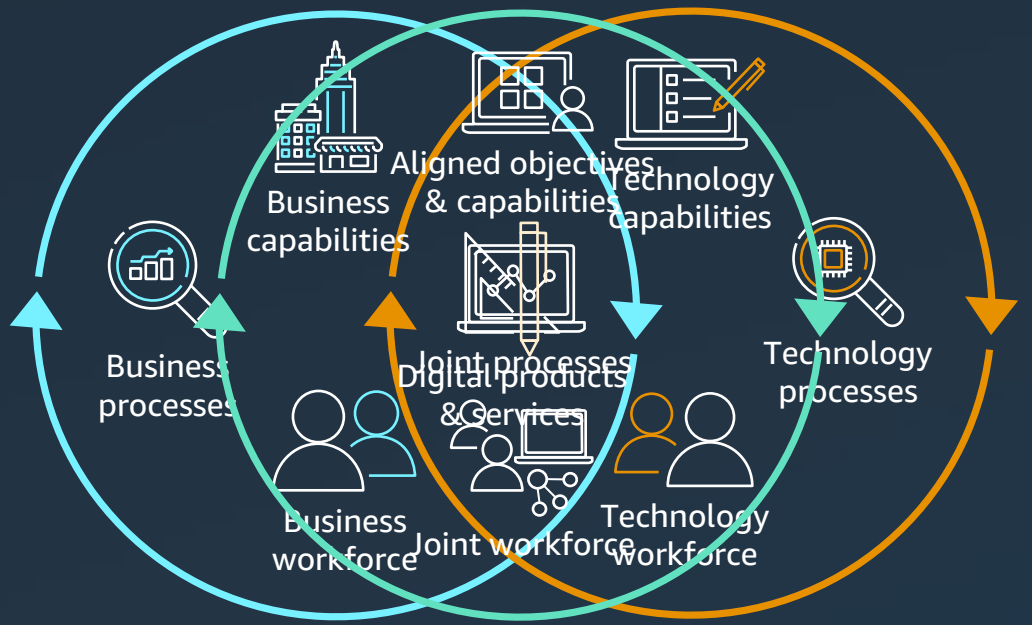
Shared outcomes across business and IT

Outcomes — **Business** Operating model

New ideas & innovation

Speed & agility

Value & results



IT Operating model — Outcomes

Operational excellence

Cost optimization

Security & compliance

Shared Outcomes

Business Agility

Innovation

Self-service

Optimal Technology

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We are here to help

Need peer-level executive guidance?

aws Enterprise strategy

- ✓ Mental models and strategies based on the first-hand experience of former CXOs
- ✓ Get peer-level sounding board and sparring partner

Inspire and accelerate your digital transformation

Want to build a data vision and strategy?

aws Data-driven everything

- ✓ Create an organizational vision for innovation with data to drive business outcomes
- ✓ Define the first pilot, learn, and build

Jumpstart the data flywheel

Have a strategy and need help executing it?

aws Data lab

- ✓ Create tangible deliverables to accelerate strategic databases, analytics, and ML initiatives
- ✓ Leave with an architecture, working prototype, path to production, and deeper knowledge of AWS services

Come with an idea, leave with a solution

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Thank you!

John Clark (he/him)

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aws INNOVATE
DATA AND AI/ML EDITION

PART 2

Data-driven enterprise: going from vision to value

John Clark
Enterprise Strategist
Amazon Web Services

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ORGANISATION

Organize for agility, not control

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Data-driven organisation

- Align around outcomes, not activity
- Embrace autonomous cross- functional teams
- Teams are expected and empowered to act
- Operate with a ”you build it, you run it” mentality

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MECHANISMS

Mechanisms work, not just good intentions

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MECHANISMS

Measurement

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MECHANISMS

Measurement

Governance

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MECHANISMS

Measurement

Governance

Data quality

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Measurement

Measure the right thing, not everything

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Rethinking measurement

ABSOLUTES	⇔	RELATIVES/RATES
Investment	⇔	Price per unit
Budget	⇔	Burn rate
Deadline	⇔	Velocity
Capacity	⇔	Consumption
Ideal use case	⇔	Cost of experimentation

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MECHANISMS

Measurement

Governance

Data quality

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MECHANISMS

Governance

Govern to enable, not restrict

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MECHANISMS

How

Establish tenets before policies and procedures

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MECHANISMS

Examples of tenets

We will make the secure path the path of least resistance

We enable our customers to do the right thing easily and by default

Speed will not result in poor security and compliance

Being secure and compliant will not result in slow progress and poor proliferation of data

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MECHANISMS

How

Establish tenets before policies and procedures

Centralize implementation, decentralize decisions

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MECHANISMS

How

Establish tenets before policies and procedures

Centralize implementation, decentralize decisions

Good metadata = good data catalog

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MECHANISMS

How

Establish tenets before policies and procedures

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Good metadata = good data catalog

Automate your bureaucracy

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MECHANISMS

How

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Automate your bureaucracy

Encrypt everything

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MECHANISMS

Measurement

Governance

Data quality

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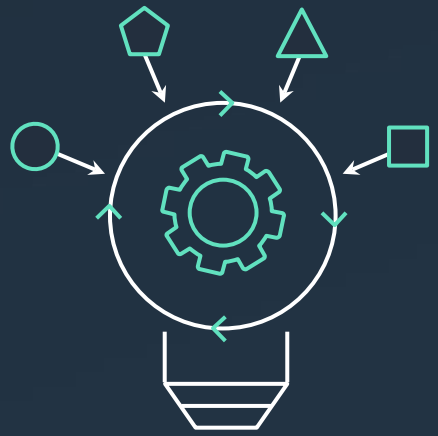
Data quality



Build it in, don’t bolt it on

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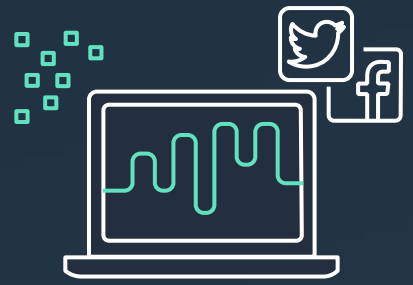
Data quality

Garbage in …garbage out



Incentivize better quality
at the source

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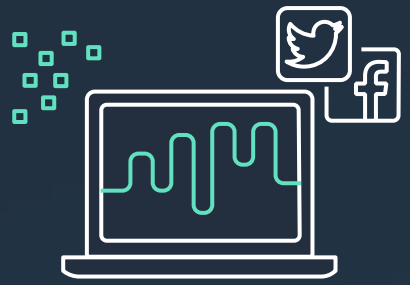
MECHANISMS

Data quality

Garbage in …garbage out



Incentivize better quality at the source

Ask for what you need, not everything

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Data quality

Change our thinking

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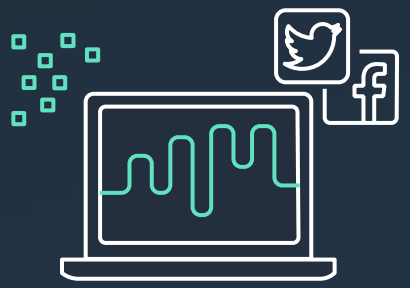
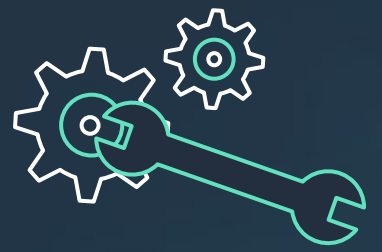
Data quality

Garbage in …garbage out



Incentivize better quality at the source

Ask for what you need, not everything



Automate inferential data and quality checks

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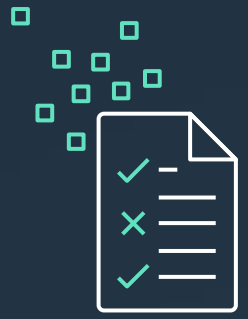
Data quality

Quality is not all or nothing



Put data quality in the context of the impact

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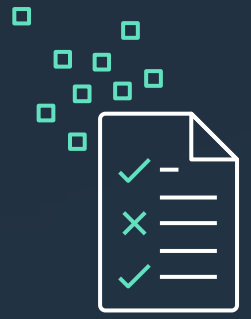
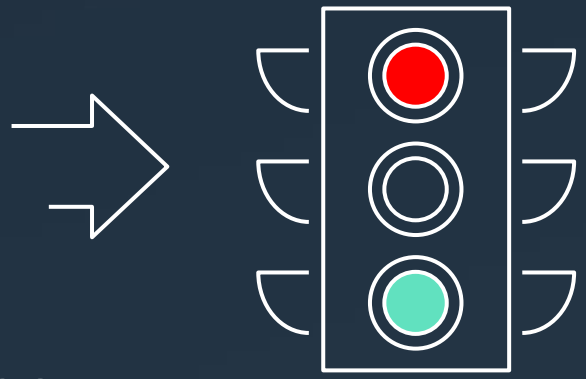
Data quality

Quality is not all or nothing





Put data quality in the context of the impact

Score it and show it

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EXECUTION

Think big but execute small

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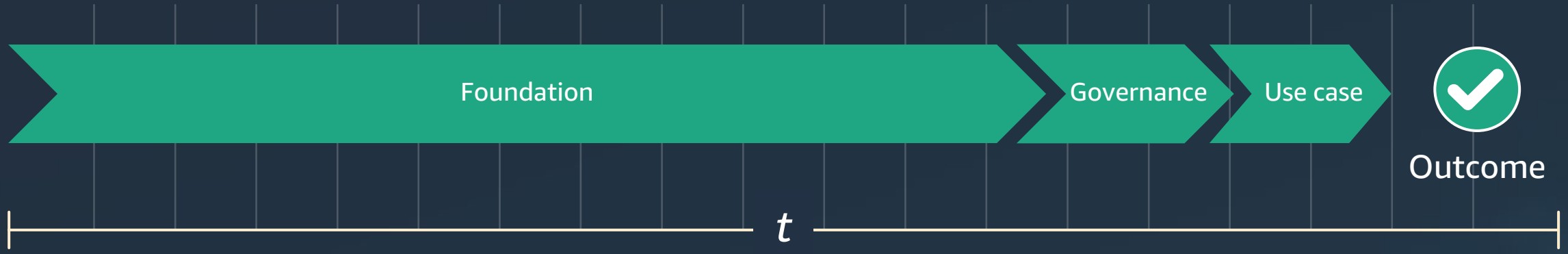
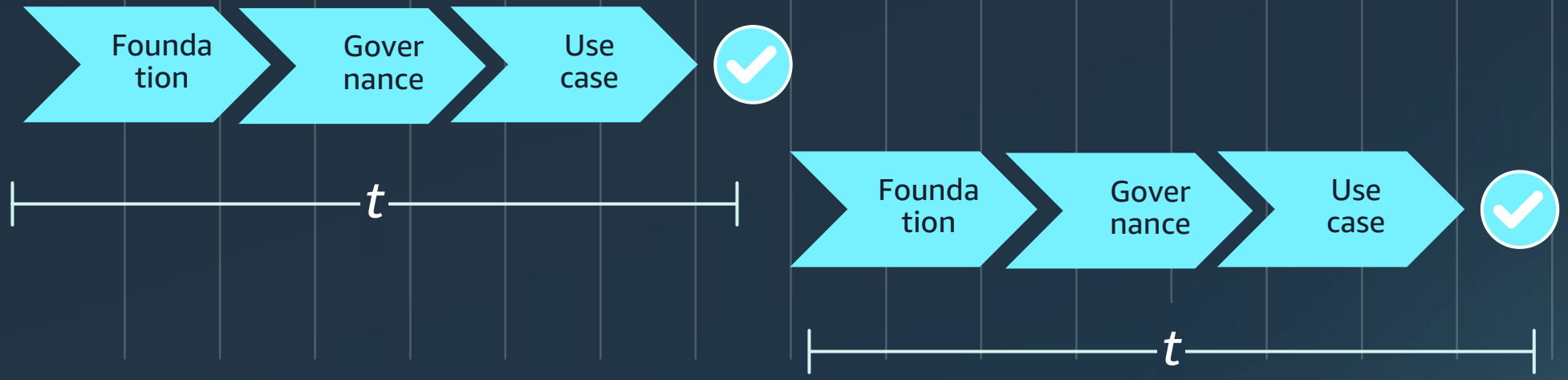
EXECUTION

Traditional approach



Iterative approach



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EXECUTION
Don’t build a data lake to nowhere

EXECUTION

Start business backwards, not data forward

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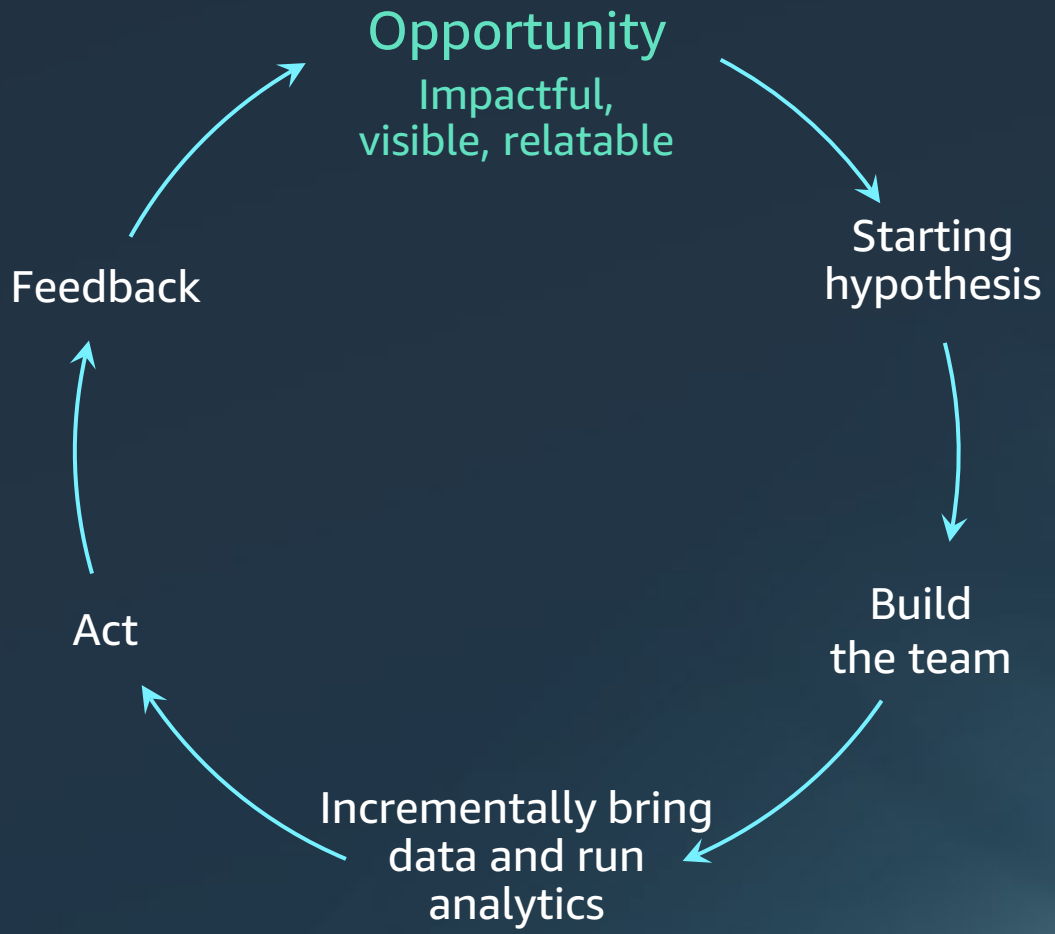
EXECUTION

Start business backwards, not data forward

1. Identify impactful, visible, and relatable business opportunity
2. Create a starting hypothesis
3. Enlist, educate, and enable stakeholders
4. Use cloud to bring relevant data and drive insights
5. Take action
6. Collect feedback



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Guiding principles

Culture		Facts, not feelings; freedom to act, not fiefdoms to please
Organization		Organize for agility, not control
Mechanisms		Mechanisms work, not just good intentions Measurement | Measure the right thing, not everything Governance | Govern to enable, not restrict Data quality | Build it in, don't bolt it on
Execution		Think big but execute small Don't build a data lake to nowhere Start business backwards, not data forward

aws

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We are here to help

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- ✓ Create tangible deliverables to accelerate strategic databases, analytics, and ML initiatives
- ✓ Leave with an architecture, working prototype, path to production, and deeper knowledge of AWS services

Come with an idea, leave with a solution

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Thank you!

John Clark

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