1

From Data Projects

to Data Products

How to create data products that people love?
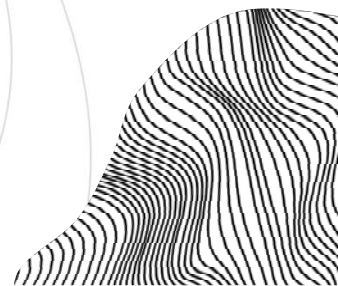
Einat Shimoni

EVP and Senior Analyst @ STKI

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Data leaders are at a crossroad

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How does
data & analytics
fit in the
product world?

Sometimes I wonder

Where I've been

Who I am, do I fit in?
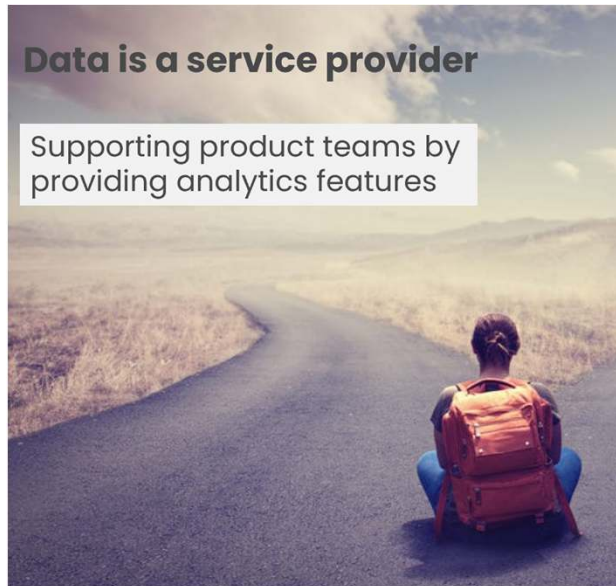
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A very likely scenario:

Data is an enabler for products

Supporting product teams by providing analytics features

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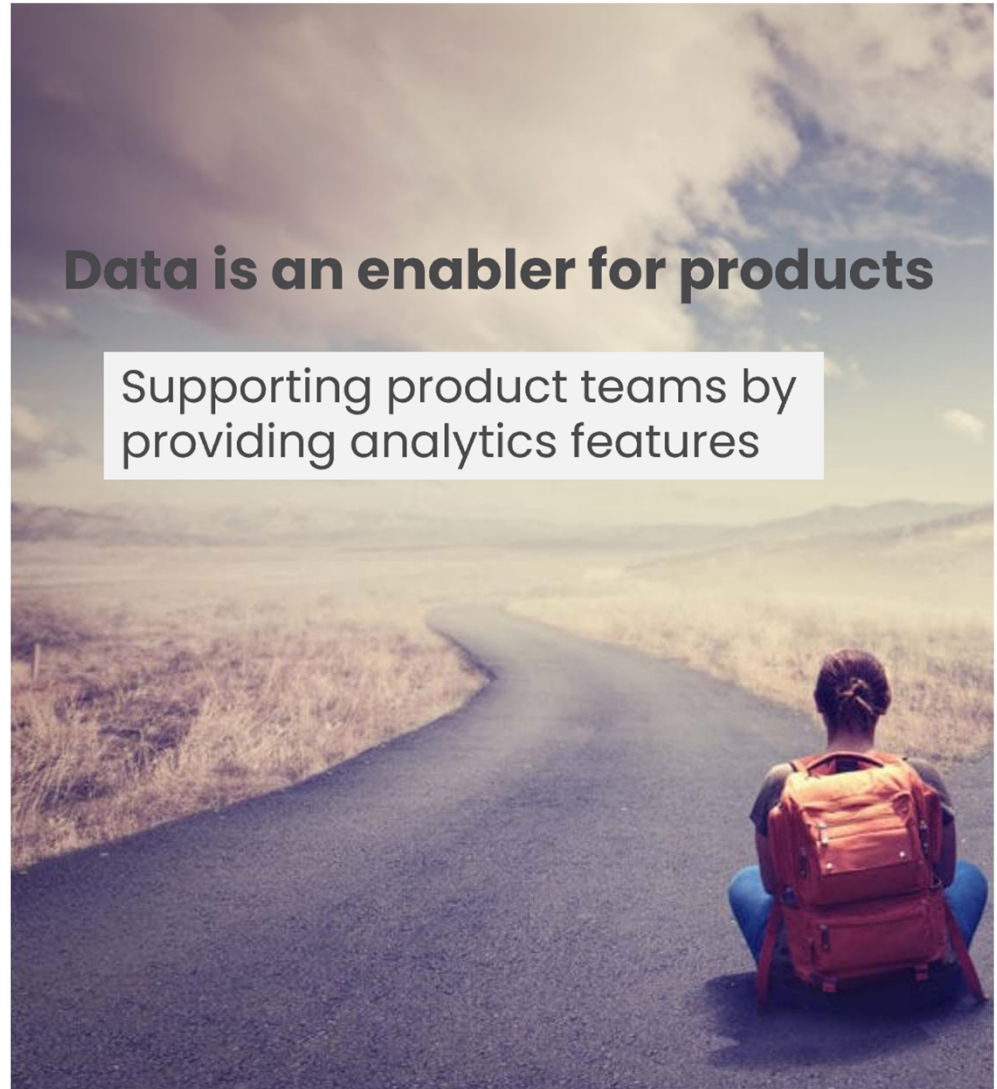
Analytics can enable product teams to <u>learn</u> and <u>improve</u> quickly by:

Data is a service provider

Supporting product teams by providing analytics features

Understanding customer behavior
Discovering problems
Measuring product progress
Proving whether products ideas work
Informing product decisions

Source: Marty Cagan, Inspired

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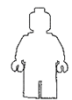
After all the progress we made,
is data 'only' an **enabler** for product teams?

I can do better

Are we a "**service center**" for product teams now?

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Perhaps there's another option?

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They say that
"every company will be a software company".

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Will every company be a
data science company?

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What is an economic moat*?

*תְעָלַת מָגֵן

A business's ability to maintain competitive advantages over its competitors in order to protect its long-term profits (Warren Buffet).

Just like a medieval castle, the moat serves to protect those inside the fortress from outsiders

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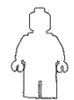STKI IT Knowledge Integrators
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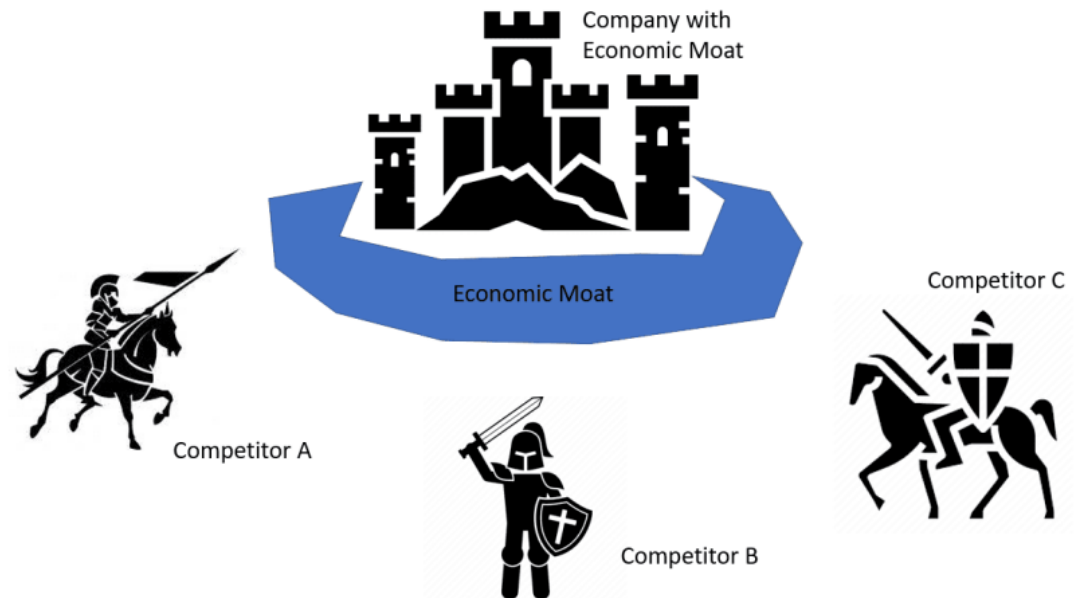
Data as a moat?

Products fueled by data and machine learning can create a "data moat" that can help stave off the competition."
(HBR "How to build great data products")

Data

The Product (business model)

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There are different types of data moats:

Operational Advantage

Is there a drop in our conversion rate?

Are we meeting our daily KPIs?

Strategic Advantage

Which cities should I launch in?

Which user segments should I focus on?

How should I price my goods or services?

Data as a Business Moat

Uber's supply & demand algorithm

Gmail's autocomplete feature

SaaS companies' lead scoring algorithms

Data for New Opportunities

Netflix developing movies based on data of what users watch

Telecoms building KYC services to monetize that data

Data is used to empower operations

Data used for strategic decisions

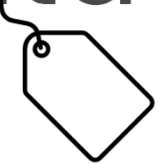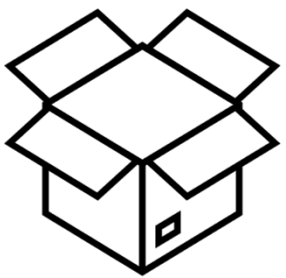Data-centered products

Data IS the product

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Source: Atlan

13

WELCOME
to the data products world

14

Another scenario:

Data IS the product
Core of the business model

Initiating data products whose primary objective is to use data to provide value

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OK, this sounds more interesting.
But what do 'data products' mean?

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Analytic product

Data as a product
DaaP

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High-quality, easy-to-use domain-specific data set that can be applied to various business challenges. Client: Data consumers.

For example, 360-degree views of customers (a "customer data product") at one large bank has 60 use cases, and those applications generate $60 million in incremental revenue and eliminate $40 million in losses annually
(Source: HBR: A better way to put your data at work).

Companies that treat data as a product can reduce time to implement in new use case by up to 90% and reduce cost by 30% (HBR)

Does this concept sound familiar?

Data as a product

Customer 360 view
Employee 360 view
Product catalog

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Data as a product
is part of the "Data Mesh" paradigm

Zhamak Dehghani's definition of <u>data as a product</u>:
"Domain data teams must apply product thinking to the datasets that they provide; considering their data assets as their products and the rest of the organization's data scientists, ML and data engineers as their customers."

In summary, "data as a product" is the result of applying product thinking into datasets, making sure they have a series of capabilities including <u>discoverability, security, explorability, understandability, trustworthiness</u>, etc.
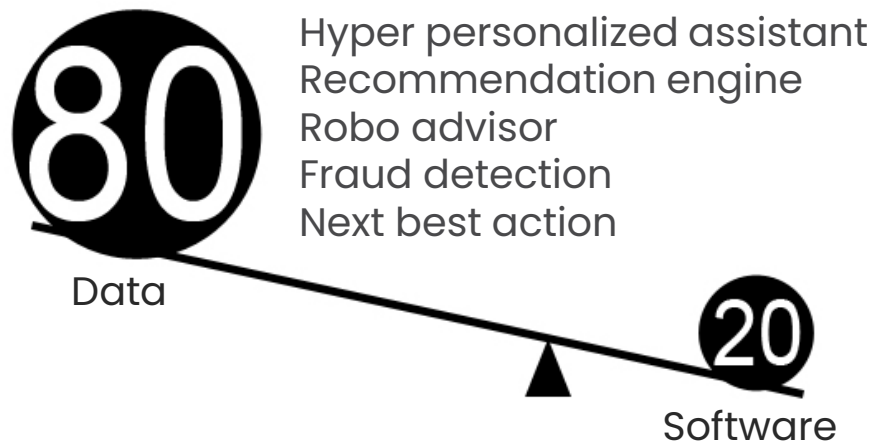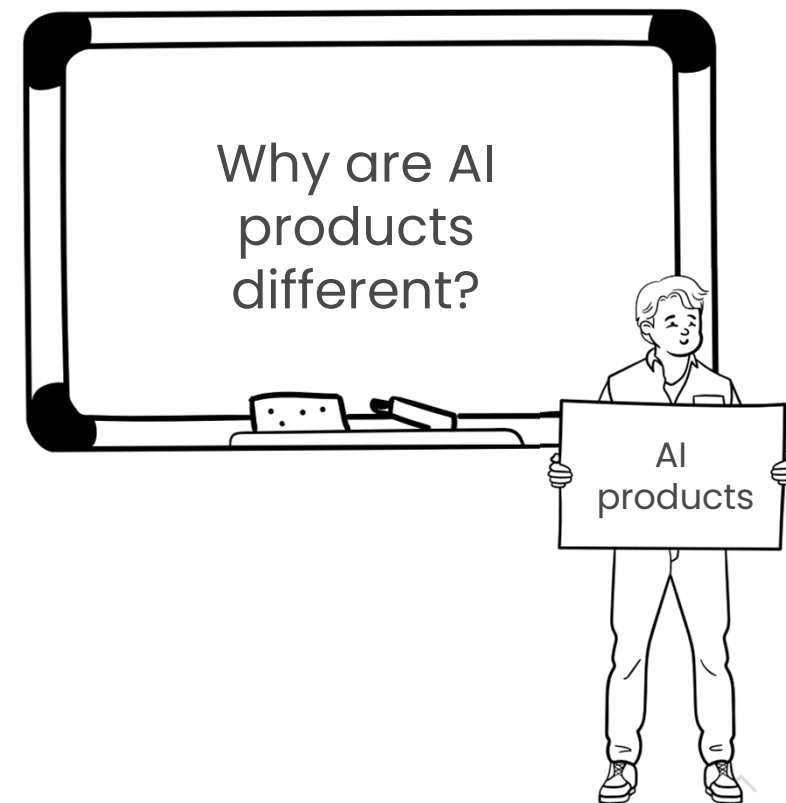
Zhamak
Dehghani

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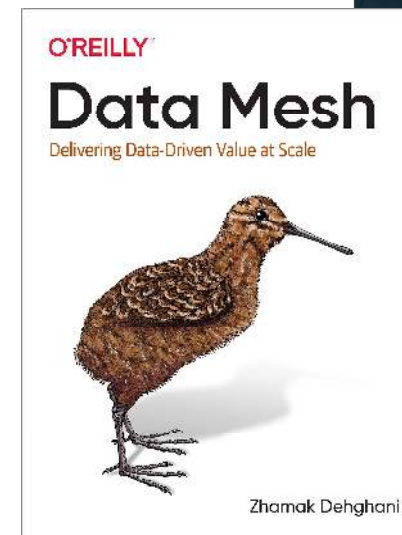
Analytic product

A data-driven product that uses data, & analytics to facilitate an end goal. Client: end user, client, employee...

80

Data

Hyper personalized assistant
Recommendation engine
Robo advisor
Fraud detection
Next best action

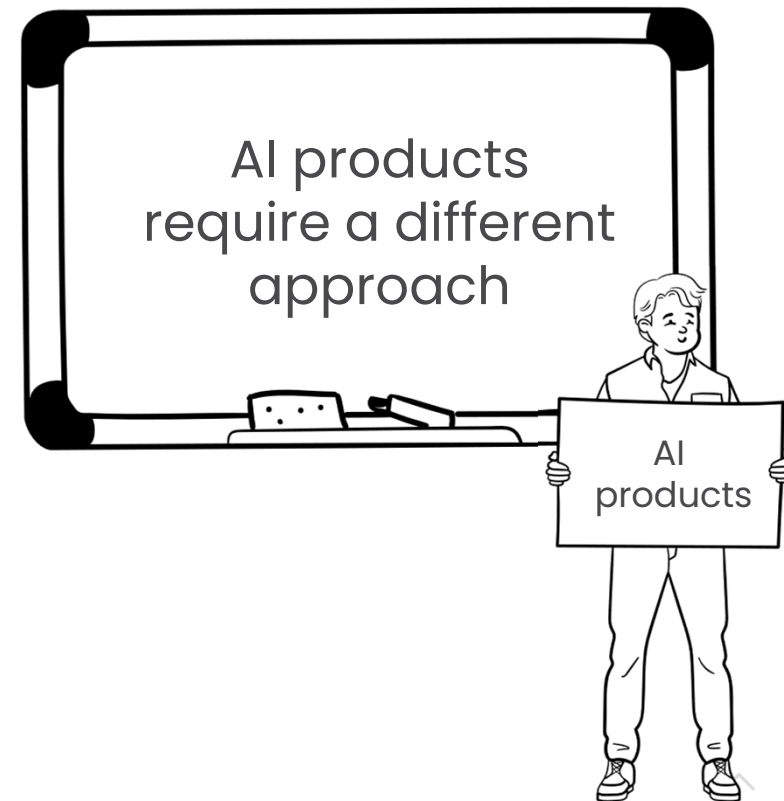**20**

Software

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20

- **AI**: automated systems that collect and learn from data to make user-facing decisions

- **ML**: uses statistical techniques to give computer systems the ability to "learn" by being trained on existing data. After training, the system can make predictions based on data it hasn't seen before.
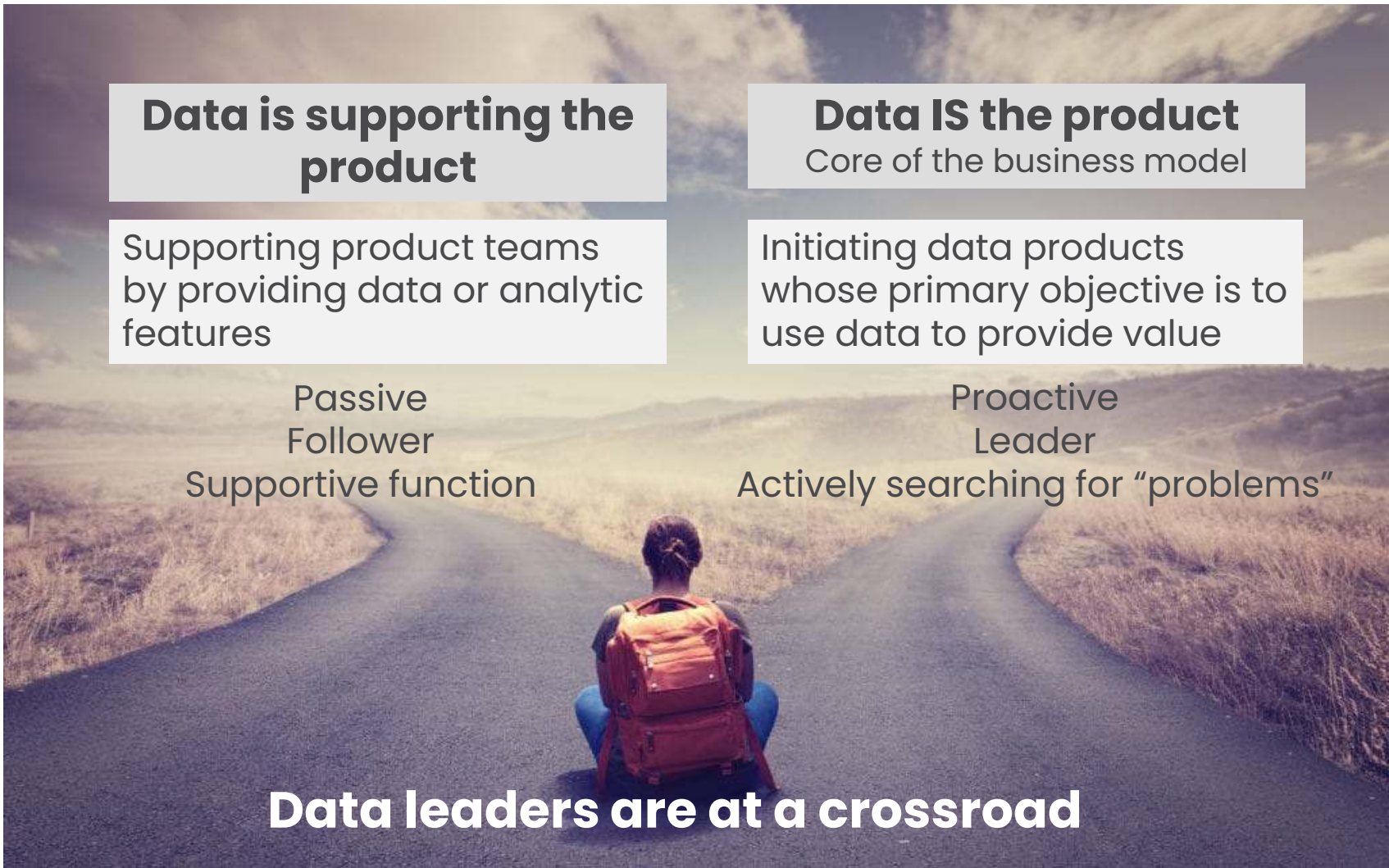
Why are AI products different?

AI products

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AI/ML products take us from a <u>deterministic process</u> to a <u>probabilistic</u> & unpredictable one

- Uncertainty (schedule, accuracy, relevance)
- Challenge to plan & estimate due to degraded performance over time
- Opacity (models difficult to understand and explain)
- Fairness issues
- Difficult to sell to upper mng.
- Disrupt existing processes
- Impact potential: very high!

AI products
require a different
approach

AI
products

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Data is supporting the product

Data IS the product
Core of the business model

Supporting product teams by providing data or analytic features

Initiating data products whose primary objective is to use data to provide value

Passive
Follower
Supportive function

Proactive
Leader
Actively searching for "problems"

Data leaders are at a crossroad

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In a product-centric world, are you a **leader** or a **follower**?

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The product-centric approach caught data community's attention
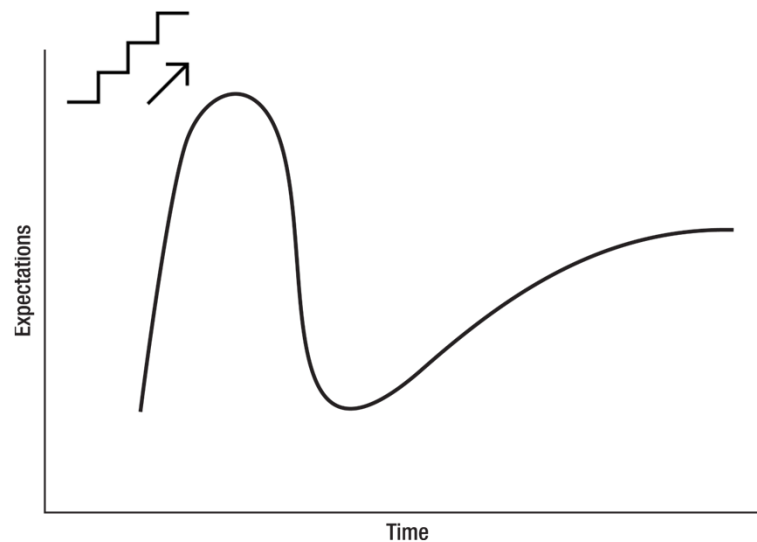
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It's the talk of the day

CDOs must forget data-driven, be product-centric

by **FutureCIO Editors** — August 15, 2019

How to unlock the full value of data? Manage it like a product

McKinsey & Company

June 14, 2022 | Article

A Better Way to Put Your Data to Work

Package it the way you would a product. by Veeral Desai, Tim Fountaine, and Kayvaun Rowshankish

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And a proven <u>profitable</u> business strategy

X2

"Companies that become more **data-driven** have a market-to-book value that's nearly two times higher than the market average".
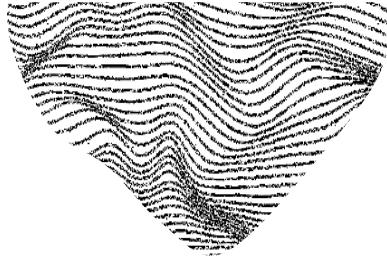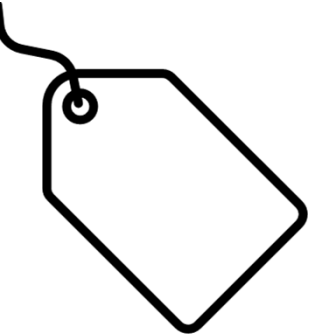
X3

Companies that make the bulk of their revenue by selling **data products** have a market-to-book value that's three times the market average".

Source: Doug Laney, Infonomics
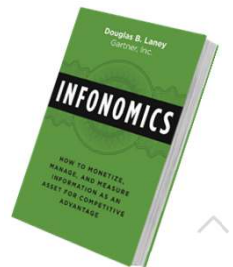
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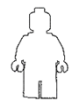
If you had to charge money for your data product, what would you do differently?

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What do these products have in common?

They focus on solving a specific problem, for someone.

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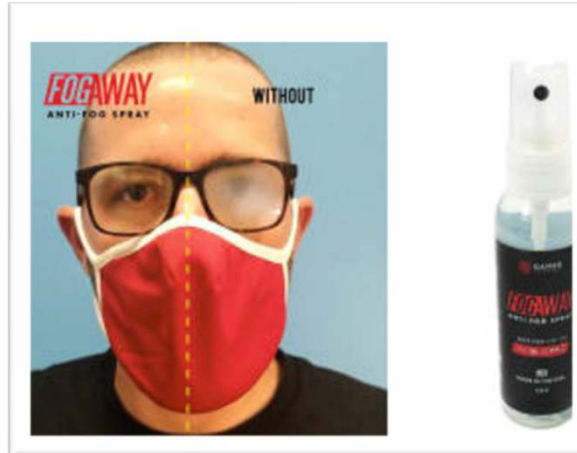
What do these products have in common?

They are easily discoverable & accessed by the customer

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The concept of data products is the best thing that could have happened to the data world
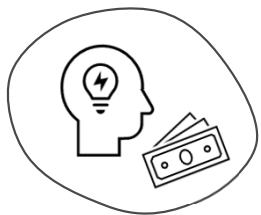
- Forces us to focus
on the problem
- Promotes data
monetization thinking

Puts emphasis on UX
and Design
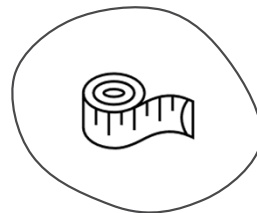
Measures outcomes
not outputs
Creates greater impact
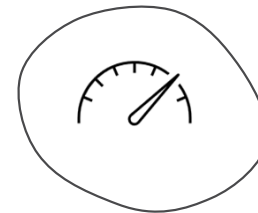
Team is accountable
For usage & impact
OKRs
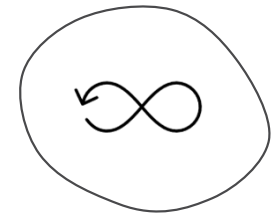
Operating model that
suits the iterative
nature of DS

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CDO 4.0

CDO 3.0

CDO 2.0

CDO 1.0
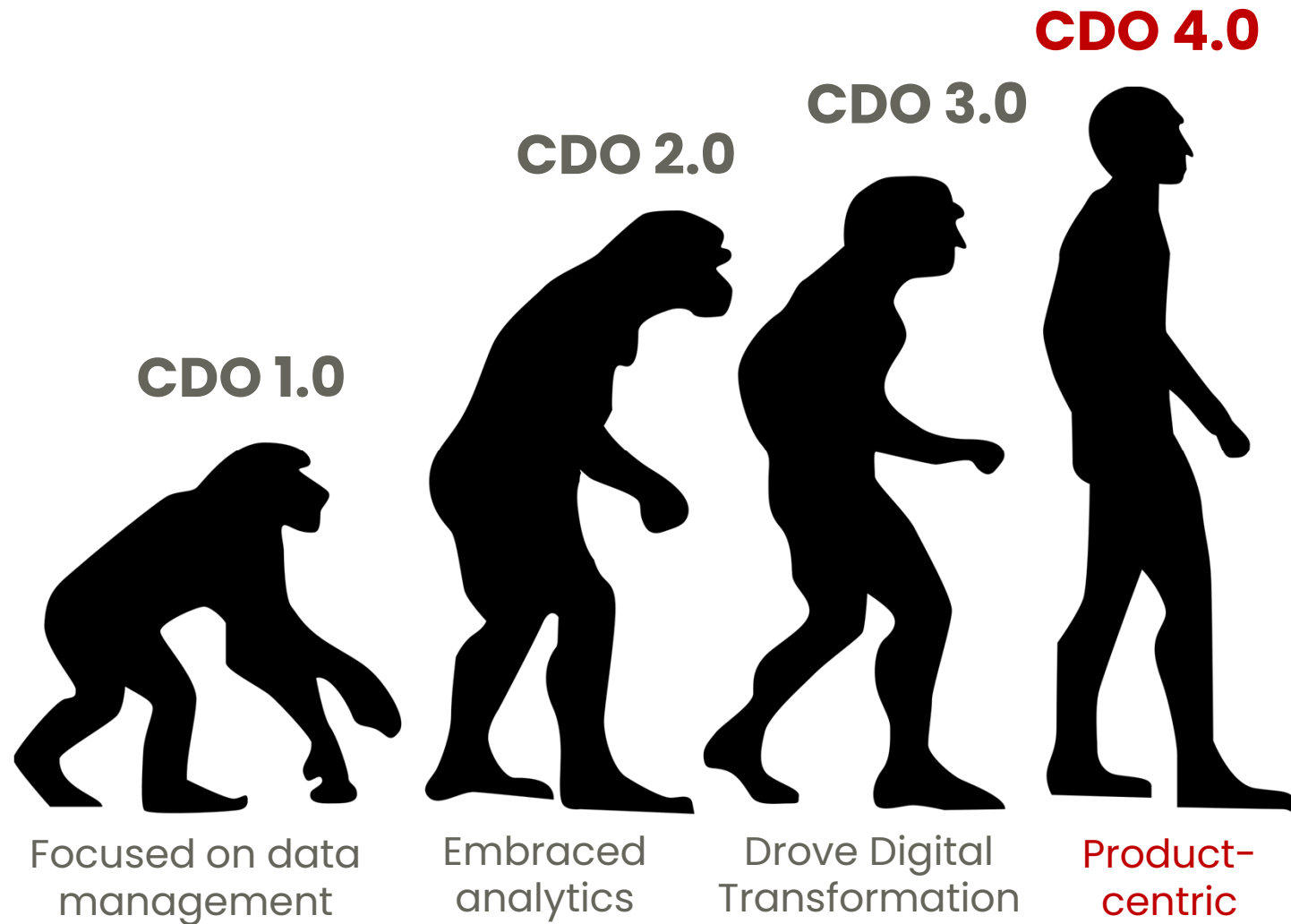
Focused on data management

Embraced analytics

Drove Digital Transformation

Product-centric

Source: Gartner

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But enterprises must bridge this gap

Tech Product Companies

Culture
Literacy
Operations
Skills
Tech debt

Enterprises

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What does it take to transform into a data product-centric organization?

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#1

Define

data product teams

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34

35

The Data Team:

Subject Matter Expert

Developer

Analytics Translator *NEW*

Data Product manager *NEW*

Data Engineer

Data Scientist

Designer *NEW*
Service Design/ UX
Sees the big picture

Not necessarily an additional role

36

The sexiest job of the 21ˢᵗ century?

What is a data translator?

Data translators bridge the communication divide that often develops within an organisation between data scientists and executive decision-makers. They are able to communicate with language that a decision-maker understands.

Source: Bernard Marr
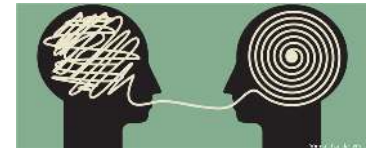
1. Identifies and prioritizes business use cases
2. Helps in collecting business data
3. Ensures the solution solves the business problem in the most efficient form
4. Validating and deriving business implications— synthesizes complex analytics-derived insights into easy-to-understand, actionable recommendations that business users can easily execute on
5. Implementing the solution and executing on insights
6. drives adoption among business users

Source: McKinsey

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A Product manager

A <u>Data</u> Product manager

- Vision
- Strategy
- Stakeholder alignment
- Customer needs
- Roadmap
- Prioritization
- OKRs
- Progress evaluation
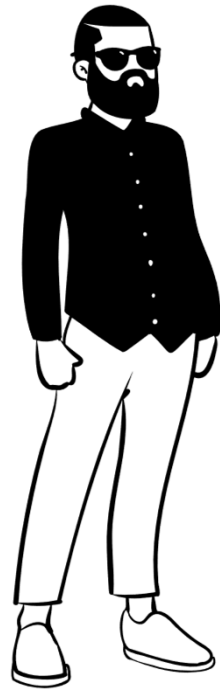
<u>Additional skills:</u>
+ Translator
+ Set realistic expectations (AI)
+ Data knowledge to see if feasible
+ Storyteller

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We outlined the **data product manager's** skills

+ Translator
+ Set realistic expectations (AI)
+ Data knowledge to see is feasible
+ Storyteller ←

Why is storytelling such an important skill for data product managers?

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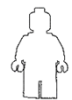
Data Storytelling:

The ability to effectively communicate insights from data using narratives and visualizations. It can be used to put data insights into context and inspire action from your audience (HBR).

Data + Story = Change.
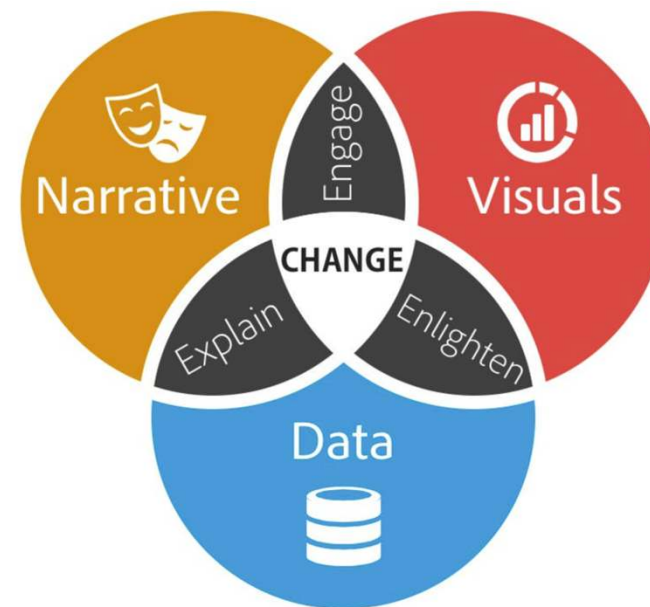
Source: Brent Dykes, Forbes

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Data Stories are more:

Persuasive
Memorable (63% vs. 5%)
Engaging (Dropping guard,
less critical/skeptical)

"Maybe stories
are just data
with a soul."

Brené Brown

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Inspiration:
The ultimate Storyteller

Hans Rosling's Original Graph
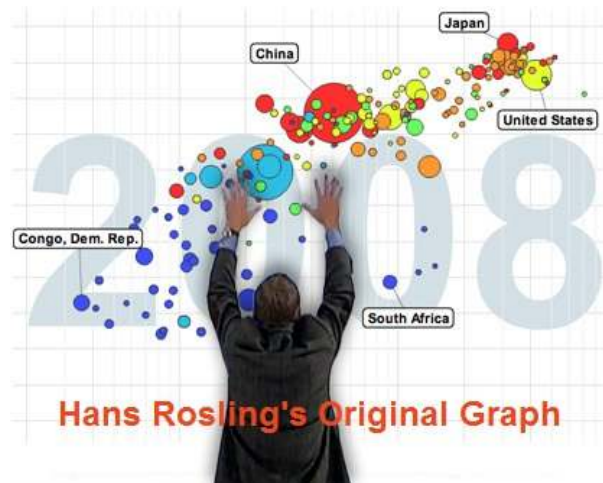
The Trendalyzer software (acquired by Google) turns complex global trends into lively animations, making decades of data population as colorful bubbles, float – toward better national health and wealth.

Hans Rosling
Global health expert; data visionary

TED   15,445,300 views

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#2

Adopt a product mindset

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✗ WE ARE NOT a **service center**
"that will help you do the things you do better"

✓ WE ARE **proactive and value-driven**
"we'll help you do things you didn't know were possible"

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WE ARE NOT focusing on **outputs** (features)
WE ARE focused on **Outcomes** (impact)

Feature-driven project

Ship product features

Center of gravity

Solve customer problems

Drive customer behavior

Impact business results

Ship product features

Solve customer problems

Drive customer behavior

Center of gravity

Impact business results

Outcome-driven project

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✗ WE ARE NOT failing
✓ WE ARE iterating & learning

WHAT YOU LEARN HERE

IS OFTEN WHAT GETS YOU HERE

LIZ FOSSLIEN

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Inspiration:
product-centric thinking in data

DJ Patil
US CDO
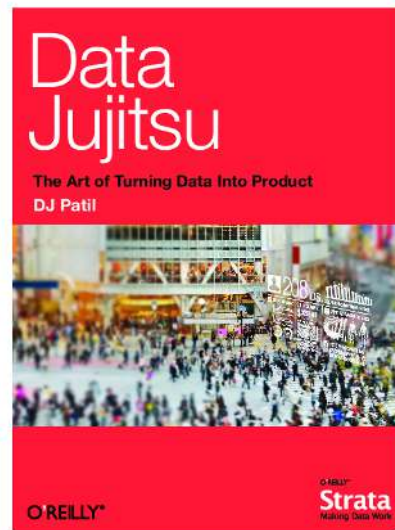
Watch MIT CDOIQ session on CDO 4.0 Operating model:
https://www.youtube.com/watch?v=pPT9A7gh_1w

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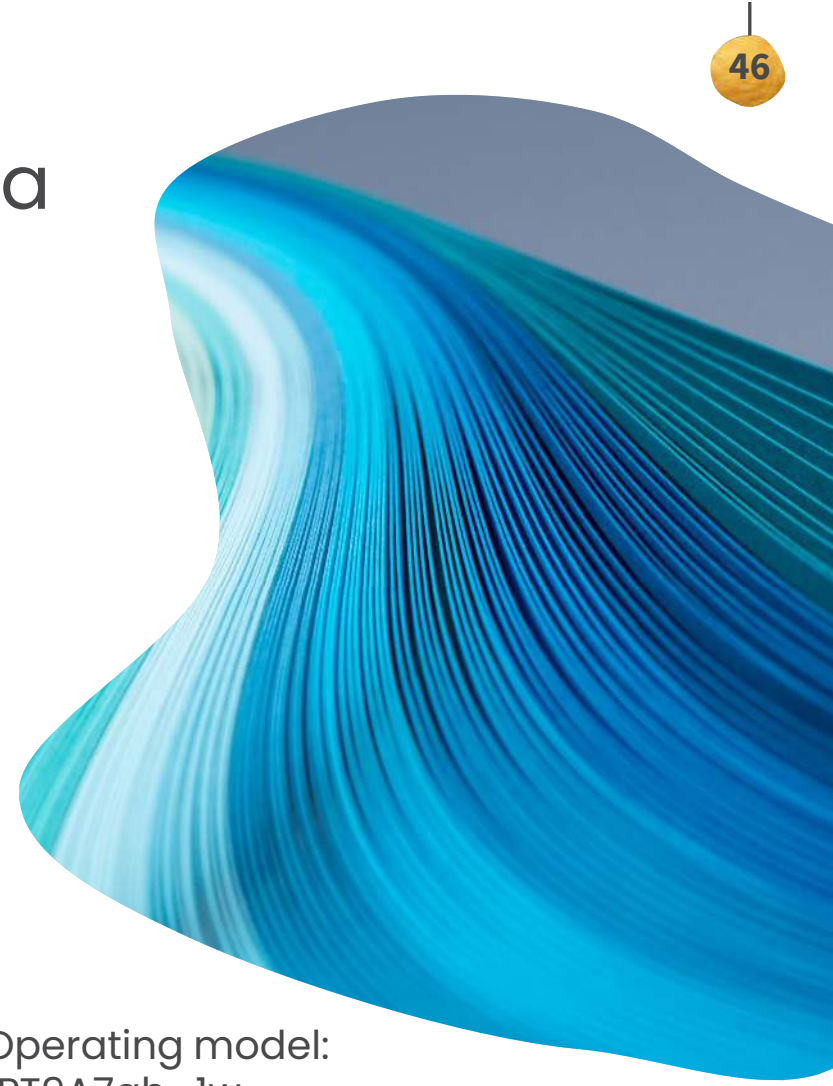
#3

Discovery

Identify potentially valuable data products

48

Principals of Product Discovery

01 Don't ask customers for the solution.
Focus on their problems

02 Value-> Outcome -> Impact

03 Accept that many ideas will fail

04 Validation of ideas is based on real customers' experiences – Data!

05 The goal is to validate ideas in the fastest and cheapest way

06 All team members are involved in discovery

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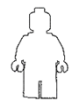
Discovery of valuable data products
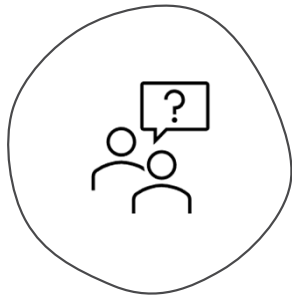
ASK

Which (human) problems are you trying to solve?
What outcomes are you trying to achieve?
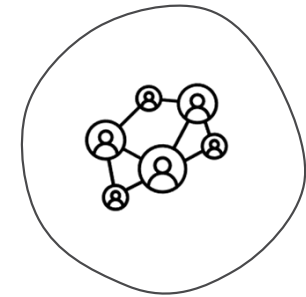
CONNECT

Connect Data Scientists with Product/ user research people. Part of their job should be digging in user research – Discovery!

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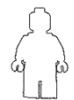
Major changes to the way we work today:

50

Everything is Data-driven

Data is everything

Feedback VOC

Measurements

User research

No HiPPos allowed

Mixing Design & Delivery

From one big handoff
to often & many handoffs

From delivery to
(continuous) discovery
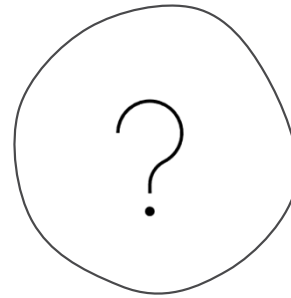
Uncertainty & Openness

The data tells us
what we'll be working on

Are we providing
outcomes (Value)?

Discovery owned by everyone

CX is everyone's
business

OKRs and outcomes

Product is CX

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#4

Build **data platform products**

Pini will discuss Platform Products in the next session

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The "last mile" problem

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It's a social problem
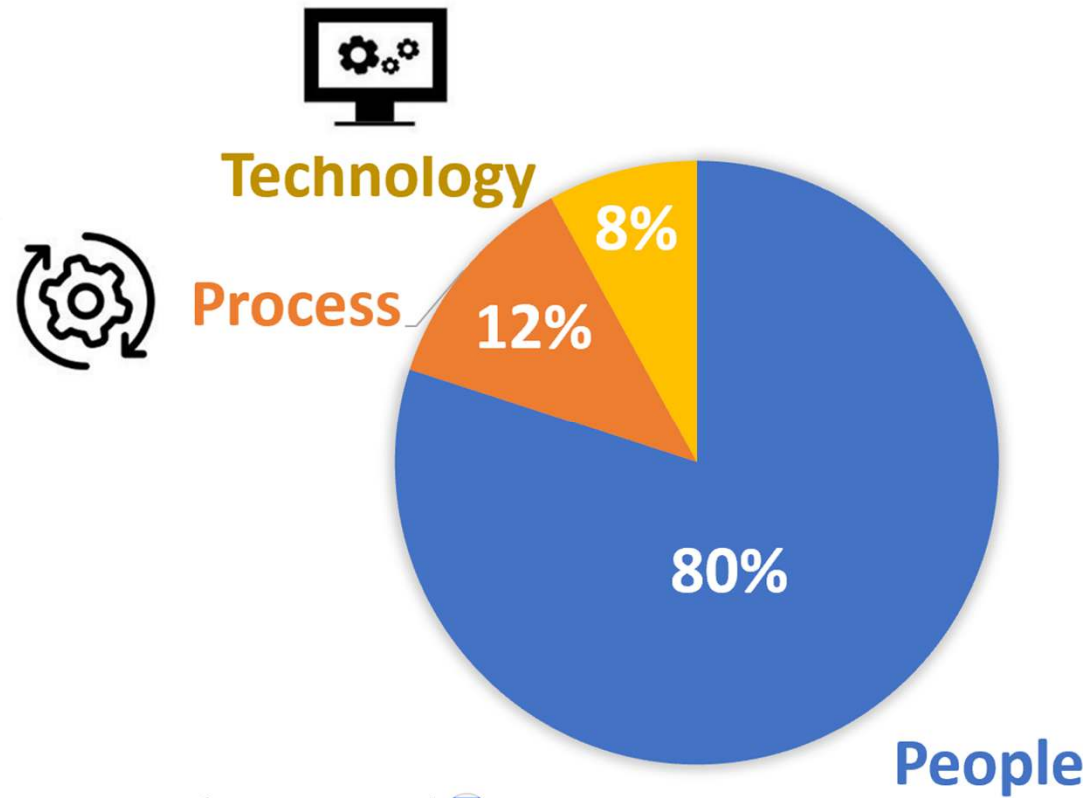
State of Data in Israel 🇮🇱
STKI 2022 Data Research

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#5

Improve data literacy throughout the organization

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Data literacy measures a person's ability to read, write, analyze & argue with data

90% of business leaders cite data literacy as key to company success. But...

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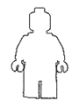
The state of data literacy

Source: Qlik
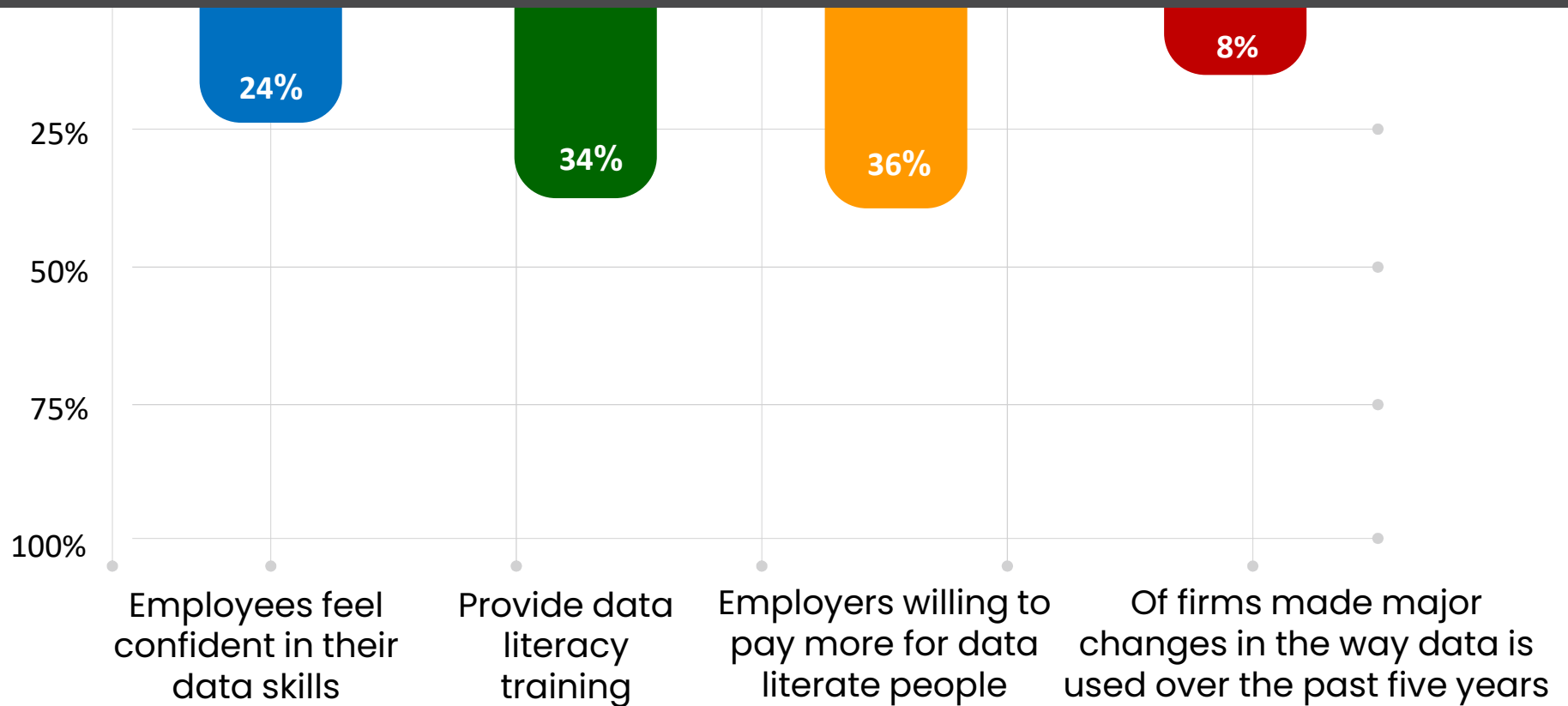
56

24%	**34%**	**36%**	**8%**

25%

50%

75%

100%

Employees feel confident in their data skills

Provide data literacy training

Employers willing to pay more for data literate people

Of firms made major changes in the way data is used over the past five years

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Maybe we should stop blaming people/ users and just build more intuitive, design-led products?

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#6

Focus on DESIGN

Usability, adoption,
clear value

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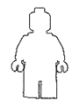
Designer
Service Design/ UX
Sees the big picture

What is the entire "Journey"?
Your analytics service may be just "one box" that sits inside a larger service that exists (Brian T. O'Neil, Designing for Analytics)

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#7

Data Governance

Same problems as 30 years ago.

Tech is not the issue!

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60

61
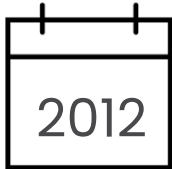
2012 Our Data Governance workshop

The MDM Institute / DataDelta
Master Data Management (MDM) Workshop

Aaron Zornes   Ed Allbum
Chief Research Officer   President & CEO
The MDM Institute   DataDelta, Inc.
aaron.zornes@tcdii.com   allbum@datadelta.com

stki.info   ORACLE   Taldor
                                           we deliver IT

IF
YOU
CHANGE
NOTHING,
NOTHING
WILL
CHANGE.
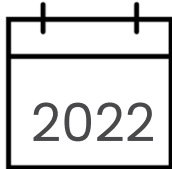
2022 What happened since?

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State of Data Governance in Israel

1. Only a handful of Data Governance managers
2. Almost no (working) data catalogs
3. No data owners
4. Most CDaOs don't deal with DG

THE SAD TRUTH IS

THE TRUTH IS SAD

DANIEL HANDLER

PICTUREQUOTES.com

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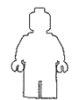
Deal with DG gradually
per use case
(or when migrating to the cloud)

You can't boil the ocean, but you can boil a bucket of water.

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#9:

Learn from

High Performers

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AI INNOVATORS

13%

Companies that have mature AI strategies but struggle to operationalize

AI ACHIEVERS

12%

Companies that have differentiated AI strategies and the ability to operationalize for value

AI EXPERIMENTERS

63%

Companies that lack mature AI strategies and the capabilities to operationalize

AI BUILDERS

12%

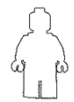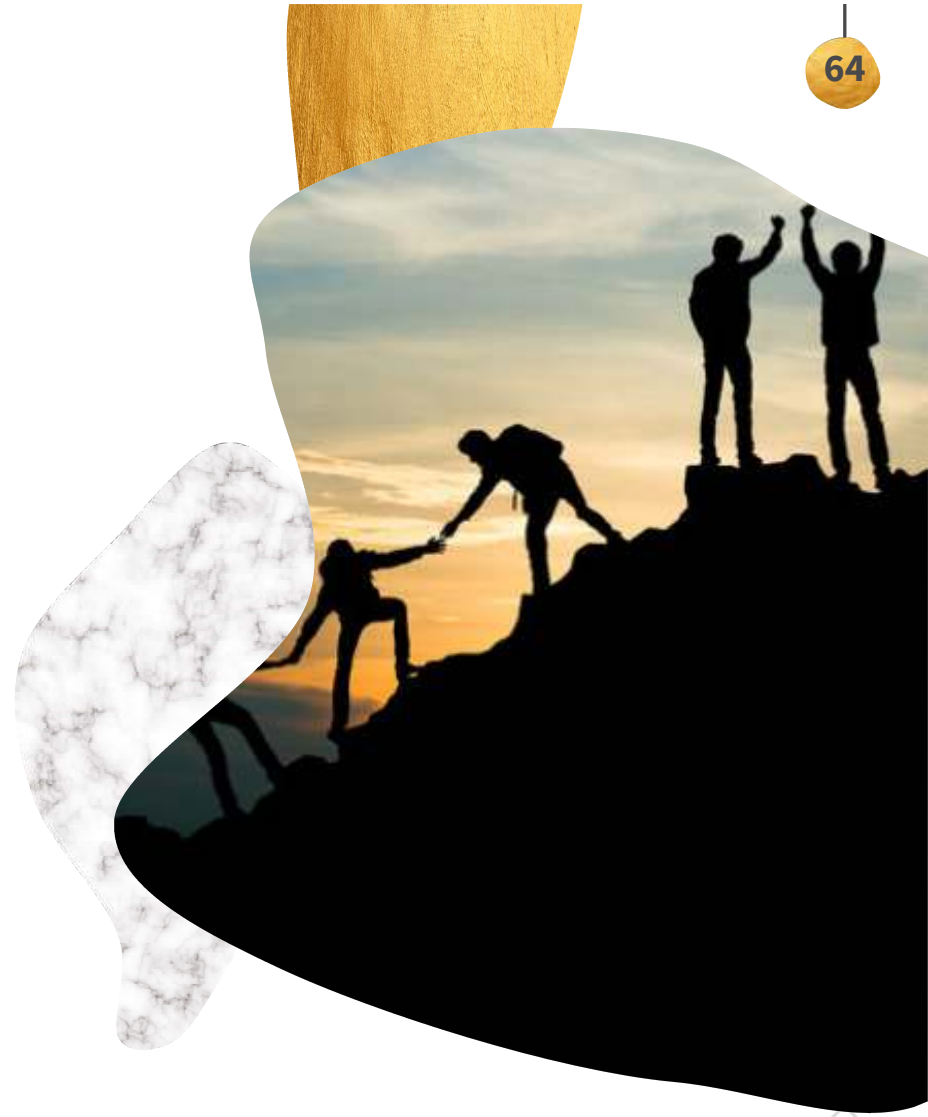Companies that have mature foundational capabilities that exceed their AI strategies

AI DIFFERENTIATION

AI capabilities derived from the model of achieving at least 30% AI influenced revenue

HIGH / LOW

AI FOUNDATION

LOW / HIGH

AI Foundational capabilities derived from the model of achieving at least 10% AI-influenced revenue

What are their characteristics? How do they operate?

Source: Accenture

Source: Accenture Research analysis based on a sample of 1,200 companies

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65

66

High Performer Characteristics:

- Focus many efforts on discovery
- The team "Owns" the problem
- Fast execution: 3-4 months versus average 17 months
- Generate 50% greater revenue from analytic use cases
- CEO and Senior sponsorship
- Using cloud as an enabler

Source: Accenture

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Data as a service provider   **Data at the core of business model**

Supporting a product teams   Initiating a data products

So which one will it be?

Both.

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69

Good Luck!

Thanks for listening

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