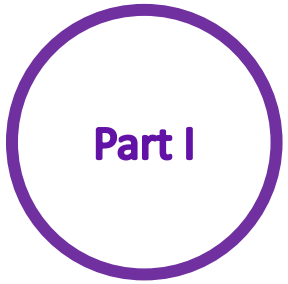
PROPHECY LABS

AI4Business
Capturing value with AI

Roadmap AI4Business



Introduction to AI

Developing AI tools

Data and Value

Deploying AI

Monitoring

Table of contents

1. Value from AI
2. Value from Data
3. Data & AI
4. DataOps
5. Tips & Tricks

1 Value from AI

AI value by 2030

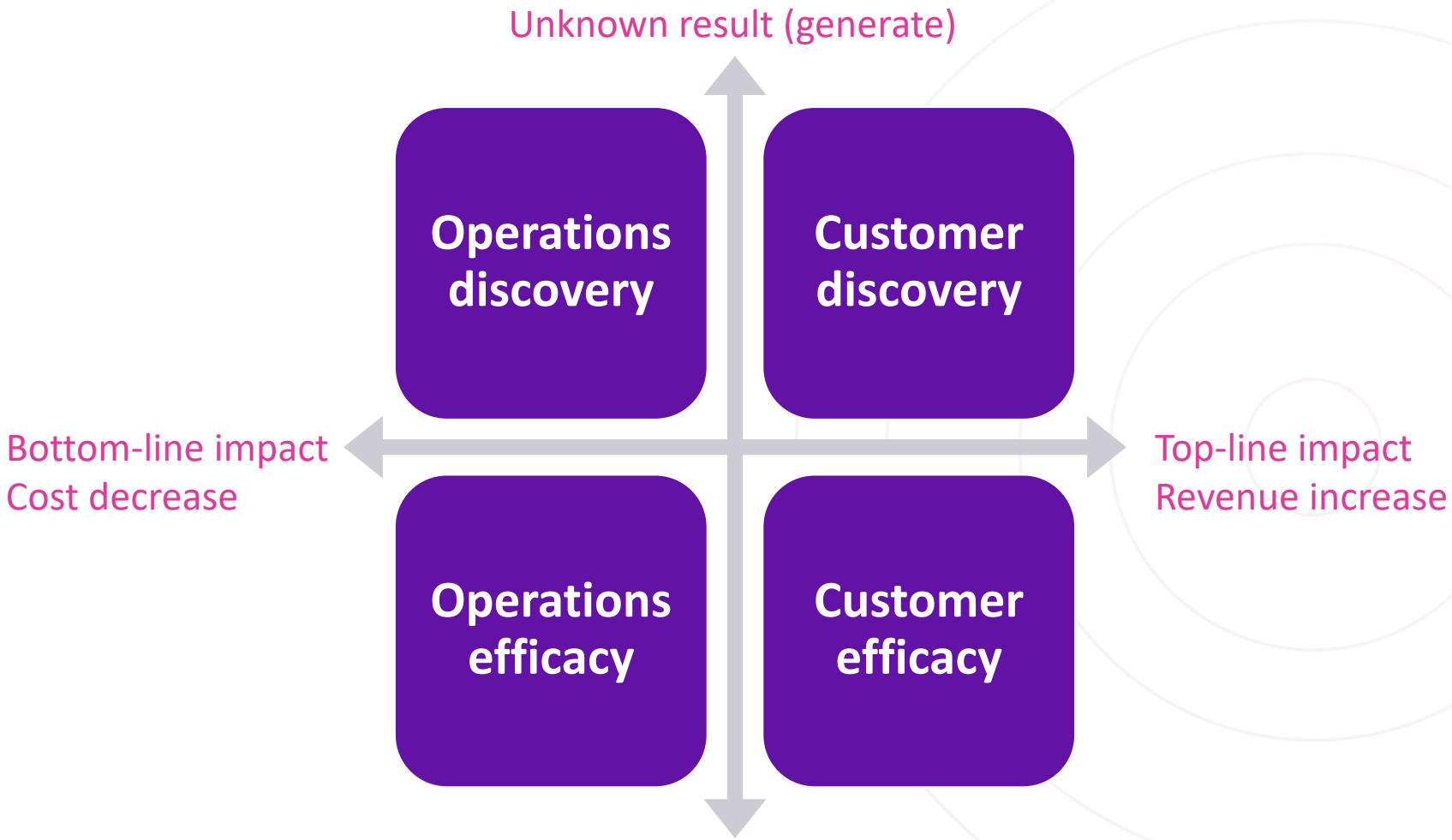
McKinsey Global Institute (2018)

- AI has the potential to deliver an additional $13 trillion
- 16% higher cumulative GDP or 1.2% additional GDP growth/yr
- Harder for late runners to attract talent and develop capabilities
- Full report

PwC (2017)

- Potential contribution to the global economy $15.7 trillion
- Extra 5 - 26% GDP depending on region, for example 10% Europe
- Explore the AI impact by sector in their interactive tool
- Full report

AI value map



Deloitte – AI value map

Automation vs Augmentation

Automation

- Machines completely take over a human task
- Remove a human from a process

- Good for processes with
  - Low data complexity
  - Low work complexity

Augmentation

- Machines and humans closely collaborate on a task
- Empower a human in a process

- Good for processes with
  - High data complexity
  - High work complexity

Data and Work complexity

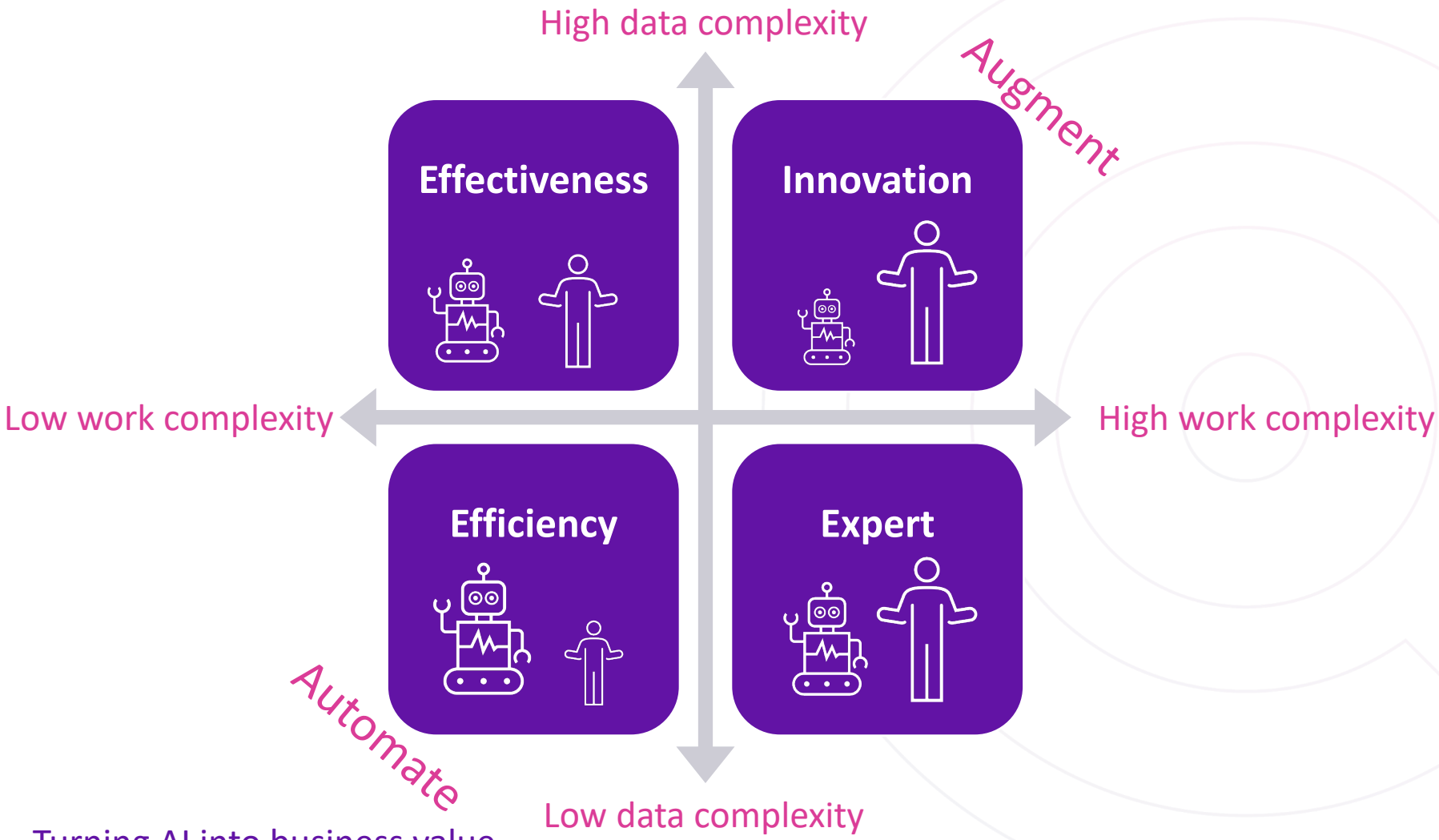
Data complexity

- Low complexity
  - Structured and simple
  - Easy to interpret for a computer
  - Numbers and strings
- High complexity
  - Unstructured
  - Up for interpretation
  - Images, videos, music and voices

Work complexity

- Low complexity
  - Clearly defined rules and routines
  - Predictable
- High complexity
  - Ad hoc
  - Unpredictable
  - Requires judgement skills

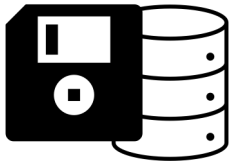
From AI to business value

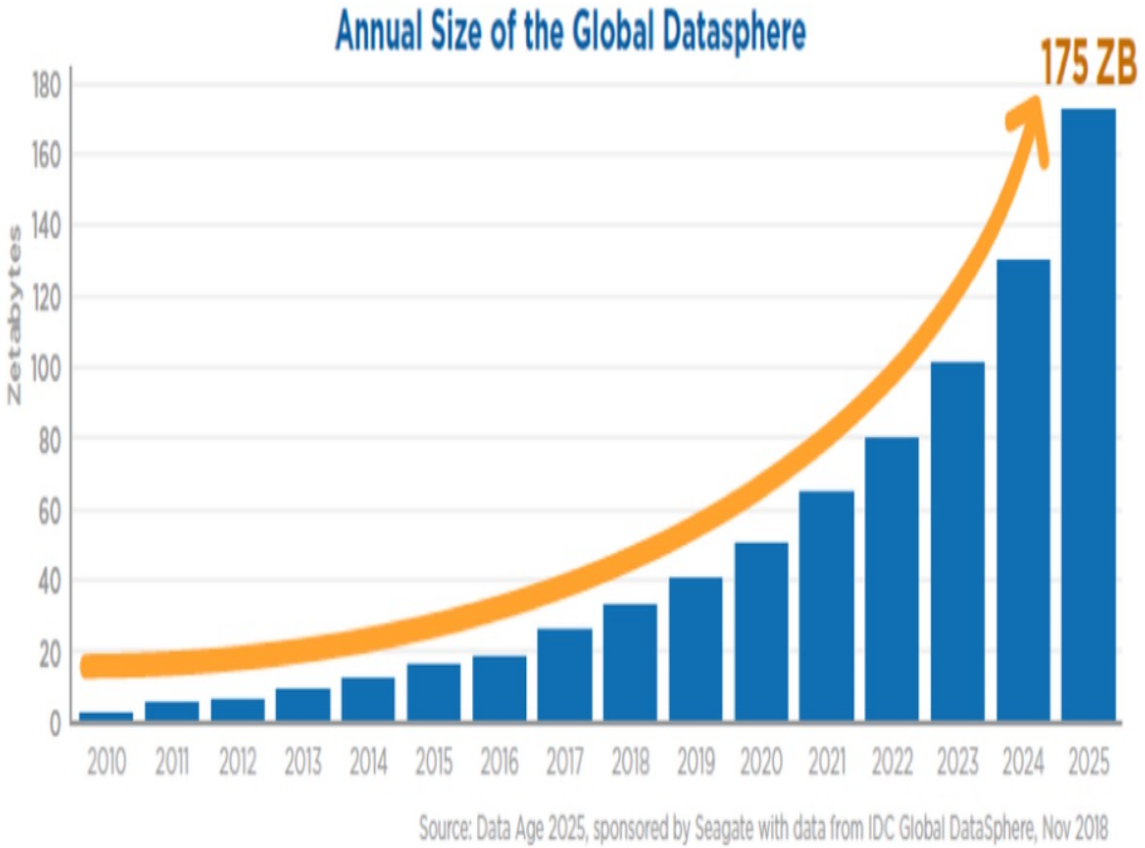


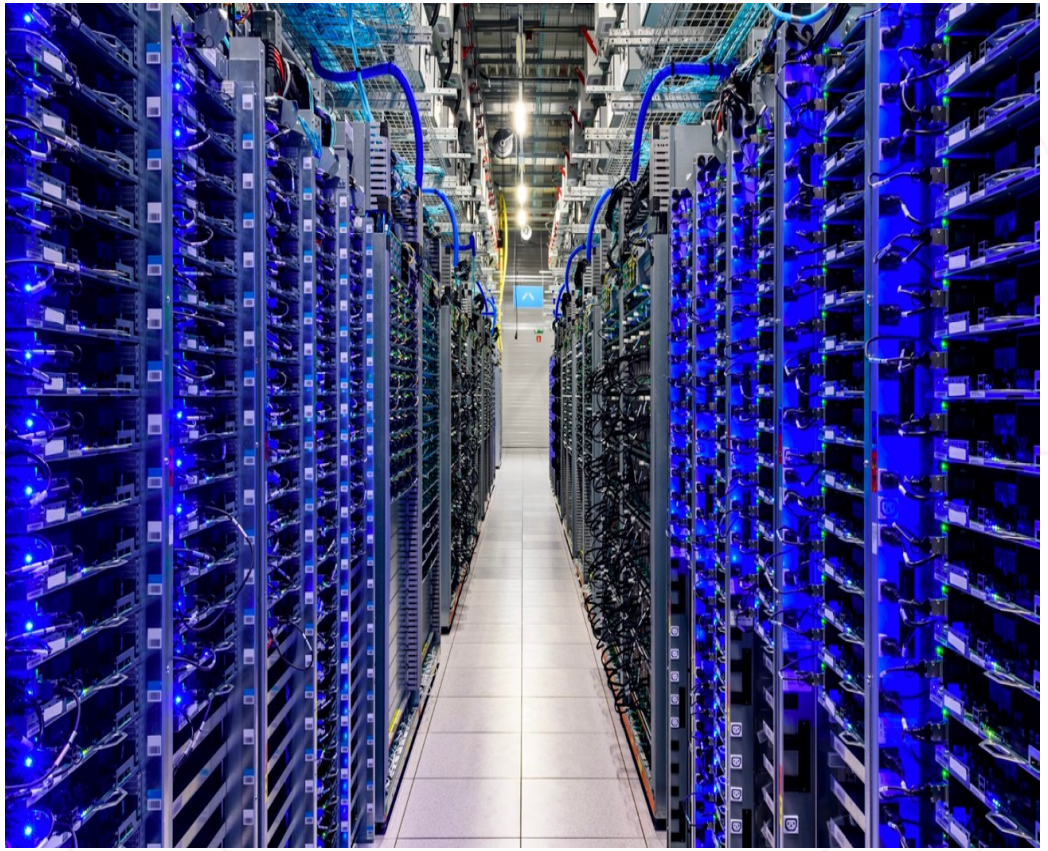
Accenture – Turning AI into business value


2 Value from Data

Rise of Big Data







Value before data

Before you jump into the data wagon:

- Understand your business needs
- Understand where and how you want to create value

Start by identifying where your organisation might create more value than your competitors

There is a long road between having data and generating value using AI

Path to value

According to an MIT Survey:

- 65% of organizations felt they were effective at capturing data
- 46% were effective at disseminating information and insights

Sharing information from insights is only part of the goal

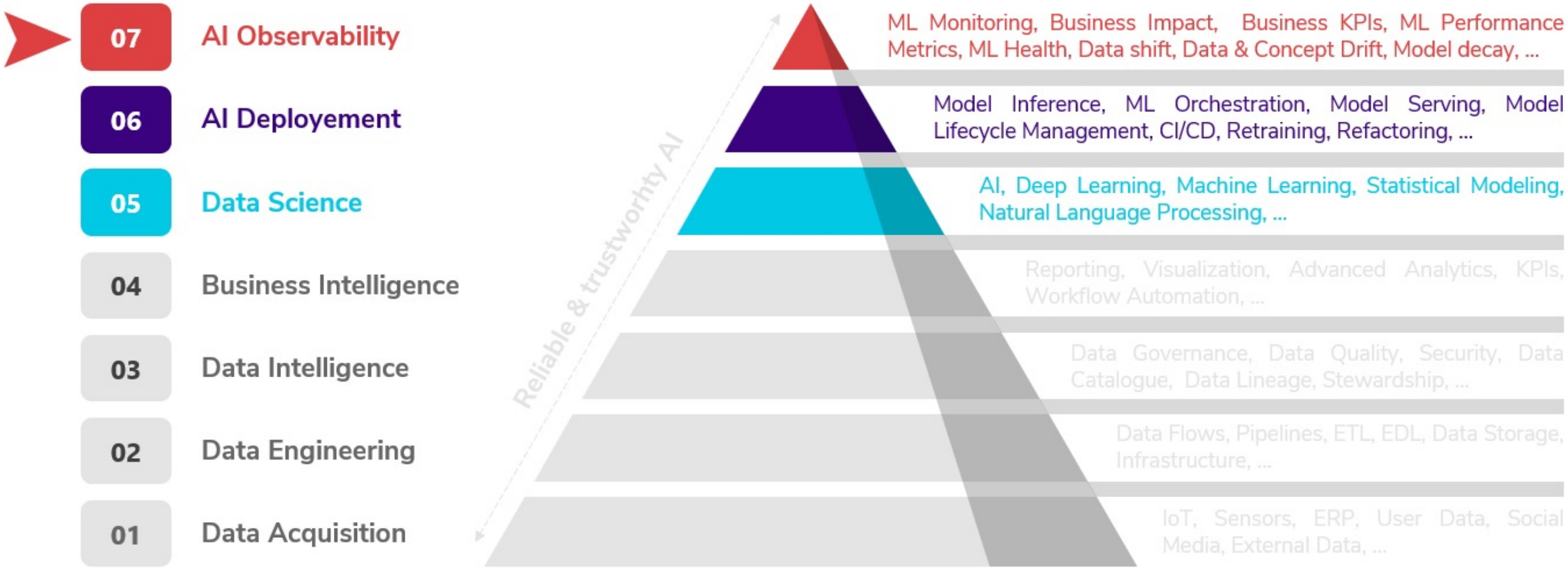
To get value from data analytics you have to be effective on acting on the insights it provides

3 Data & AI

Synergies between Data and AI

Data and AI are merging into a synergic relationship, where AI is useless without data, and mastering data is almost impossible without AI.

AI hierarchy of needs



What is good data?

Dimensions of data quality

Accuracy
- Data reflects the real world

Completeness
- Data as comprehensive as expected

Timeliness
- Data available for use when needed

Consistency
- Data consistent across all systems

Uniqueness
- Each data entry one of its kind

Validity
- Data still useful or obsolete

Importance of data quality

Data quality is often a reflection of the company

Low quality points to poor processes

Low data quality can lead to massive failure in data initiatives

Low engagement of stakeholders and lack of trust

Data quality issues can take many different forms

Difficult to have a single one-size-fits all solution

Root cause is almost always the same

- Low quality implementations
- Inflexible infrastructures
- Bad data governance

Data Governance and AI

Data Quality

Correct, consistent and free of “noise”

Data Availability

Available and easy to obtain

Data Usability

Structured, documented and labelled

Data Integrity

Retains essential qualities

Data Security

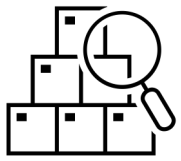
Sensitivity, prevents loss and leakage

[Imperva - Data Governance]

AI and Data Cataloguing

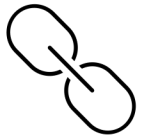
As AI is useless without data. Handling large and complex data will be very difficult without AI.

Data catalogues powered by AI:



Search engines

Recommender systems



Automatic data linking

Error detection

Sensitive data detection

Trends in Data and AI for 2021

There is a lot of **momentum from covid**

Costumer experience analytics take center stage

Leveraging external data helps outperform competitors

CDO are at the centre of the move to a **data driven culture**

Data Science is **not as sexy** as it used to

Data exposes **gaps in equity** and **empowers change**

Sara Brown - MIT Sloan Management School

4 DataOps

What is DataOps?

Agile approach to designing, implementing and maintaining a distributed data architecture that will support a wide range of open source tools and frameworks in production.

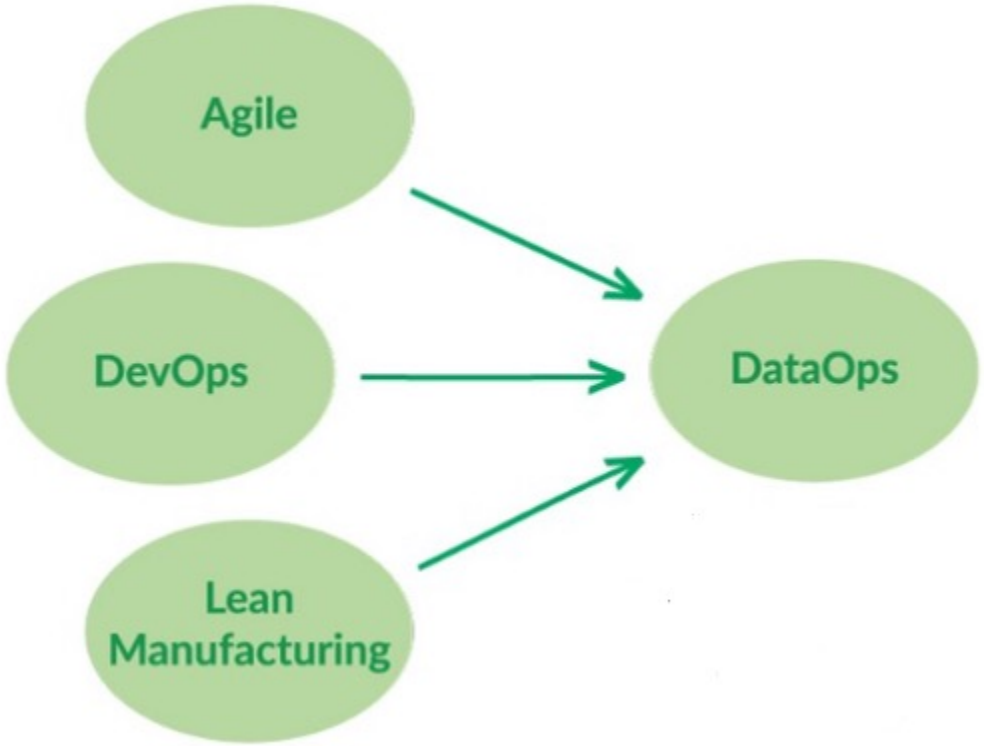
Goal:

Create business value from big data

How?

- Speed up innovation and experimentation to deliver insights from data
- Maintain high data quality and very low error rates
- Enhance collaboration across people, technology, and environments
- Enforcers clear measurement, monitoring, and transparency of results

DataOps origins



Agile

Enables organizations to respond rapidly to customer requirements and accelerate time to value.

Lean Manufacturing

Focuses on the minimization of waste within a system without sacrificing productivity.

DevOps

Accelerates the build lifecycle using automation

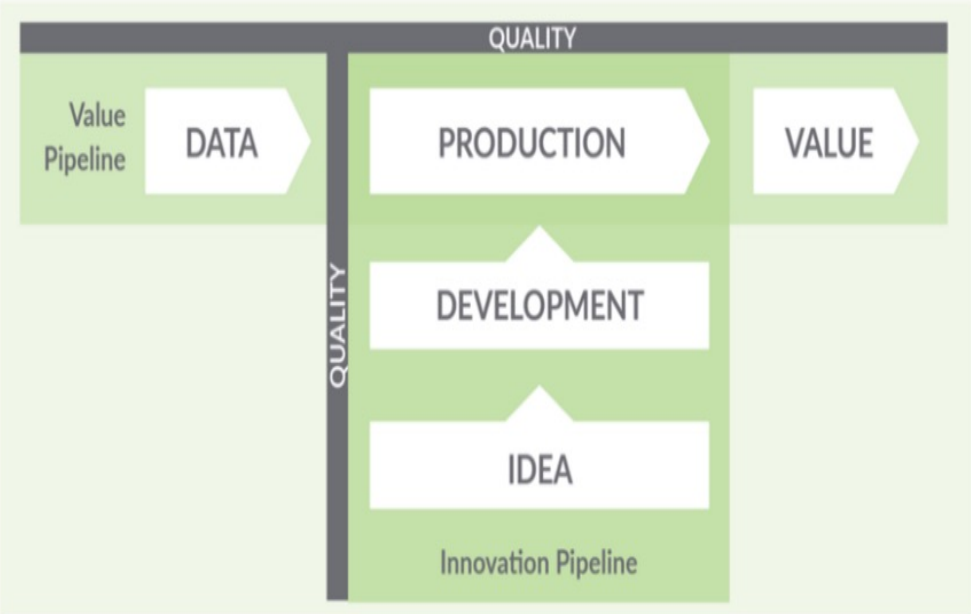
DataOps solutions

Main focus of DataOps is:

- Improve workflow in data teams
- Enhance collaboration across different data groups
- Improve access to data
- Speed up the release process
- Improve data architectures
- Alleviate process bottle necks
- Identify and reduce technical debt
- Guarantee quality at every step

Not just DevOps for data

DataOps



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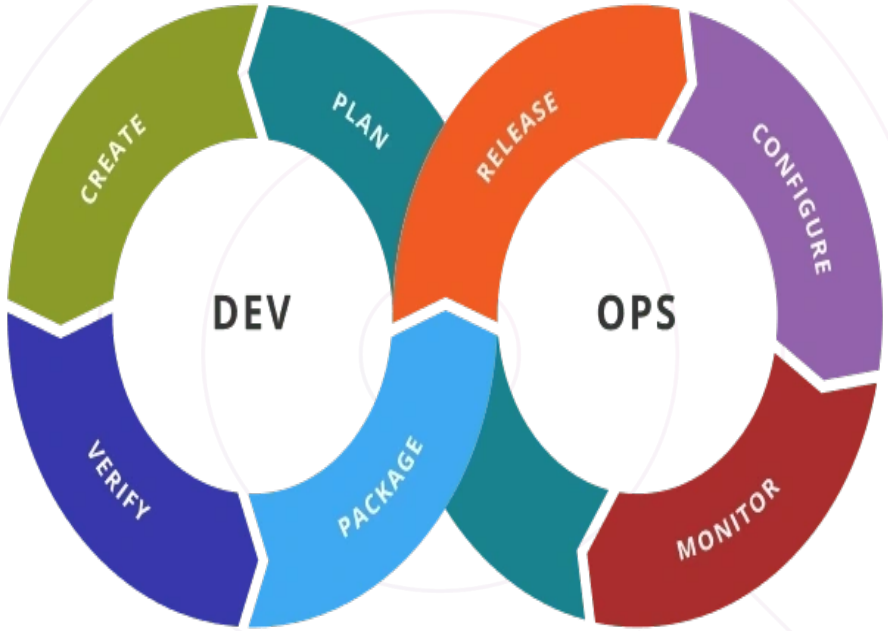


Statistical Process Control (SPC)

DataOps users

Software Engineer

Coding in complex set of tools

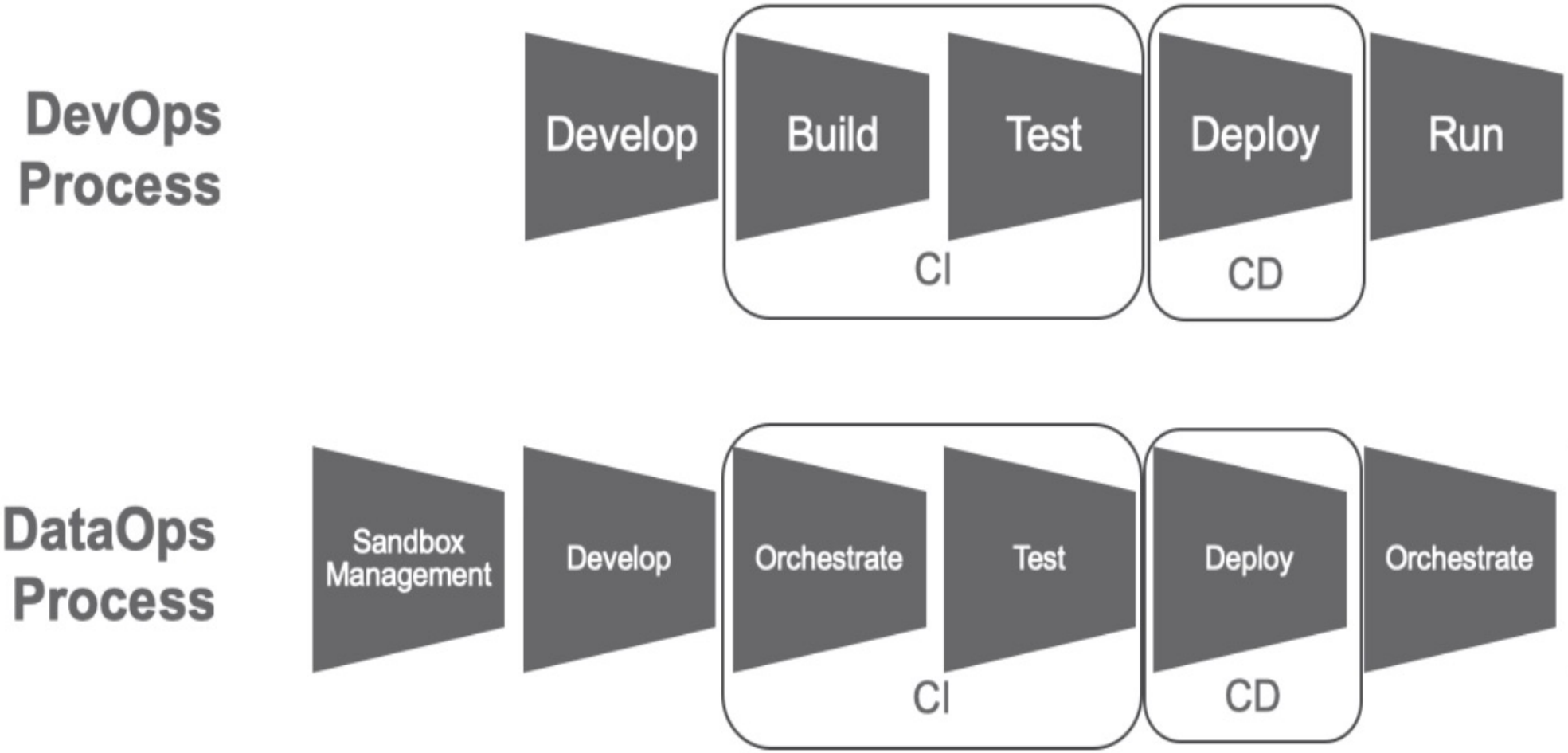
Love technology

Data Scientist and Analyst

Analyse data and build models

Technology is a means to an end

The process


DevOps Process
Develop
Build
Test
CI
Deploy
CD
Run
DataOps Process
Sandbox Management
Develop
Orchestrate
Test
CI
Deploy
CD
Orchestrate
Monitor

Importance of testing

Quality of Solution = $f(data, code)$

	Data Fixed	Data Variable
Code Fixed		Value Pipeline
Code Variable	Innovation Pipeline	

Benefits of DataOps

Enhances collaboration

- Sets collaboration parameters for cross-functional teams
- Facilitates a 360 view of execution by enforcing rigorous planning

Enforces robust solutions

- Removes human unpredictability from the equation
- Solutions are built thinking about reliability

Offers flexibility

- Well-defined processes allow adaptability
- Reduces time to move changes across systems

Incorporates the Agile mind-set

- Which comes with all benefits of the agile framework
- If you already practiced agile, easier to incorporate DataOps

Challenges of adopting DataOps

Fragmented Organizations

- DataOps helps reducing the effect of departmental silos
- Planning and collaboration across departments are key

Steep Learning curve

- Technology changes fast and upskilling is not always easy
- Training should be at the center of a mature DataOps roadmap

Choosing the right tools

- Build some buy some strategy is the most common
- When choosing a tool, think about integration and scalability

There is not one-size-fits-all solution

- None single solution for everything that you will need
- Achieving maturity requires time, investment and some research

5 Tips & Tricks

Selecting the right case

Some things to keep in mind:

Understand your business

Identify problems you CAN solve

ML is expensive and complex

ML is not the answer to every problem

Have an ideation/validation strategy

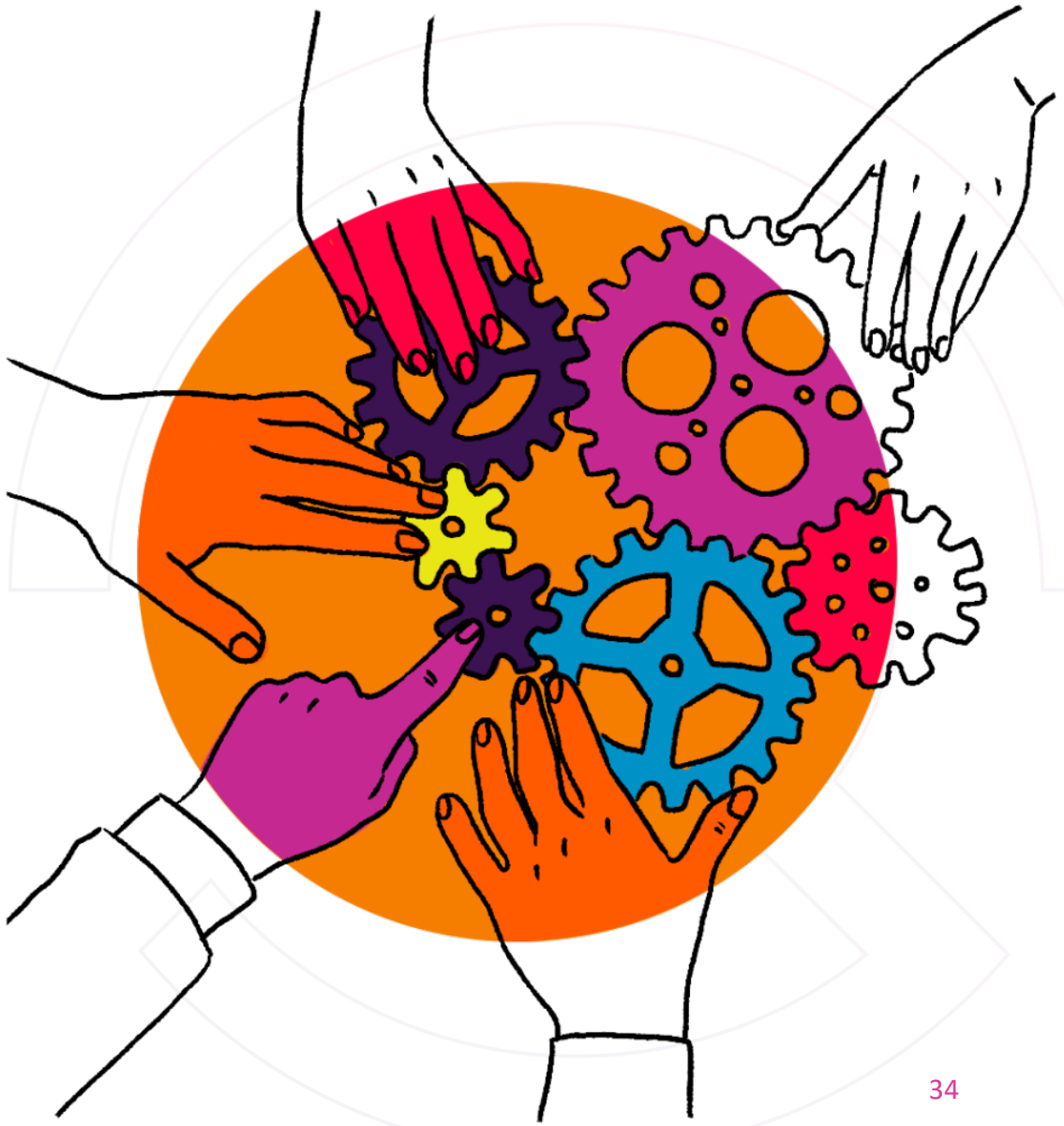
Ideation

Prototype

Start with a functional prototype before you build a full-blown solution

How to choose? Think about this:

- Can AI/ML solve it?
- Impact when successful?
- Generating value?
- New or has been done?
- Have the data?
- Validate the results?
- How complex?
- Posses capabilities to solve the problem?



Validation

Source

Not model validation

Not just about the model, but about the business case. Is it adding value?

What kind of criteria?

- Qualitative
- Quantitative

When should I validate?

Validations should be a continuous process

Make or Buy?

Don’t re invent the wheel

Only if:

- You have a competitive advantage
  - Unique data or market position
- Need Flexibility
  - Necessary resources and expertise

Pitfalls to avoid

Don’t

- Expect data scientists to produce use cases on their own
- Expect AI to solve everything
- Expect AI to work the first time
- Wait until your have the best team in the world

Do

- Work cross-functional by pairing data and business talent
- Be realistic and track limitations
- Iterative process with failures
- Get started with the team you have and gradually build from there

How to become an AI company?

- Step 1: Execute pilot projects to gain momentum
- Step 2: Build an in-house AI team
- Step 3: Provide broad AI training
- Step 4: Develop an AI strategy
- Step 5: Develop internal and external communications

LANDING AI - AI Transformation Playbook

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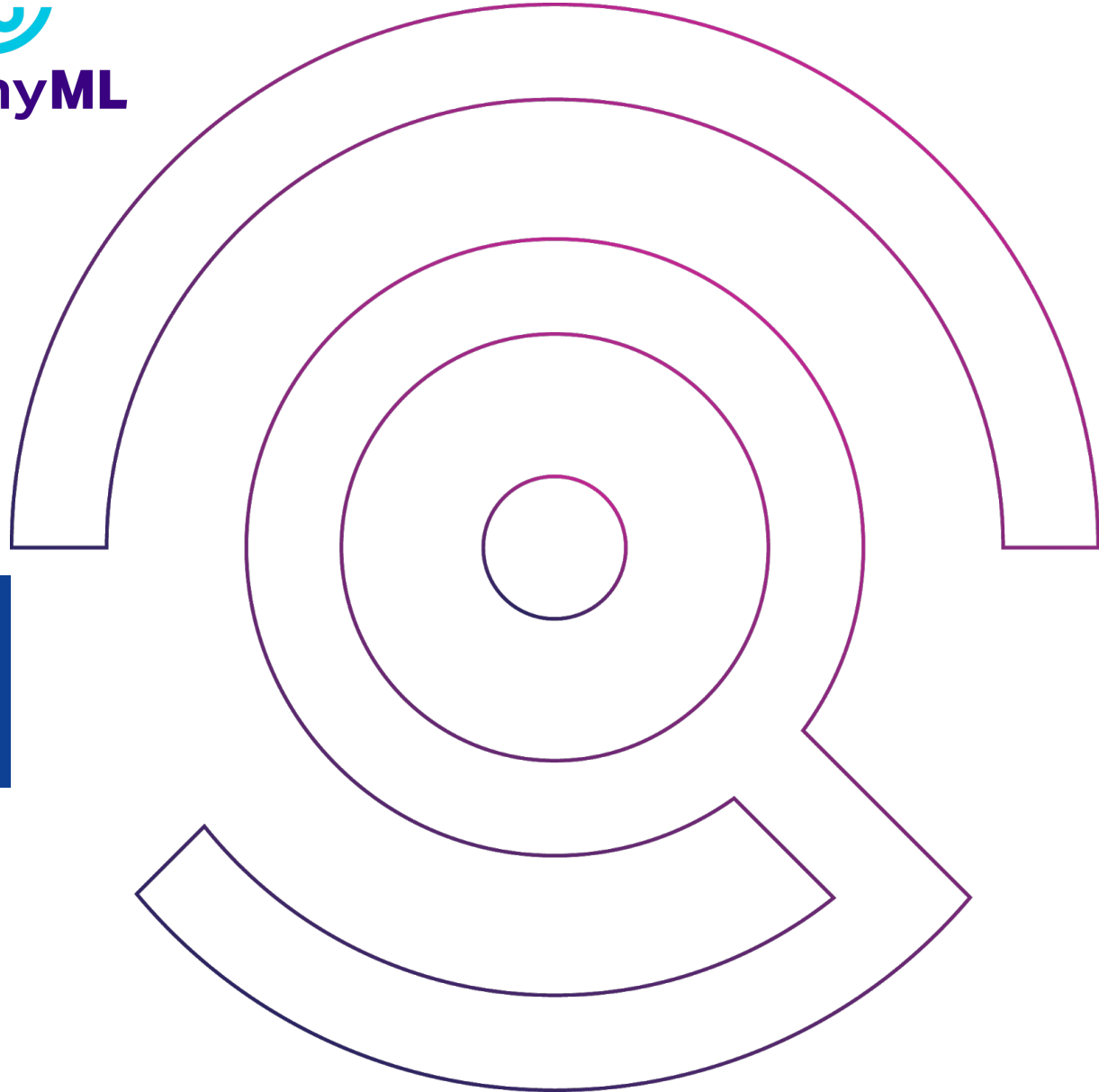

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