

# What is data culture?

INTRODUCTION TO DATA CULTURE



Joanne Xiong

Content Developer, DataCamp

# Improve your fitness plan



- Goal: improve fitness plan
- Data provided by personal fitness tracker:
  - Number of steps you take
  - Calories you burn
  - Amount of time you spend exercising
- Problem: no concrete plan to achieve the goal

<sup>1</sup> Icon made by Freepik from [www.flaticon.com](http://www.flaticon.com)

# Improve your fitness plan cont.

- Analyze your available data
- Understand the messages conveyed
- Communicate with others
- From **HAVING** data to **USING** data



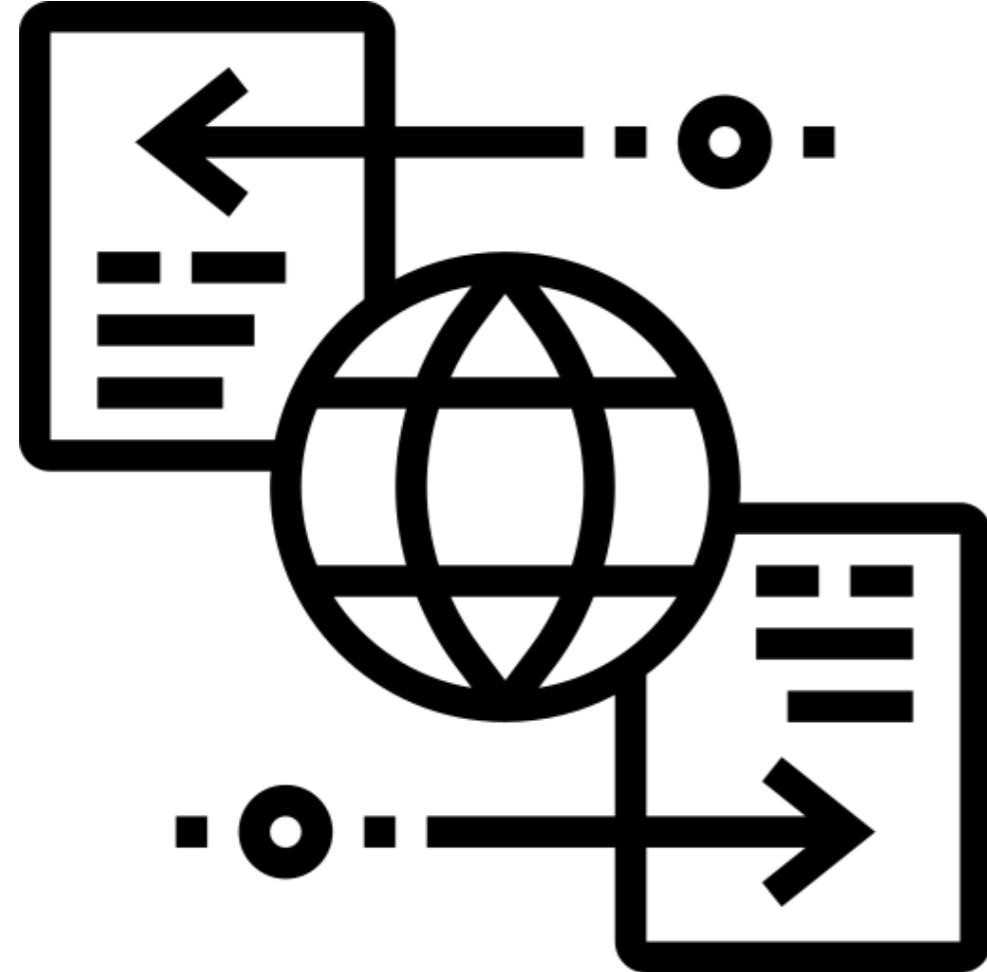
<sup>1</sup> Icon made by nawicon from [www.flaticon.com](http://www.flaticon.com)

# Data culture in a nutshell



- **COLLECTIVE** behavior and mindset within an organization toward using data
- Applies to **ALL** industries and **ALL** stakeholders
  - Regardless of technical acumen (e.g. HRs)
  - Business sizes are irrelevant

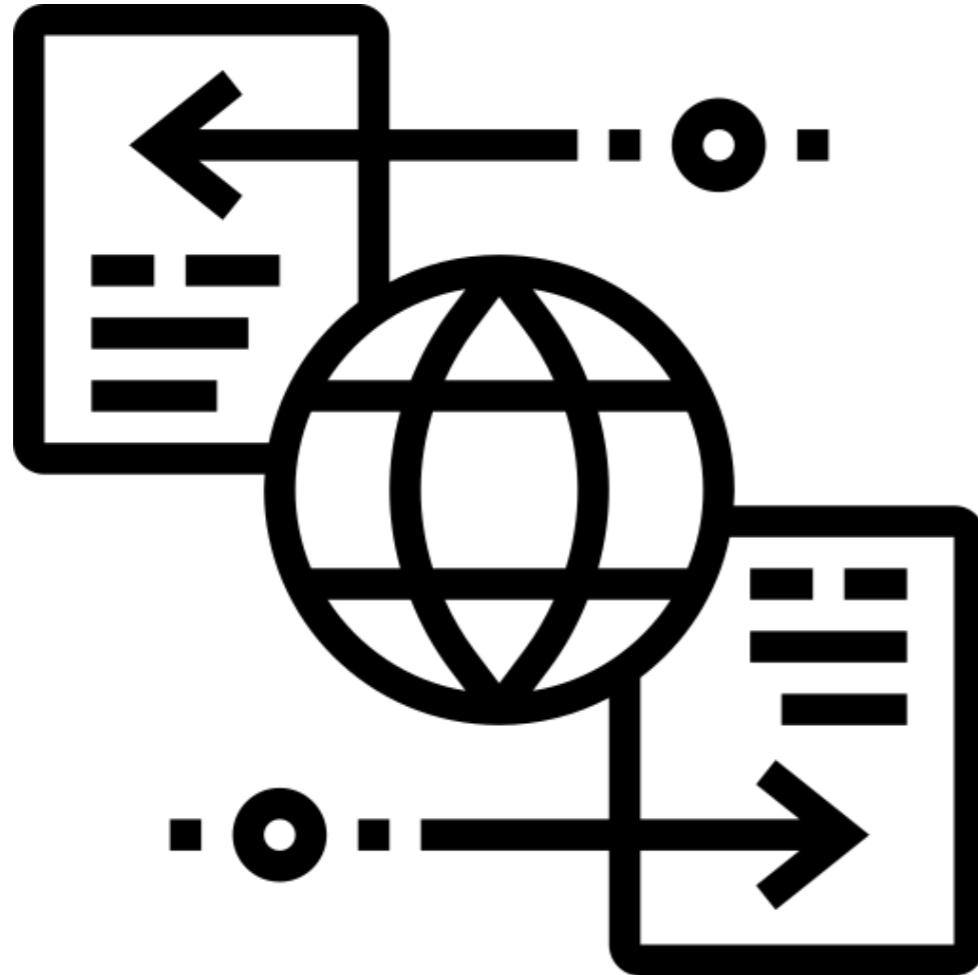
# Key components of data culture (1)



- Making data-driven decisions
  - Evaluate strategy
  - Identify opportunities
  - Measure success
  - Evidence over intuition or opinion

<sup>1</sup> Icon made by Eucalyp from [www.flaticon.com](http://www.flaticon.com)

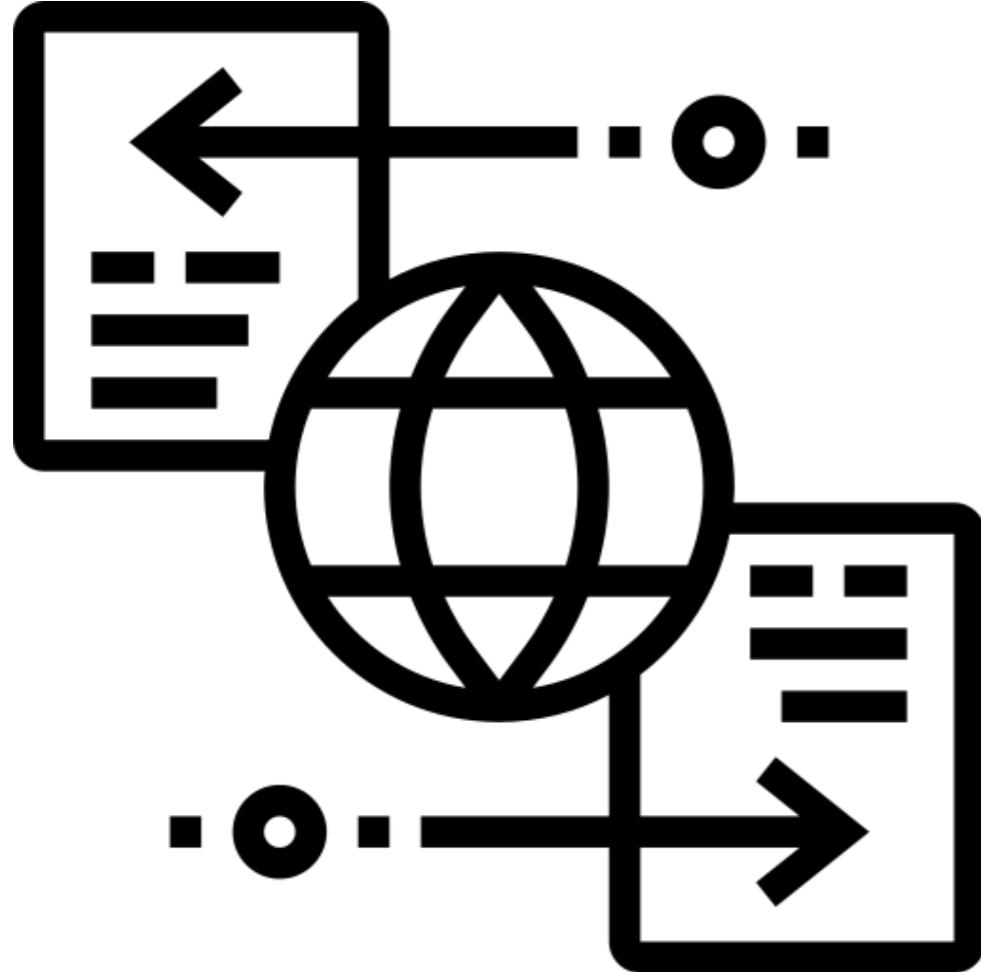
# Key components of data culture (2)



- Prioritizing data literacy
  - Be able to read, interpret, and analyze data
  - Requires long-term commitment
  - Organizational-wide effort!

<sup>1</sup> Icon made by Eucalyp from [www.flaticon.com](http://www.flaticon.com)

# Key components of data culture (3)



- Encouraging continuous experimentation and development
  - Test innovative ideas
  - Learn from failures
  - Quickly adapt to changes
  - Helps evaluate innovative ideas' effectiveness
  - Helps identify improvement areas

<sup>1</sup> Icon made by Eucalyp from [www.flaticon.com](http://www.flaticon.com)

# Data culture benefits

Benefits:

- Enhanced decision-making
- Improved operations
- Achieved business goals

# **Let's practice!**

**INTRODUCTION TO DATA CULTURE**

# Why build a data culture?

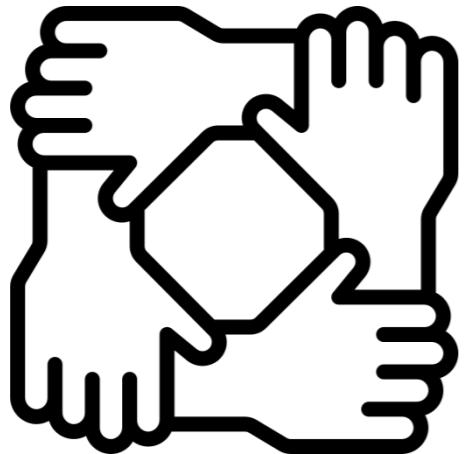
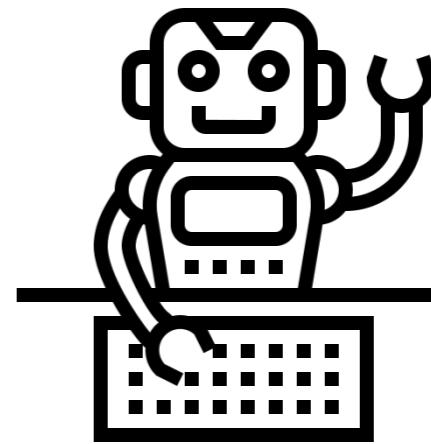
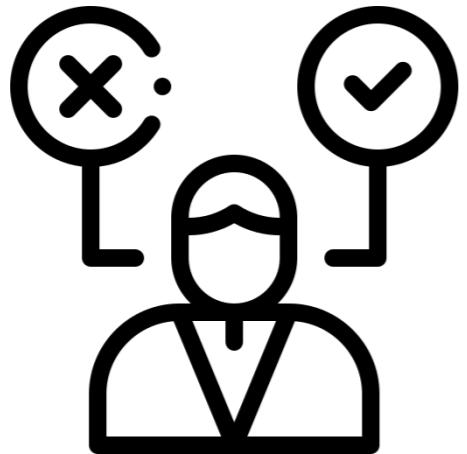
INTRODUCTION TO DATA CULTURE



Joanne Xiong

Content Developer, DataCamp

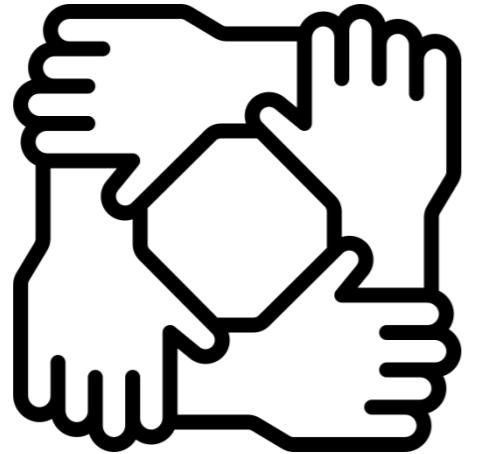
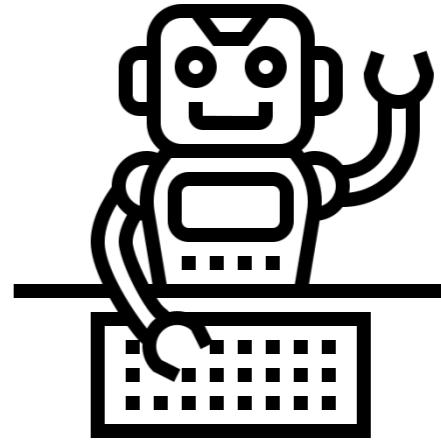
# Efficiency booster!



<sup>1</sup> Icons made by Freepik, Eucalyp, Smashicons, and Vectors Tank from [www.flaticon.com](http://www.flaticon.com)

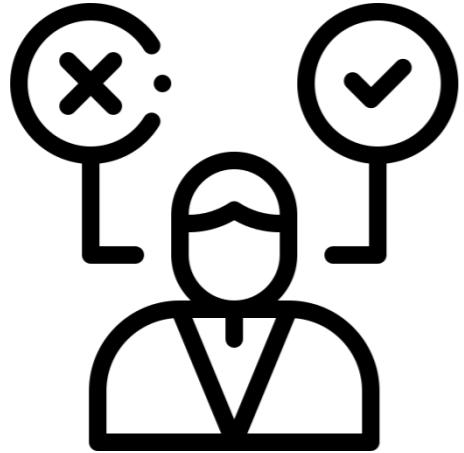
# Efficiency booster!

- Robust data management and storage tools made possible
- Enhanced decision-making processes

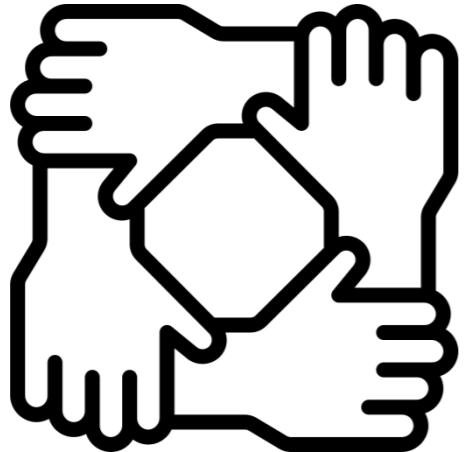


<sup>1</sup> Icons made by Eucalyp, Smashicons, and Vectors Tank from [www.flaticon.com](http://www.flaticon.com)

# Efficiency booster!

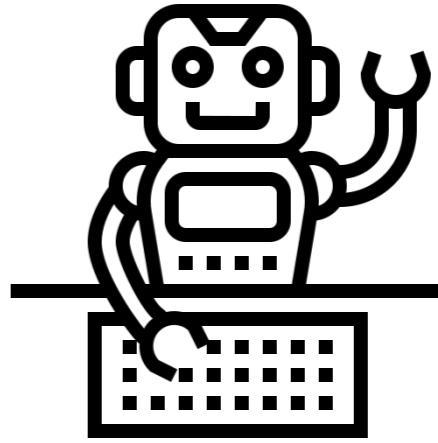
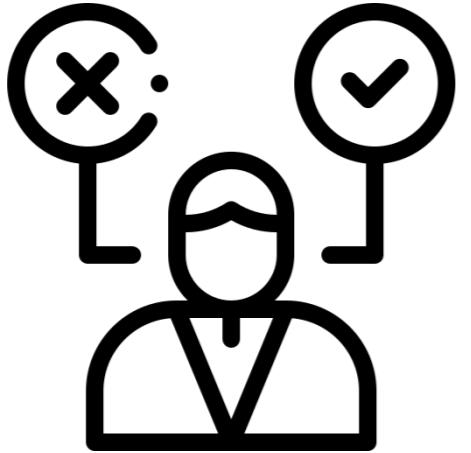


- Achieve automation of processes
- Freeing-up employees from data collection, analysis, and reporting



<sup>1</sup> Icons made by Freepik, Smashicons, and Vectors Tank from [www.flaticon.com](http://www.flaticon.com)

# Efficiency booster!

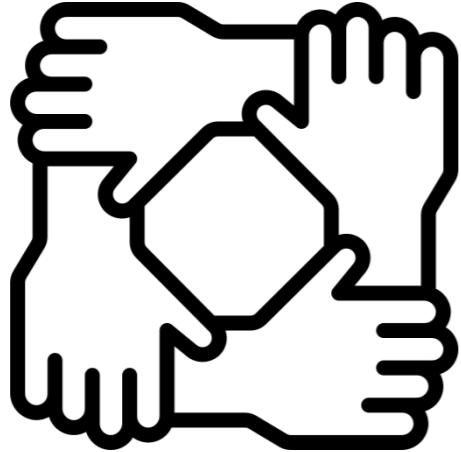
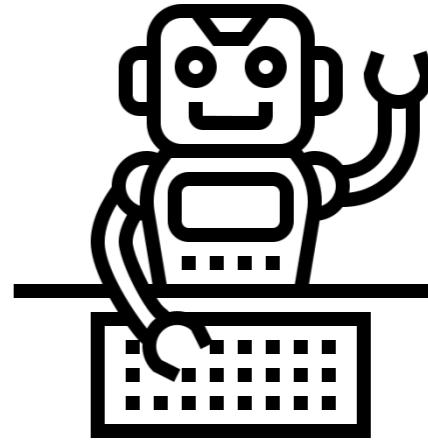
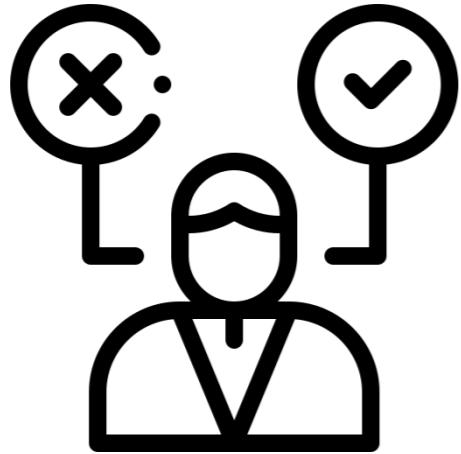


- Encourage effective collaborations between individuals
- Lead to innovative solutions and approaches



<sup>1</sup> Icons made by Freepik, Eucalyp, and Vectors Tank from [www.flaticon.com](http://www.flaticon.com)

# Efficiency booster!



- Effective allocation of resources
- More resources directed at tasks with higher business value

<sup>1</sup> Icons made by Freepik, Eucalyp, and Smashicons from [www.flaticon.com](http://www.flaticon.com)

# ROI of data

- Significant return on investment
- Chance for growth and higher profit margins
- Data can help...
  - Identify new revenue streams
  - Optimize processes
  - Reduce costs



# The Netflix example

## Data storage and management

- Netflix handles a vast quantity of data
- Amazon Web Service (AWS) enables large volume storage
- Facilitates large volume streaming

## Automation

- Cloud-based automation framework
- Netflix Test Studio (NTS)
- Automatically testing applications at scale



<sup>1</sup> Netflix Research

# The Netflix example cont.

## Collaboration

- Advanced data analytics tools
- Inform business teams

## Resource allocation

- Enhance movie and TV show personalization
- Optimize content and marketing strategies



<sup>1</sup> Netflix Research

# **Let's practice!**

**INTRODUCTION TO DATA CULTURE**

# Challenges along the way

INTRODUCTION TO DATA CULTURE



Joanne Xiong

Content Developer, DataCamp

# Challenges exist

- Building a data culture is essential for business success
- The process will be challenging!



# Classifying challenges

## People Challenge

- The human aspects of an organization
- Examples:
  - Data silos
  - Data literacy
  - Data ethics

## Process Challenge

- The systems, procedures, workflows
- Examples:
  - Data quality
  - Data privacy
  - Data security

# People - data silos

- Occur when information is isolated within teams or departments
- Hamper collaboration, limit organizational understanding
- Example:
  - Ford's siloed data storage
- Solutions:
  - Centralized data team/data management system



# People - data silos

- Occur when information is isolated within teams or departments
- Hamper collaboration, limit organizational understanding
- Example:
  - Ford's siloed data storage
- Solutions:
  - Centralized data team/data management system



# People - data literacy

- Reluctance to gain new skills and adapt to changing data trend
- Failure to invest in long-term commitment
- Example:
  - Assume all employees have the same level of data literacy
- Solutions:
  - Customized training program
  - Continuously monitoring and refining

# People - data ethics

- Responsible, fair, and transparent data usage
- Example:
  - Amazon's biased hiring algorithm
- Solutions:
  - Establish clear ethical guidelines
  - Foster open discussion



# Process - data quality

- Data needs to be:
  - Accurate
  - Reliable
  - Up-to-date
- Example:
  - Uber's "Greyball" resulted in severe consequences
- Solutions:
  - Implement data validation process
  - Leverage automated data cleansing tools

# Process - data privacy & security

- Extended data usage may lead to overlook of data privacy and data security
- Protecting sensitive information maintains customer trust and avoid potential breaches
- Example: 2017 Equifax data breach
- Solutions:
  - Implement access controls
  - Apply encryption techniques
  - Conduct regular security checks



<sup>1</sup> <https://www.wsj.com/articles/equifax-to-add-more-buy-now-pay-later-plans-to-credit-reports-11639915203>

# **Let's practice!**

**INTRODUCTION TO DATA CULTURE**