



University of Europe for  
Applied Sciences

# Thesis Defense

## Incorporating Design Thinking Principles In Continuous Improvement Process

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MA Innovation Design Management  
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# Content

The main part of this thesis defense presentation

**01** Introduction

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**03** Literature Review

**04** Data Collection

**05** Analysis &  
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**06** Framework

**07** Conclusions

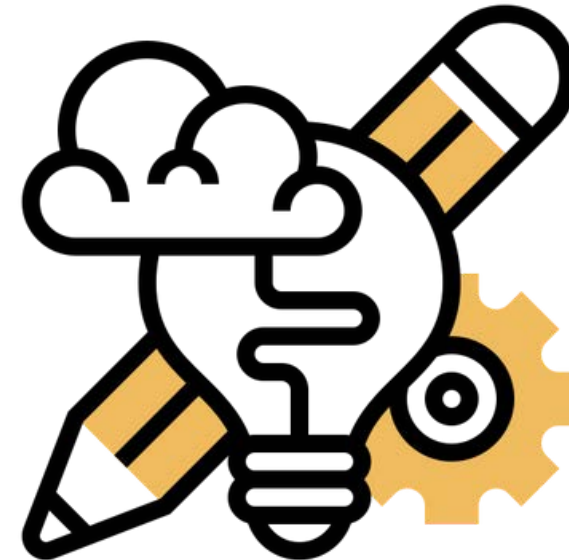
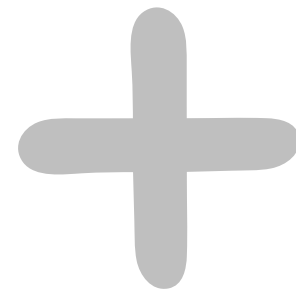
**08** Recommendations



# Introduction<sup>01</sup>



Continuous  
Improvement



Design Thinking



Competitive  
Advantages

Work “smarter” instead of “harder”

# Objectives

## Research Question

What are the key factors required to achieve a successful incorporation of design thinking principles into continuous improvement process, as evidenced by leading companies in the digital age that can serve of example for other companies?

## Objectives

1

Identify key factors that led to incorporate DT & CI with success

2

Analyse challenges and barriers faced by leading companies.

3

Suggest Design Thinking Principles to implement DT & CI

4

Develop and propose a framework that guide companies to incorporate DT in CI



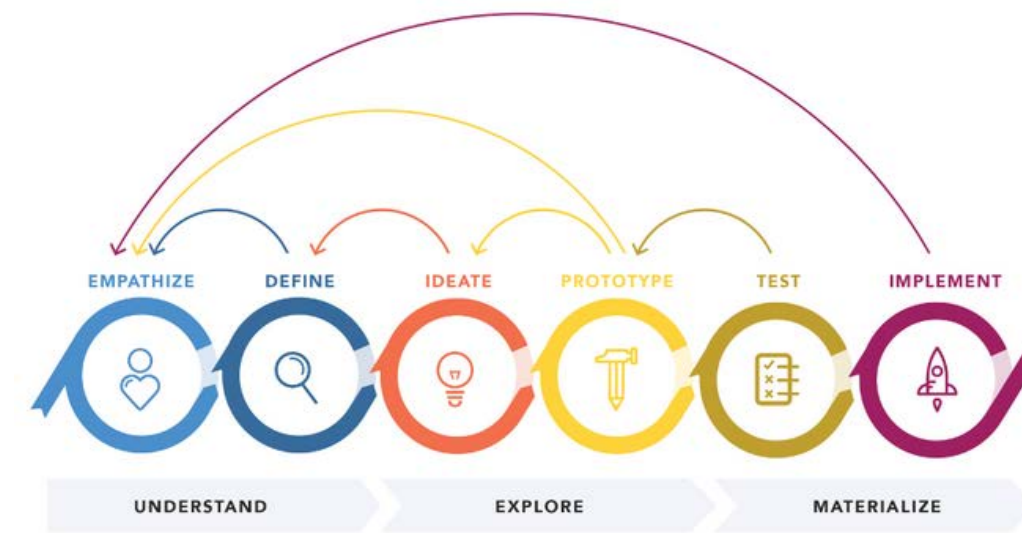
# Literature Review

- CI Deming Cycle



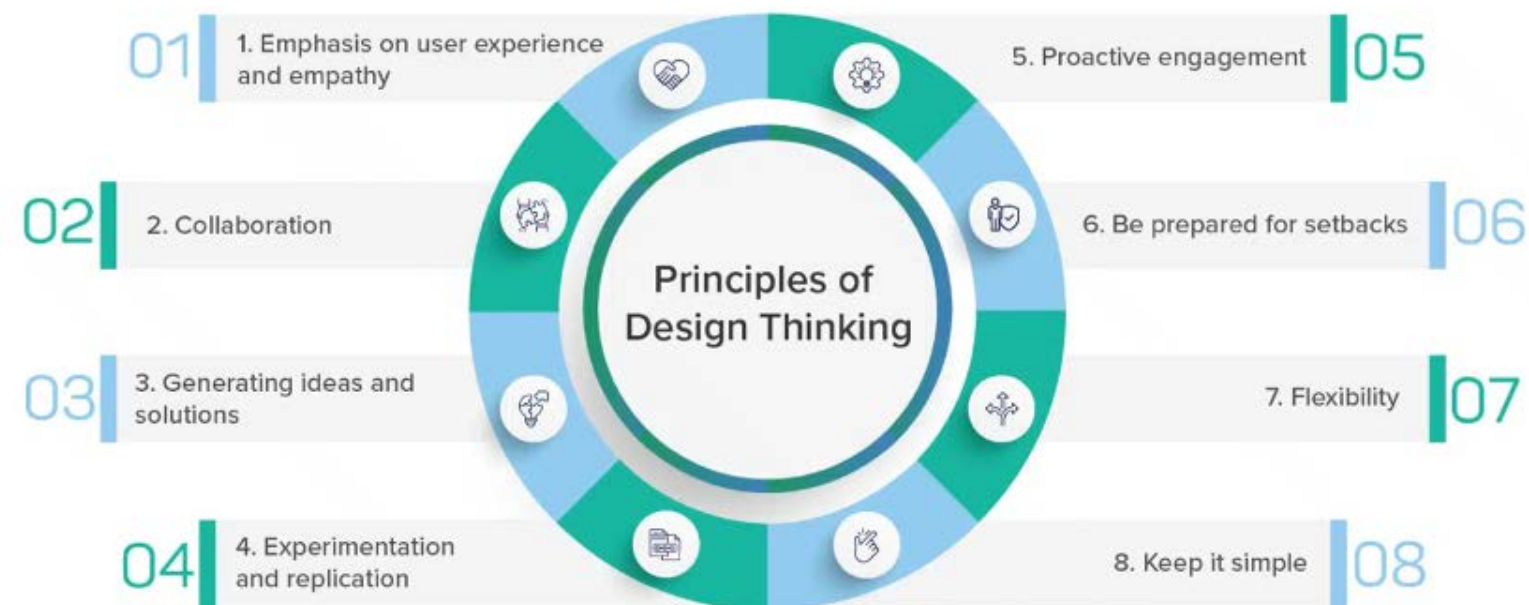
Source: (Deming.Org)

- Design Thinking Process



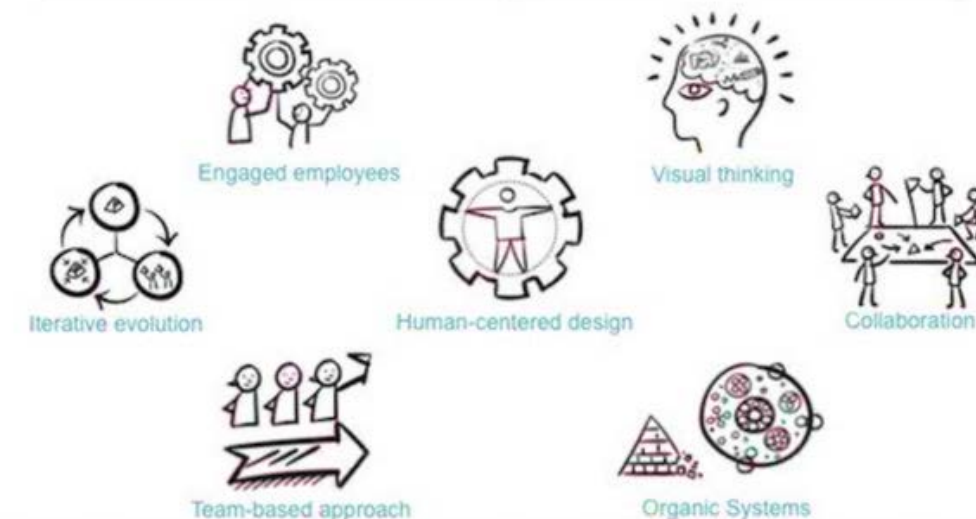
Source: (NNGroup, 2016)

- Design Thinking Principles:



Source: (Mahajan, 2023)

## 7 Principles Of Business Design Thinking



Source: (Lee, 2016)

# Data Collection<sup>04</sup>



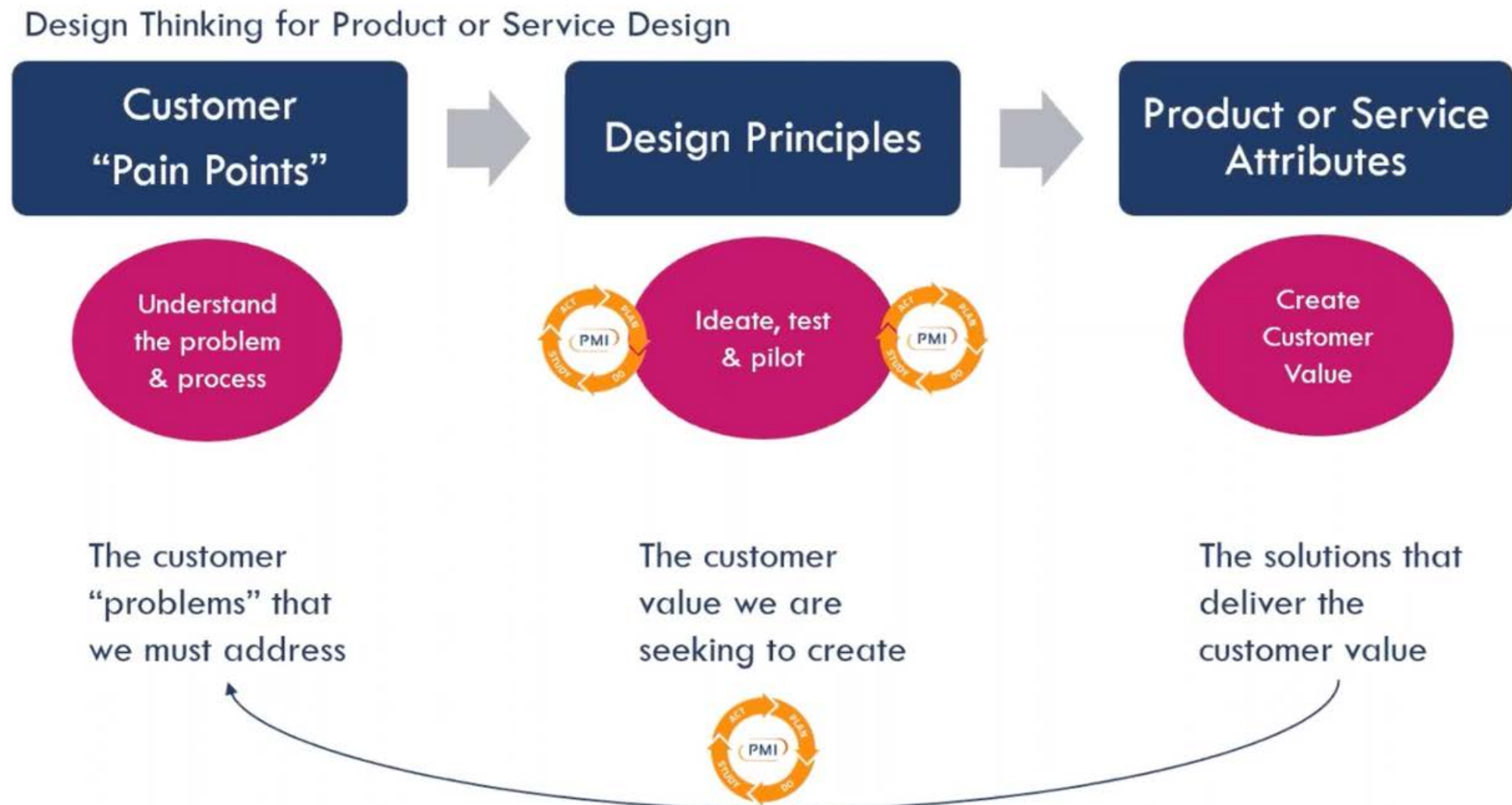
## Primary Research

- Interview with UK CEO of Process Management International PMI, Rich Seddon.

## Secondary Research

- Case studies of IBM and Toyota Motor Corporation.
- Identification of common failure reasons from companies that try to implement Design Thinking and Continuous Improvement Methodologies

# PMI Methodology

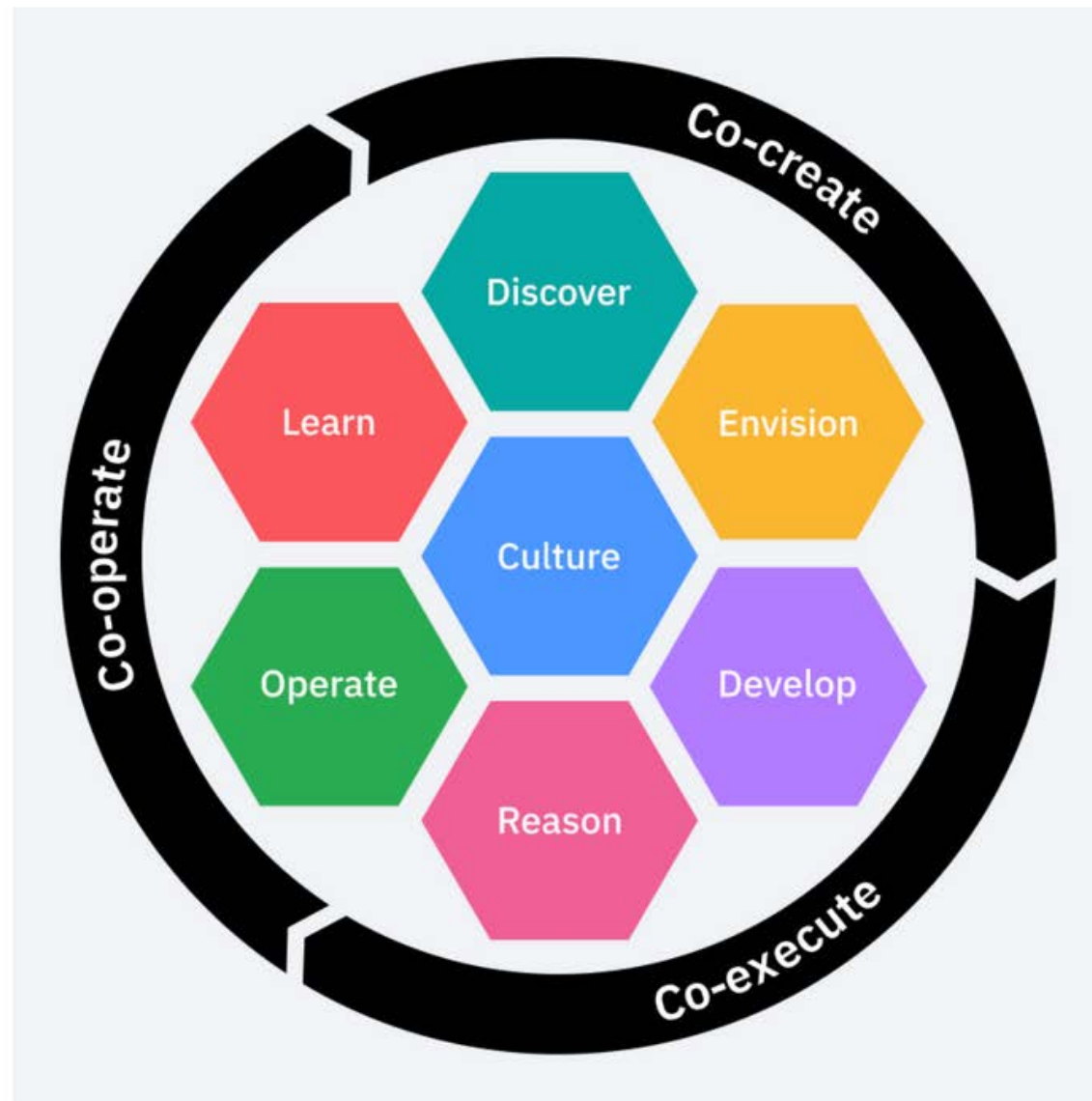


**Figure 7. PMI Design Thinking & Continuous Improvement Methodology**

Source: (Seddon, 2022)



# IBM Garage Methodology



**Figure 9. The IBM Garage Methodology**

Source: (IBM)

**01** Design and deliver solutions that delight consumers and achieve measurable business outcomes.

**02** Learn from your users by testing hypotheses and adjust based on your results.

**03** Deliver value iteratively and rapidly.

**04** Increase quality and reduce toil through automation.

**05** Don't overplan and don't anticipate. Do just enough to deliver a meaningful outcome.

**06** Business value is achieved when the solution is in reliable, secure production.

**07** Autonomous teams are more productive.

**08** Diverse, multi-disciplinary teams innovate and solve problems faster.

**09** Effective communication is transparent and enjoyable.

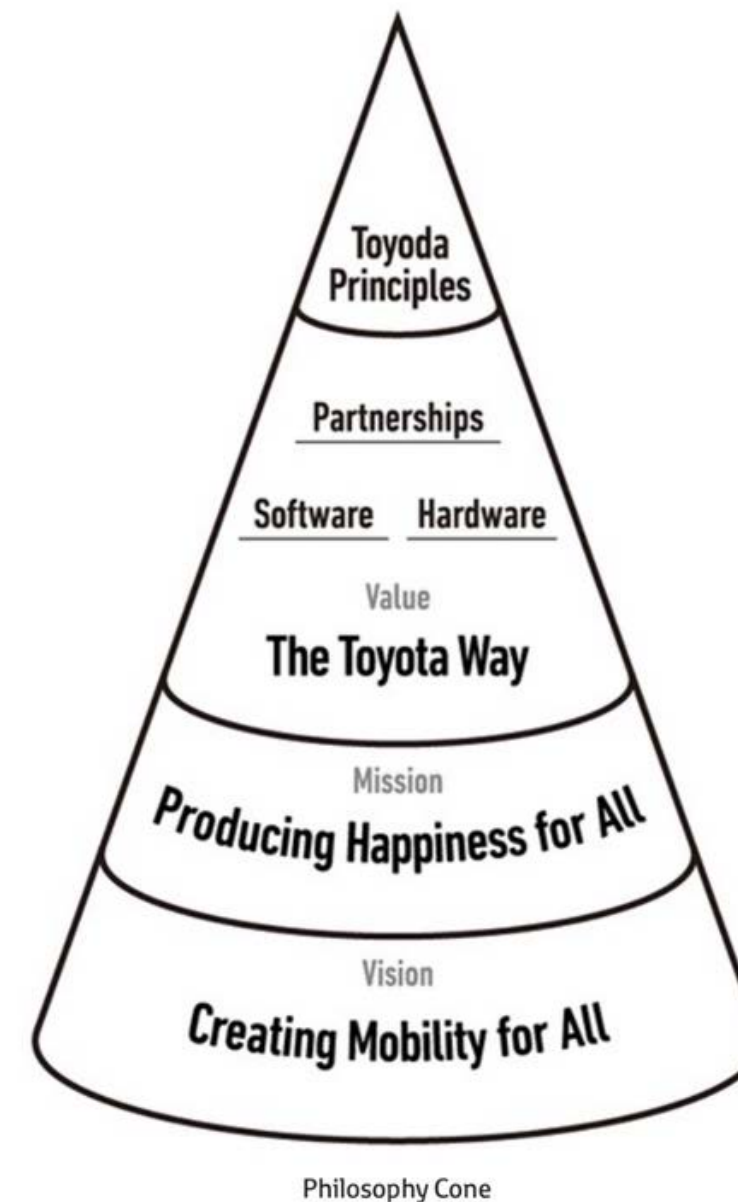
**10** Principles guide practices. Adapt your practices to your culture and situation.

**Figure 10. IBM Garage Methodology Principles**

Source: (IBM)



# Toyota Motor Corporation



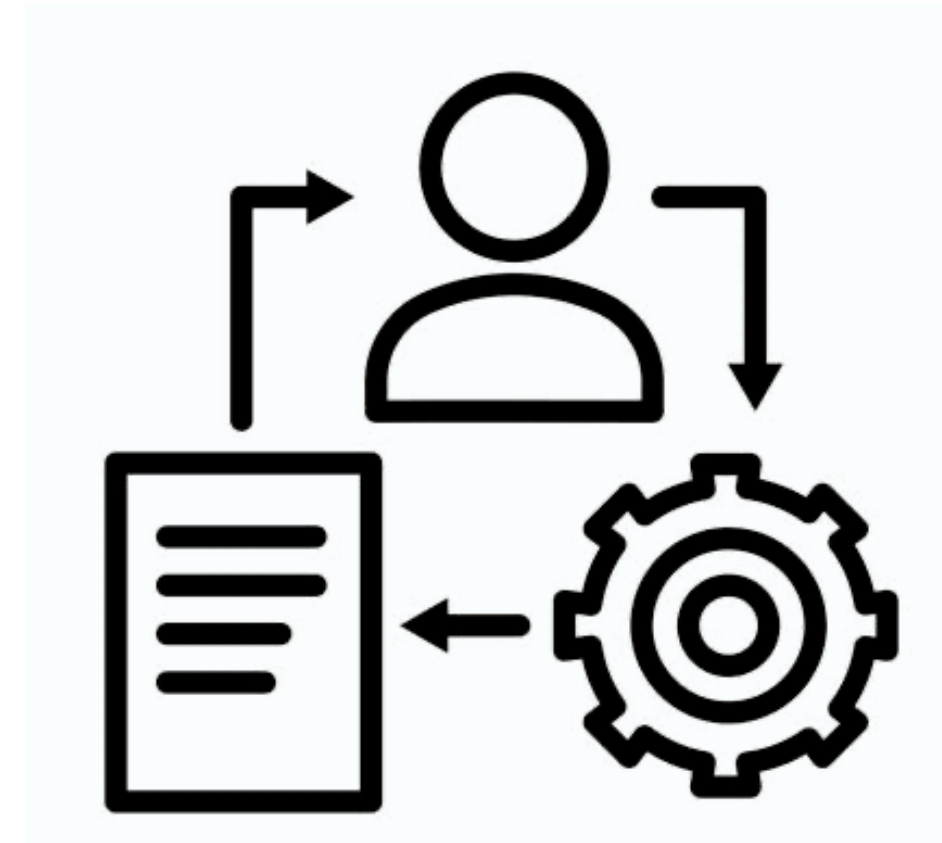
**Figure 11. Toyota's Philosophy Cone**

Source: (Corp)

# Common Failure Reasons



**People**



**Process**

# Analysis & Interpretation

## Key factors identified to achieve a successful incorporation of DT in CI:

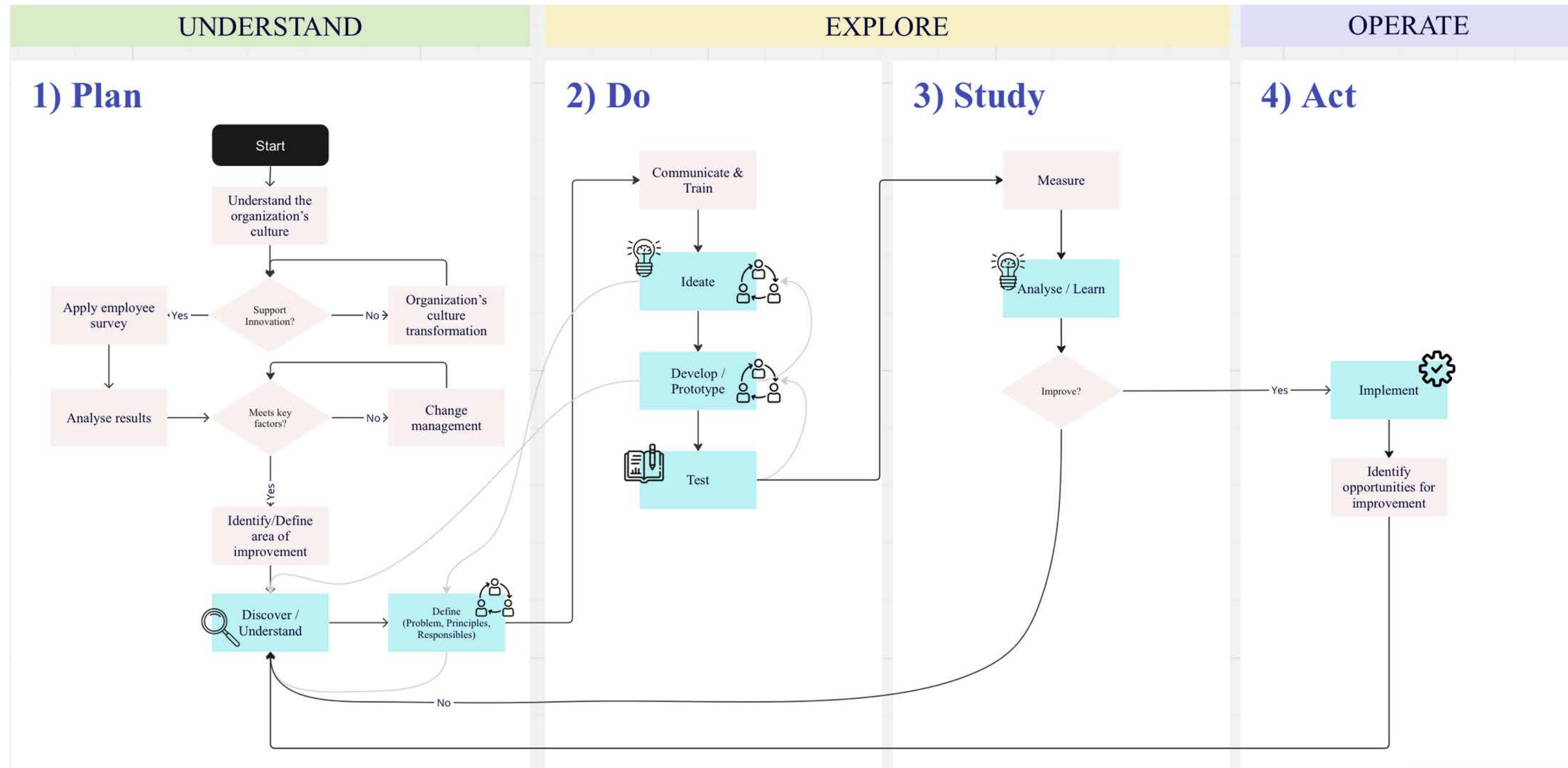
- 1) Strong organizational culture
- 2) Leadership
- 3) Employee engagement
- 4) Data driven decisions
- 5) Collaboration spaces



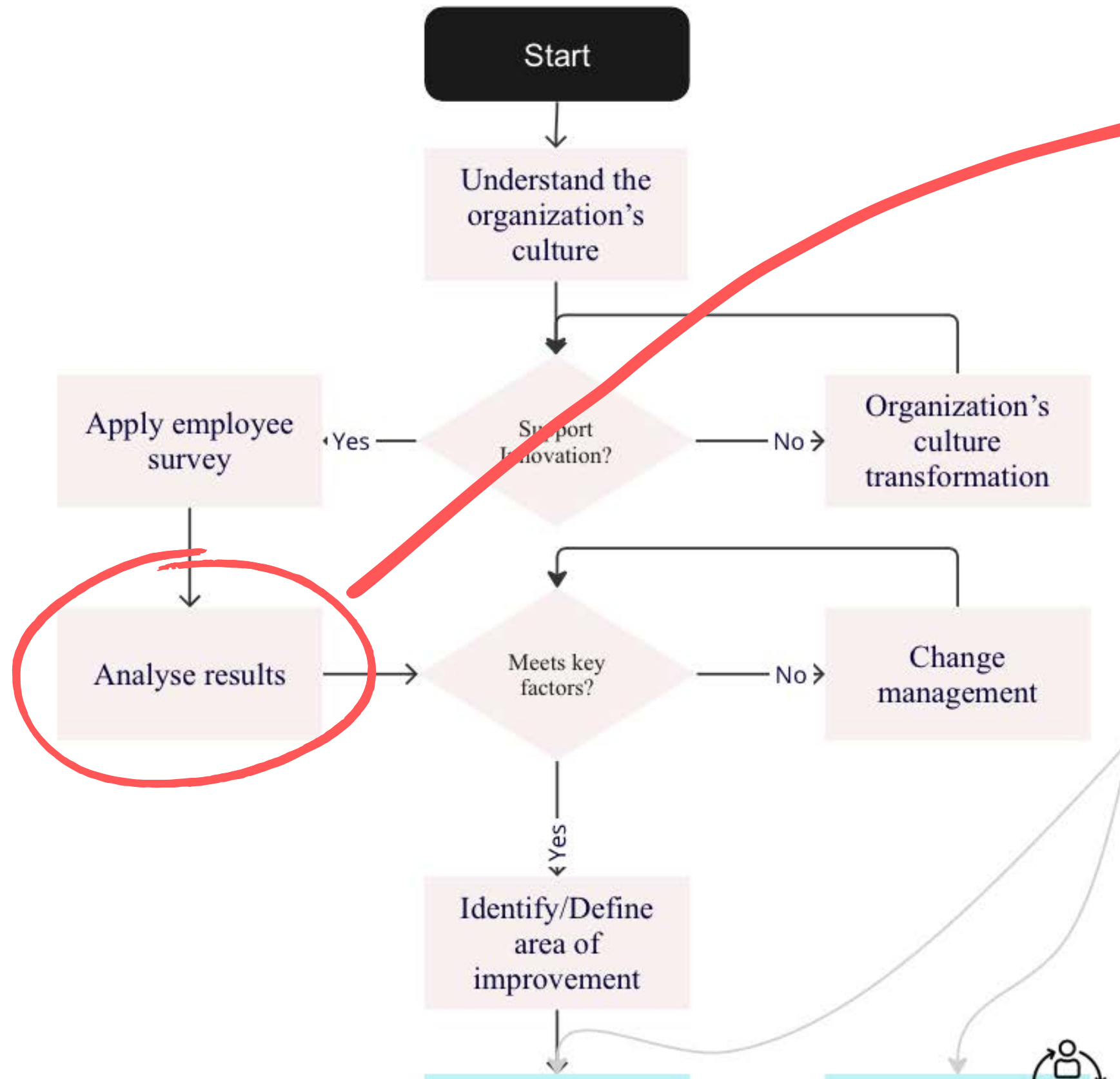


06

# Framework



# 1) Plan



## Survey Analysis

The punctuation is made based on the next formula:

$$\frac{(A * 0) + (B * 0.5) + (C * 1)}{N} * 100$$

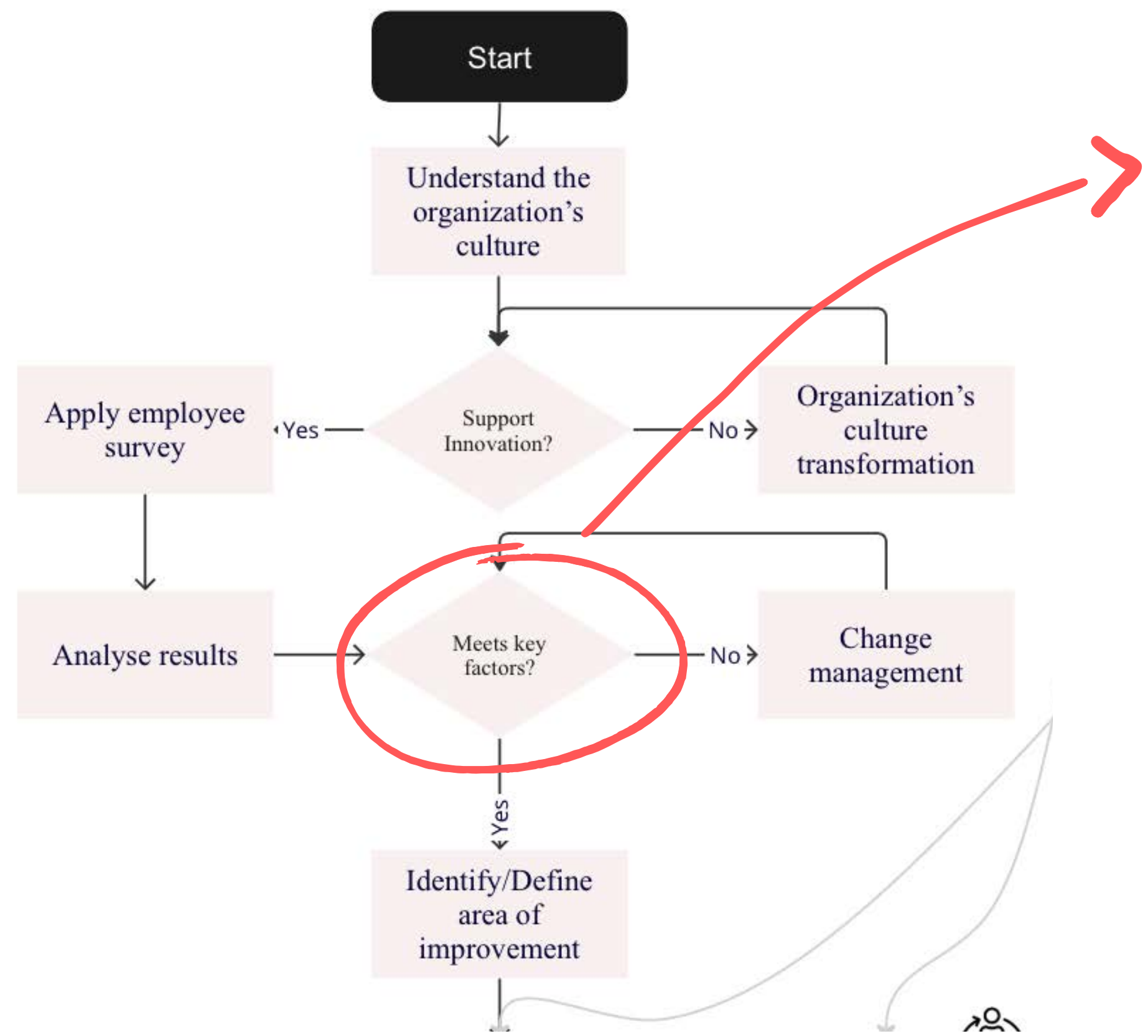
Where:

- A, is the # of answers between 1-4
- B, is the # of answers between 5-7
- C, is the # of answers between 8-10
- N, Total of answers with punctuation

## Example:

$$\frac{(45 * 0) + (70 * 0.5) + (130 * 1)}{250} * 100 = 66\%$$

# 1) Plan



Score	Results
0% - 49%	<p>The organization does not meet the key factors required to successfully incorporate design thinking (and its principles) and continuous improvement processes.</p> <p>The organization may decide to implement the methodologies, but it will face different challenges in the process, even leading to failure. If they decide to continue, it is recommended to implement a change management.</p>
50% - 79%	<p>The organization meets the minimum recommended to integrate design thinking (and its principles) and continuous improvement process, meaning that the process may experience challenges that may increment resources required and uncertainty in the result.</p> <p>However, it is recommended to strengthen the key factors with low punctuation before they decide to integrate both methodologies, to assure its successful.</p>
80% - 100%	<p>The organization meets the key factors to integrate successfully design thinking (and its principles) and continuous improvement processes. It also demonstrates the organization's ability to innovate and continually improve to achieve competitive advantages.</p>

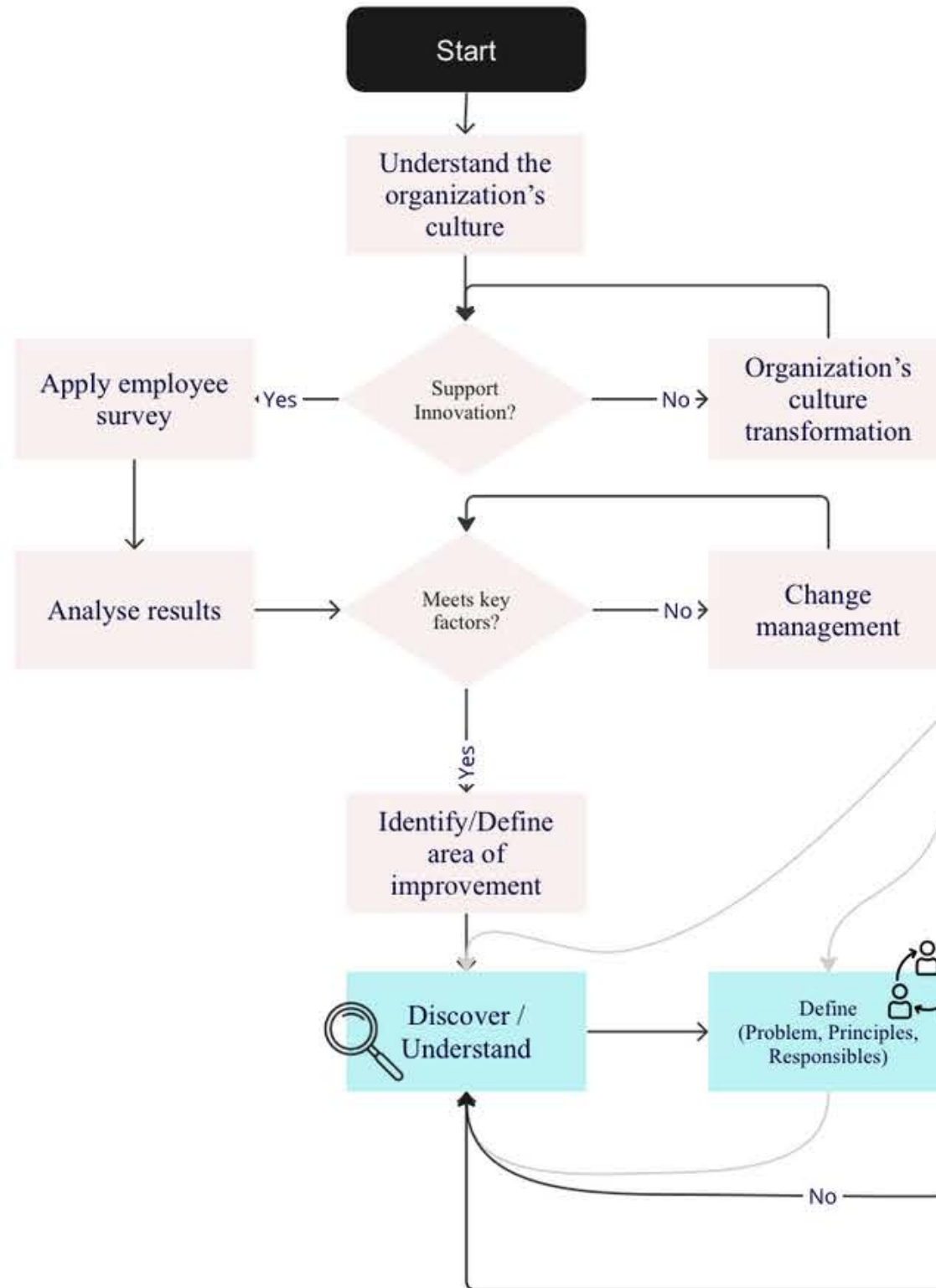


# UNDERSTAND

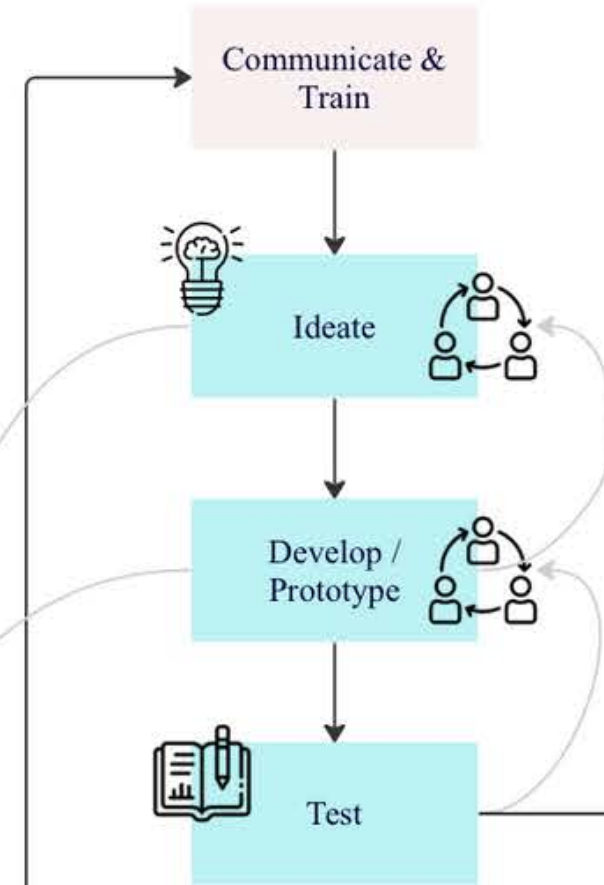
# EXPLORE

# OPERATE

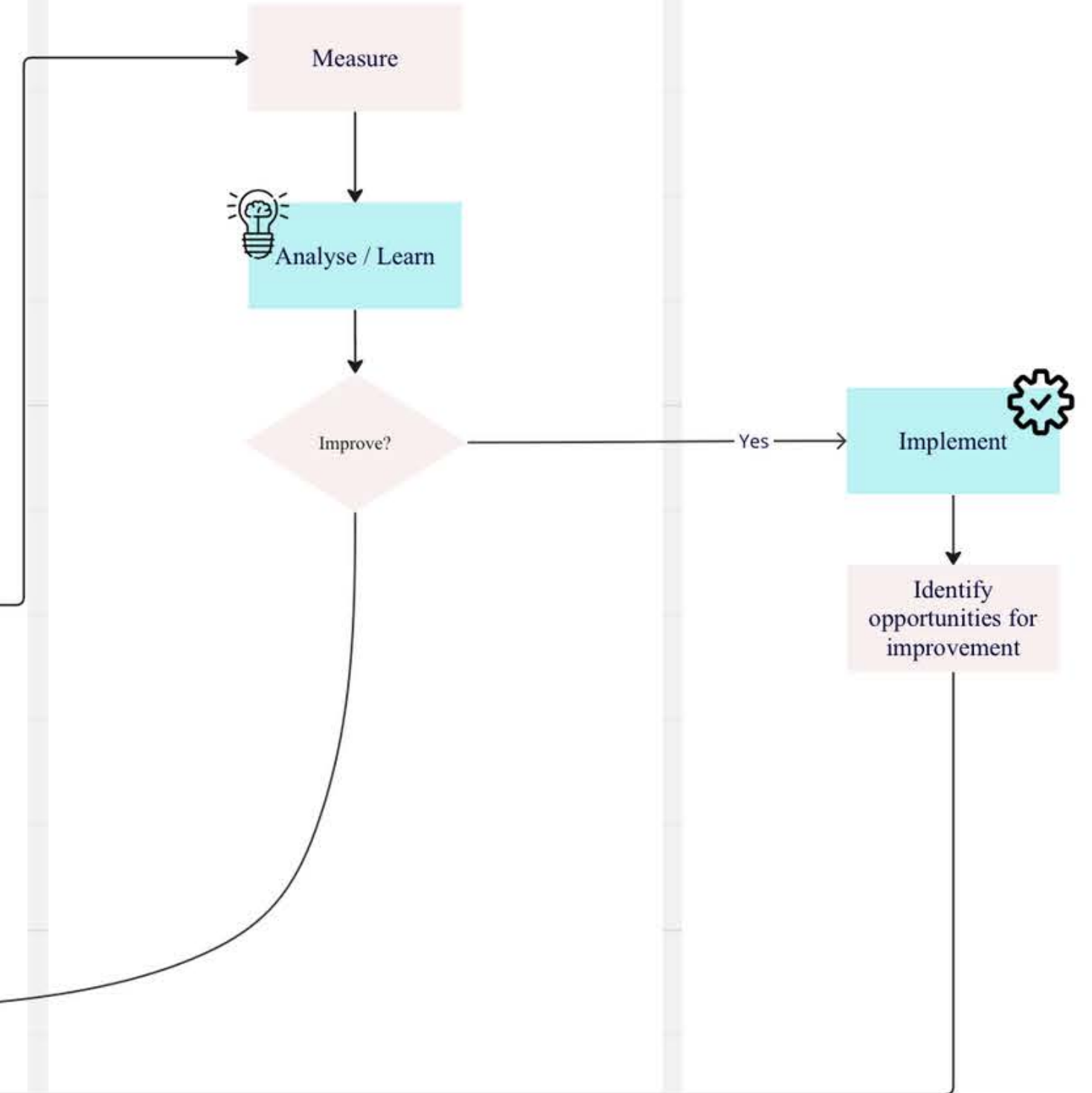
## 1) Plan



## 2) Do



## 3) Study



# Conclusions<sup>07</sup>

- 01** The five key factors identified to successfully incorporate design thinking principles in continuous improvement process are: Strong organizational culture, Leadership, Employee engagement, Data driven decisions, and Collaboration spaces.
  - 02** Many challenges and barriers can be faced during the implementation of these methodologies being the majority related to the people involved in the process. To overcome the challenges, leading companies ensure that employees are aligned with their culture (mission, values, principles).
  - 03** The design thinking principles may vary from company to company, however, the principles employed by Territory consulting company include the five key factors, these are Employee engagement, Visual thinking, Iterative evolution, Human-centered design, Collaboration, Team based approach and Organic system.
  - 04** The framework proposed incorporate the Design Thinking process and principles with Continuous Improvement PDSA Cycle, guiding companies to assure from the beginning the fulfilment of the key factors identified to achieve a successful incorporation.
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# Recommendations<sup>08</sup>

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- 01** It is recommended to analyse new key factors through time due to the constant changes and challenges that companies face to maintain competitive advantages.
- 02** To enhance the successful implementation of methodologies like Design Thinking and Continuous Improvement, it is recommended to adopt a comprehensive and holistic approach that focuses on both organizational culture and individual development
- 03** It is recommended to review the design thinking principles with time to validate they align with the organization's culture, objectives, and goals that they want to achieve. They should also be defined in a clear way so they can be understood by the entire organization.
- 04** The framework proposed, like the Design Thinking process, may be adapted to the necessities of the organizations. It is recommended to define well what the main objective and goals the company has and validate the framework to see if it works as it is or it can require changes to adapt better.



# Questions?



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# Thank You!