

History of production
Ford: assembly line (1900)



History of Kaizen






‘Take it apart and put it together in a better way’



History of Six Sigma

Motorola: focus on reducing variation



-  1. Over-production
-  2. Waiting
-  3. Transport
-  4. Over-processing
-  5. Inventory
-  6. Movement
-  7. Defects
-  8. Unused expertise



Principle 1 – Value

Determine what adds value to the customer



Principle 2 – Value stream
Map the value stream



Principle 3 – Flow
Create a constant Flow by eliminating waste

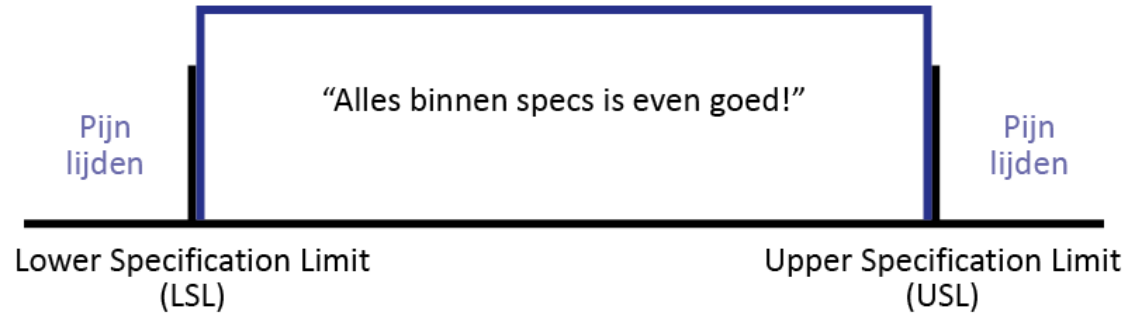


Principle 4 – Pull

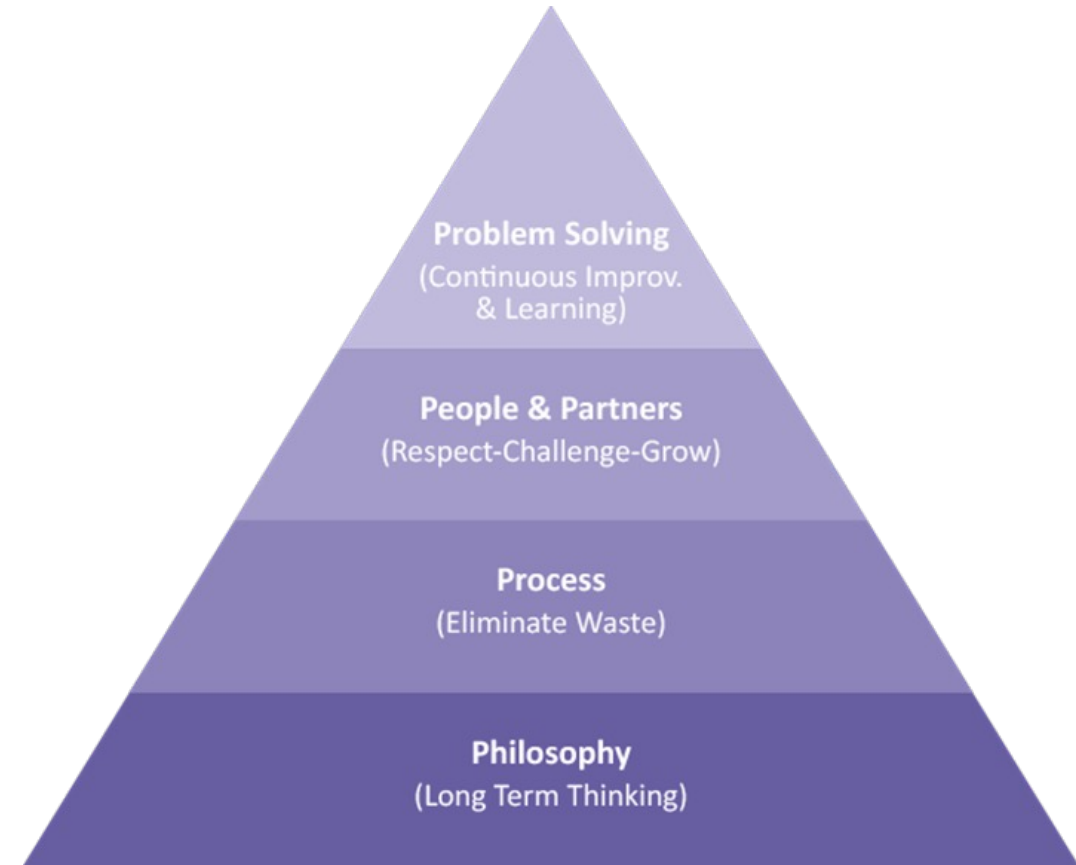
Produce based on demand. Start with customer demand



Oude opvatting



Moderne opvatting



The 12 agile principles

1 Satisfy the **customer**



2 Welcome **change**



3 Deliver **frequently**

Sprint 1	Sprint 2	Sprint 3	Sprint 4	Sprint 5
story	story	story	story	story
story	story	story	story	story
story	story	story	story	story

4 Work **together**



5 Trust and **support**



6 Face-to-face **conversation**



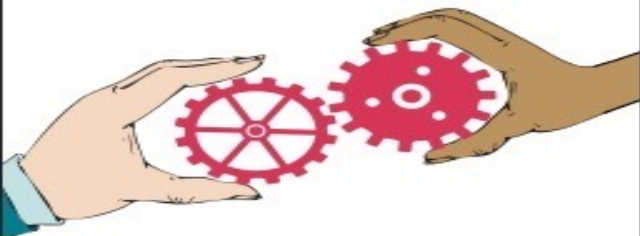
7 Working **software**



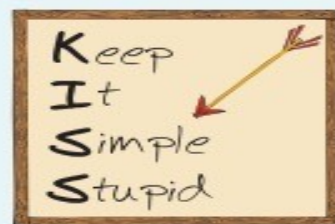
8 Sustainable **development**



9 Continuous **attention**



10 Maintain **simplicity**

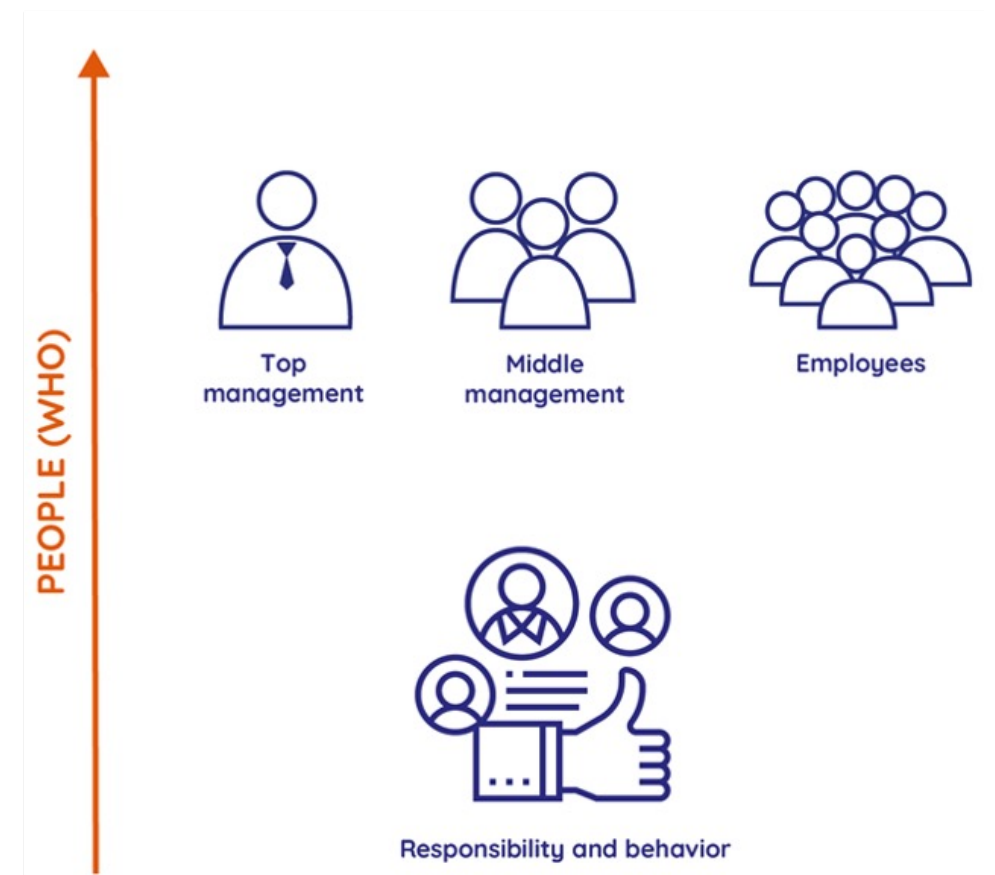


11 Self-organizing **teams**

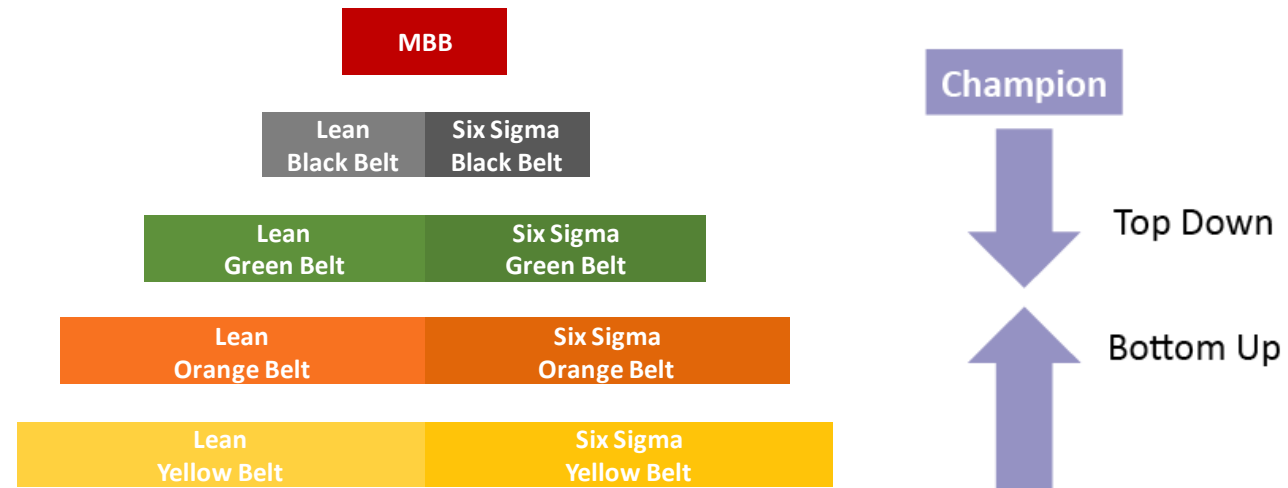


12 Reflect and **adjust**





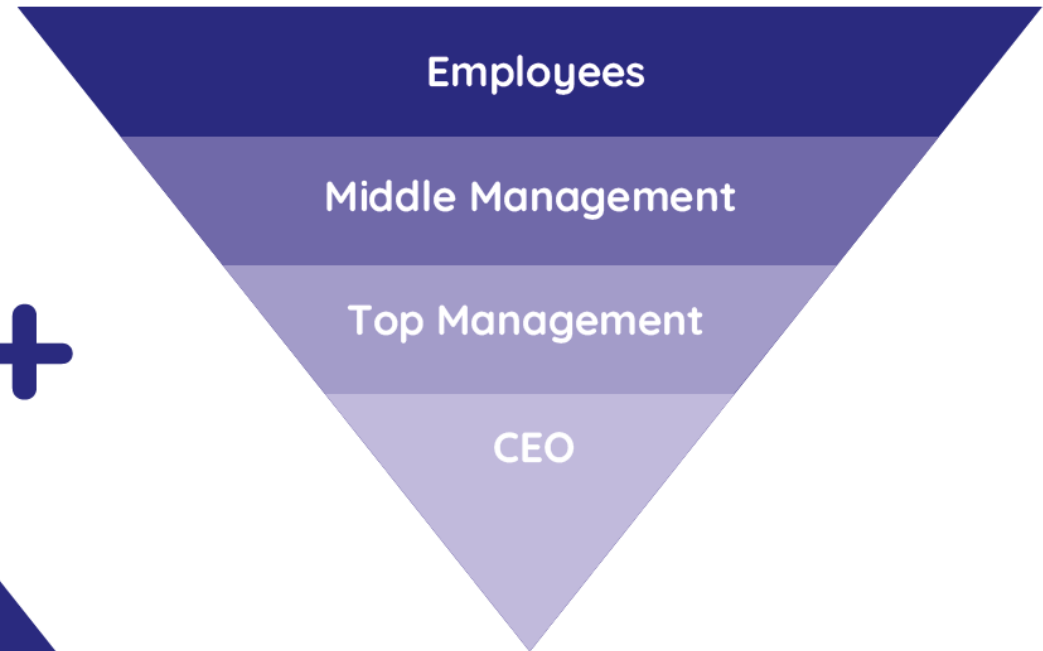
Top management must drive and support Six Sigma

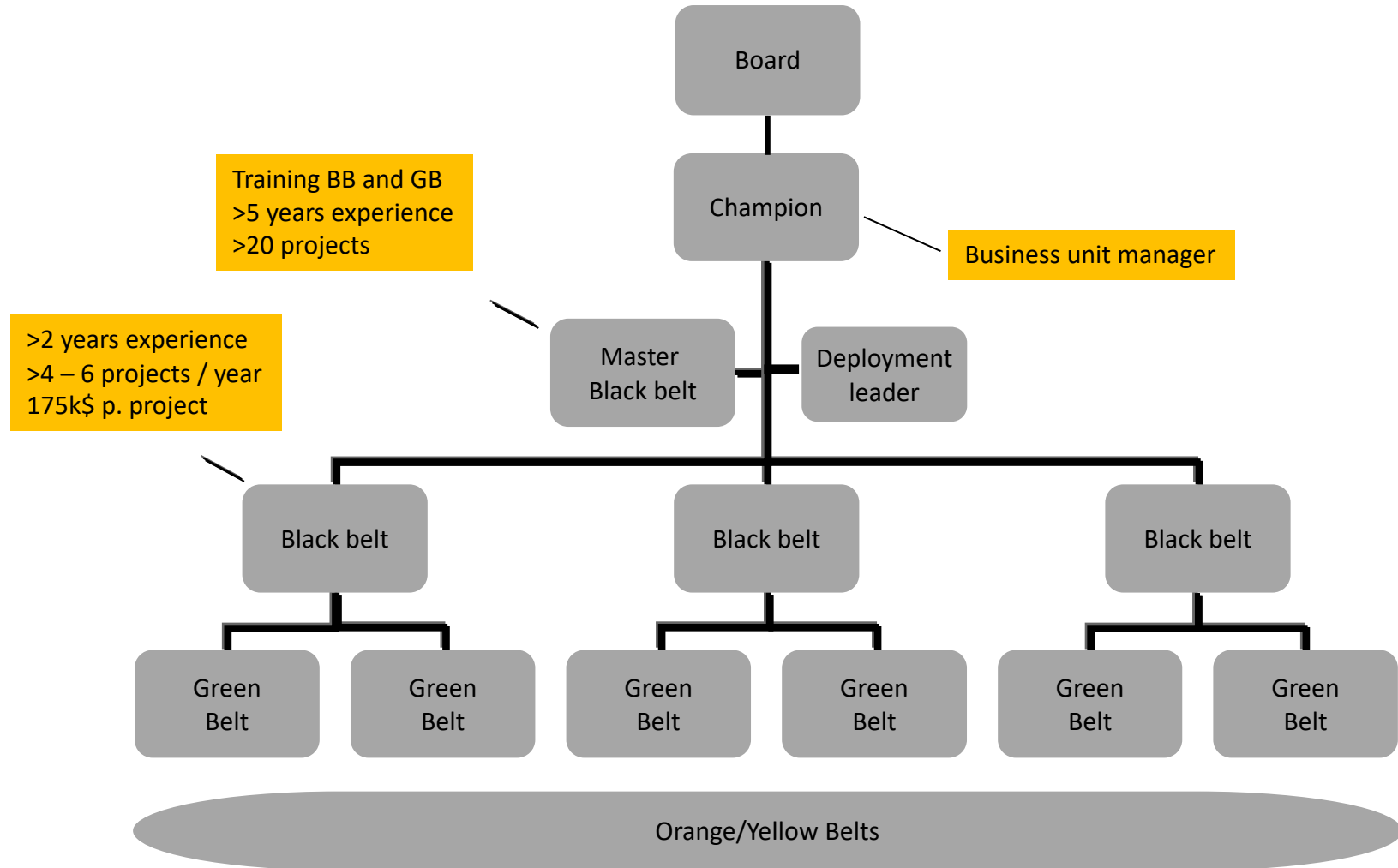


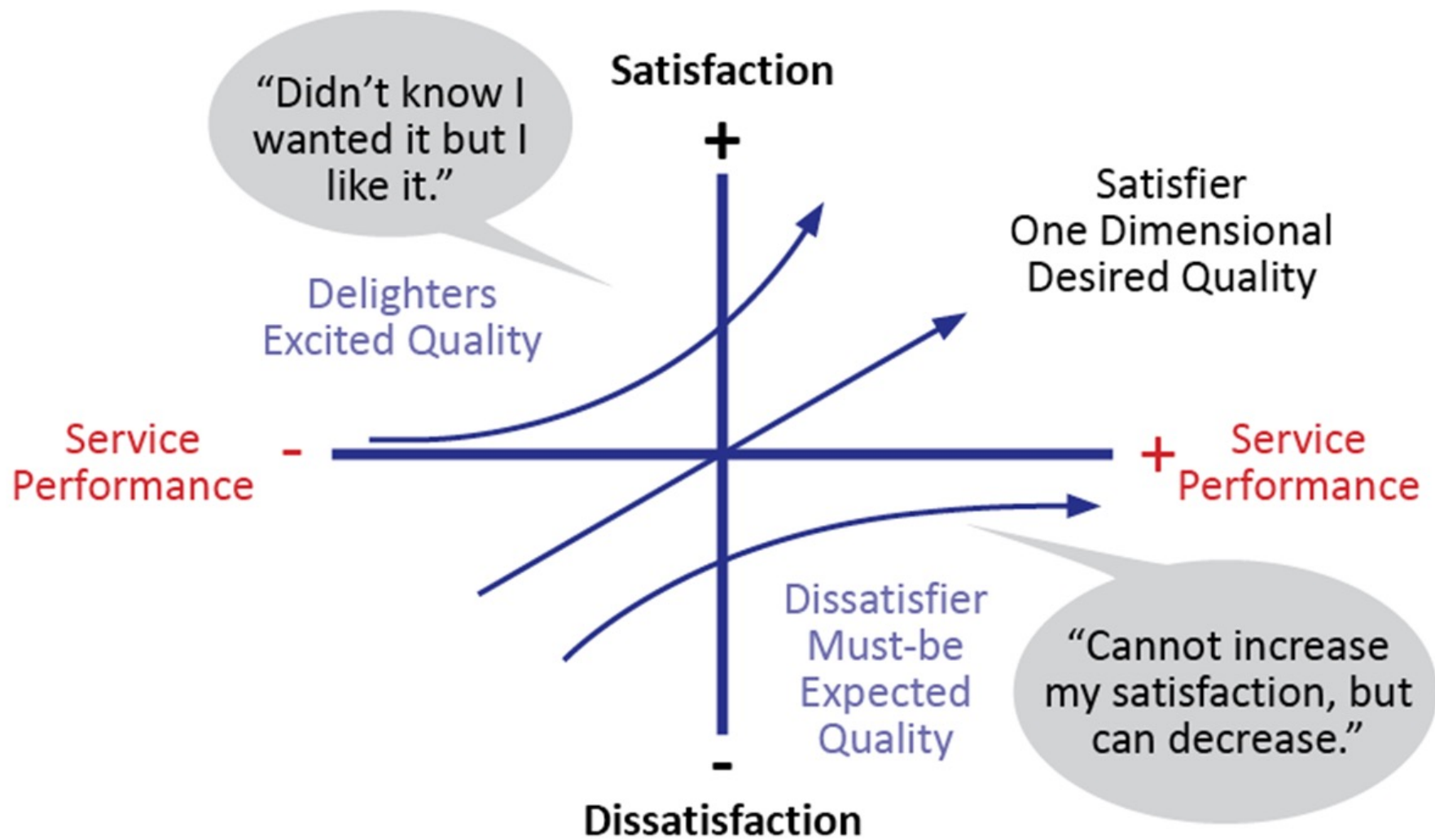
There should be a broad support system throughout the whole organization

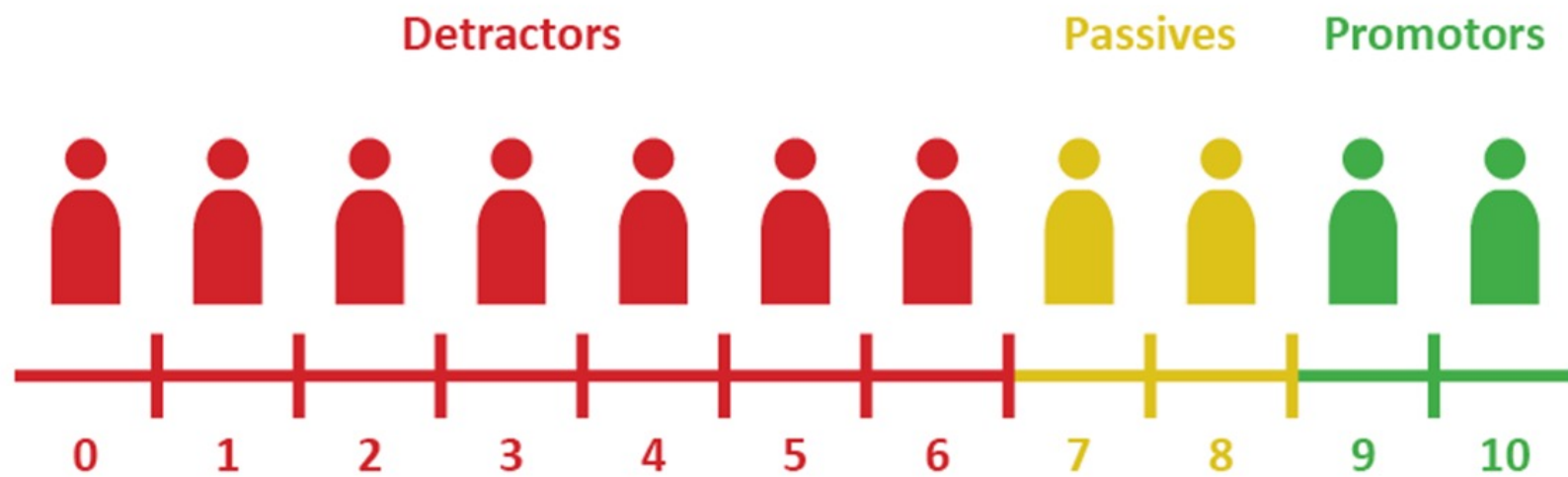


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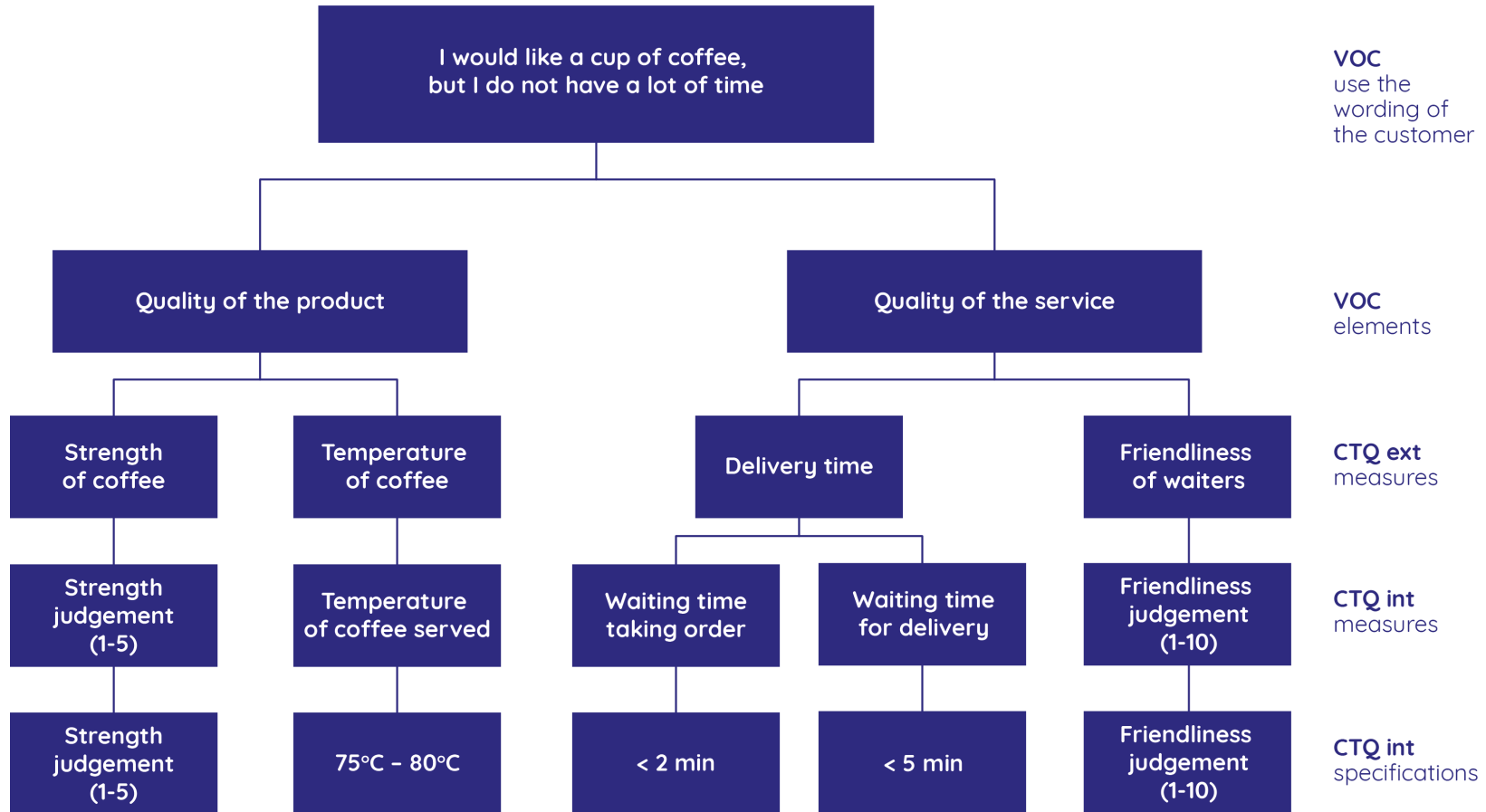
Net Promoter Score

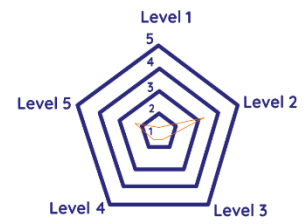
=

% Promoters

-

% Detractors





cimm[™]
Assessment



True North



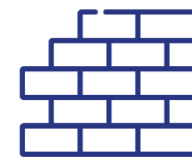
Plan



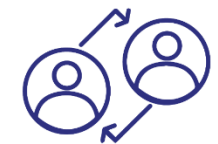
Teams



Project Charters



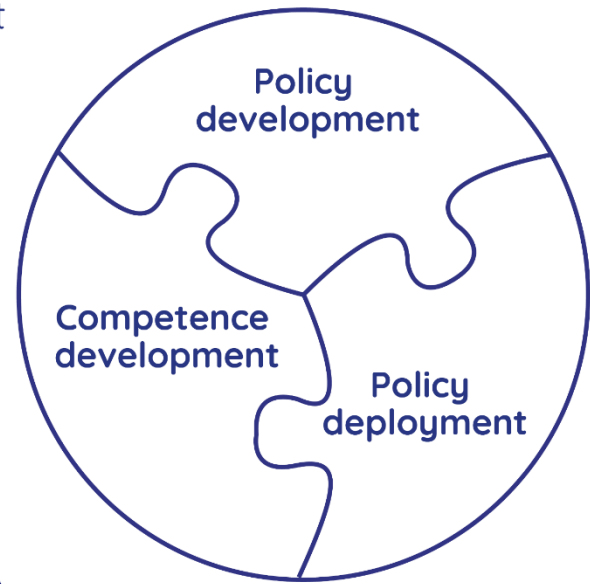
CIMM building blocks

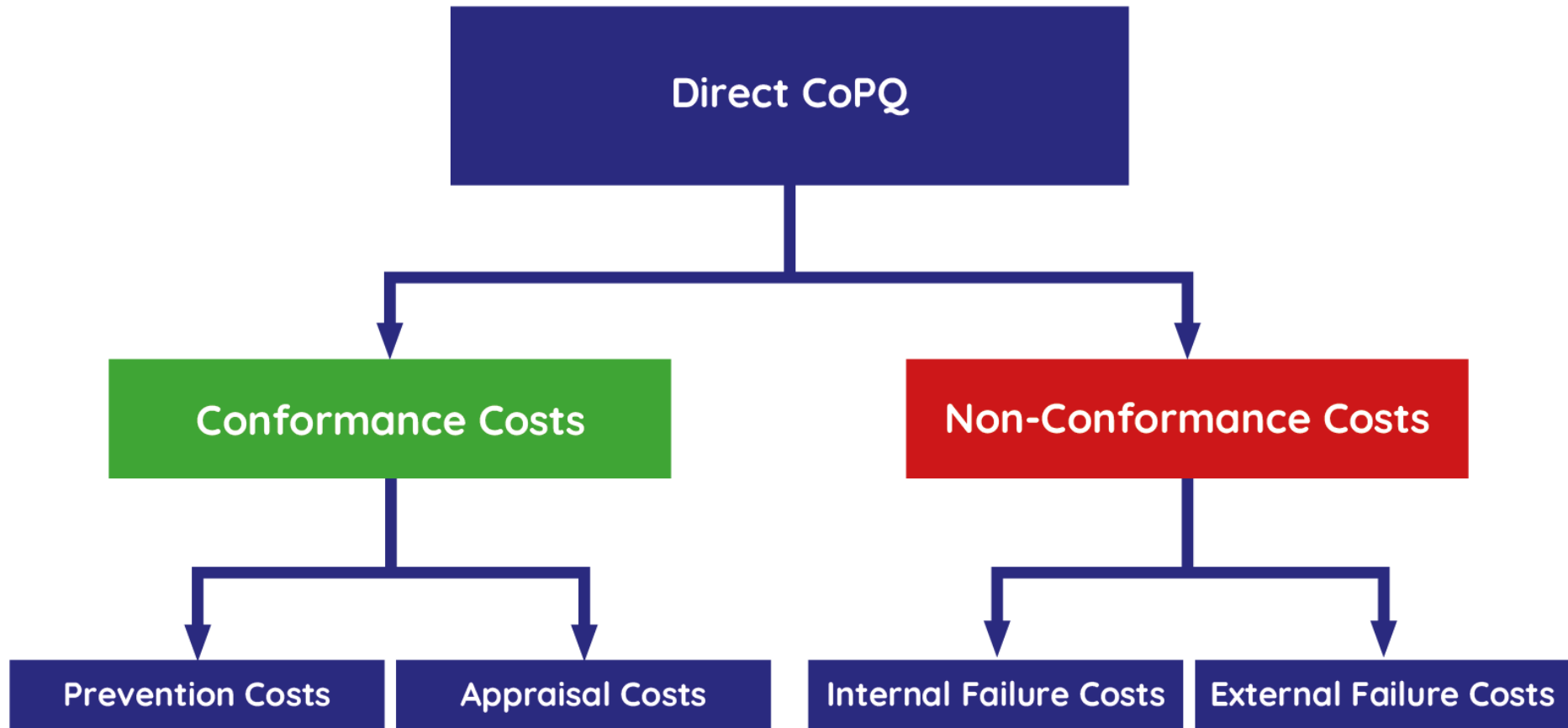


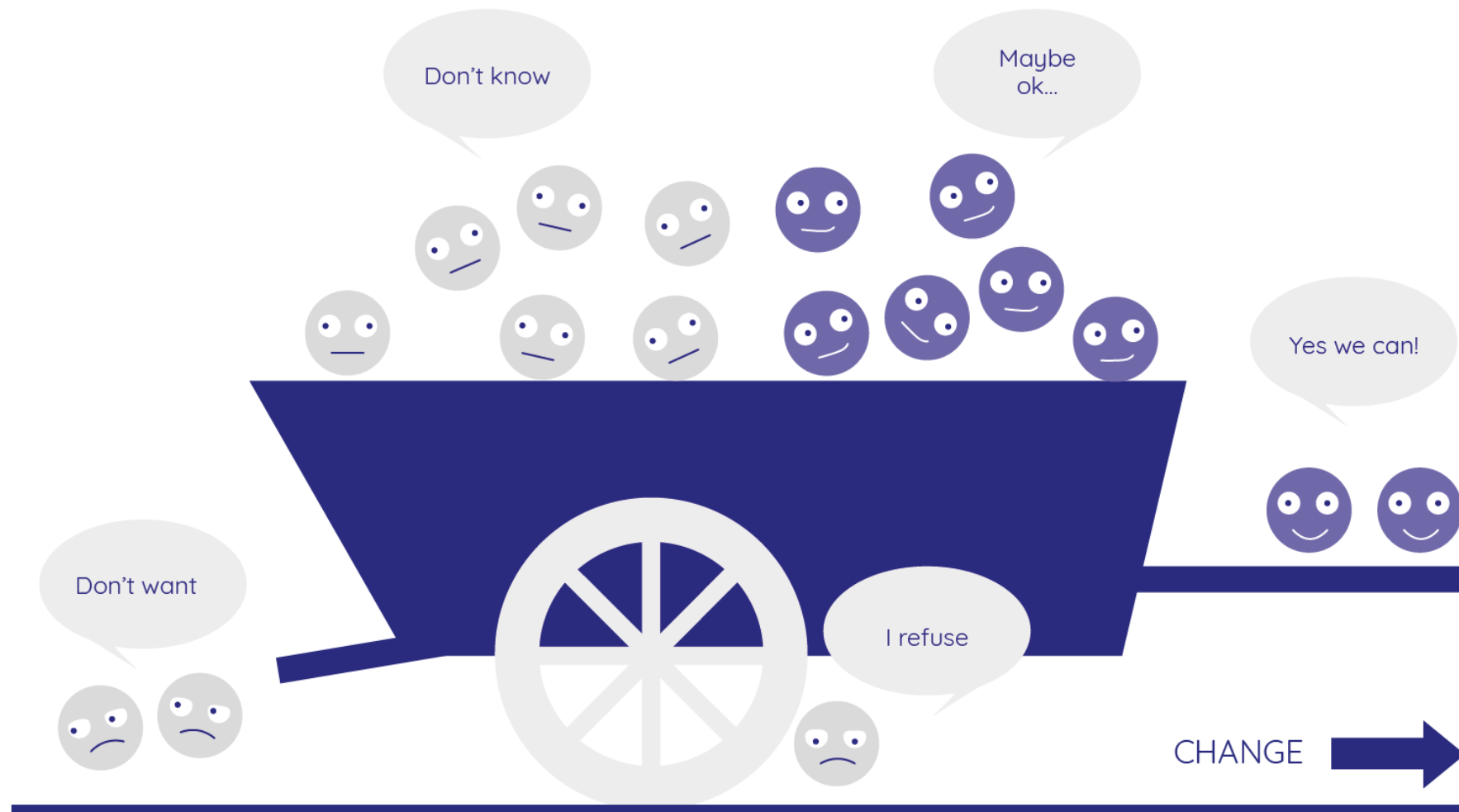
Coaching & Intervention

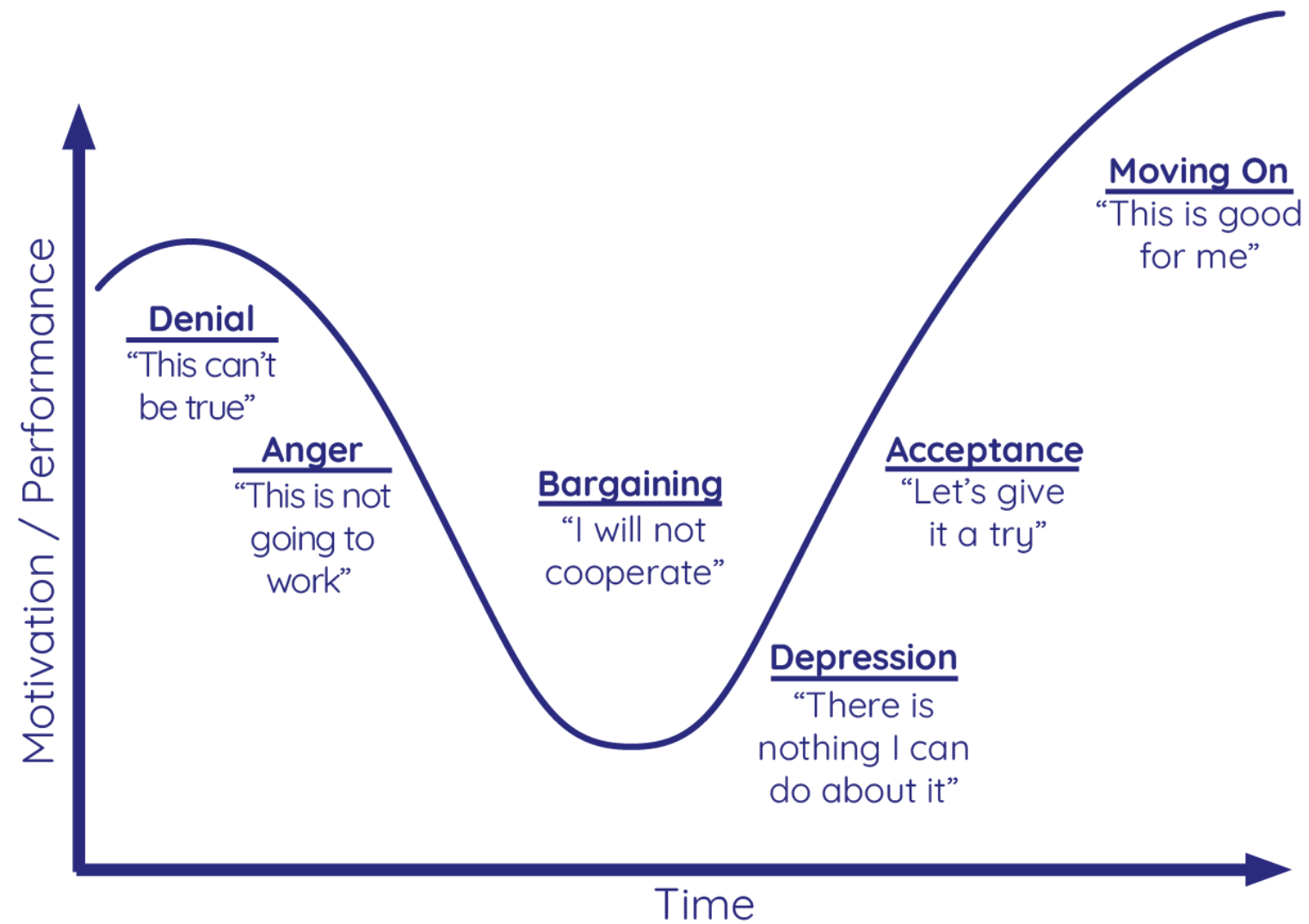


Training

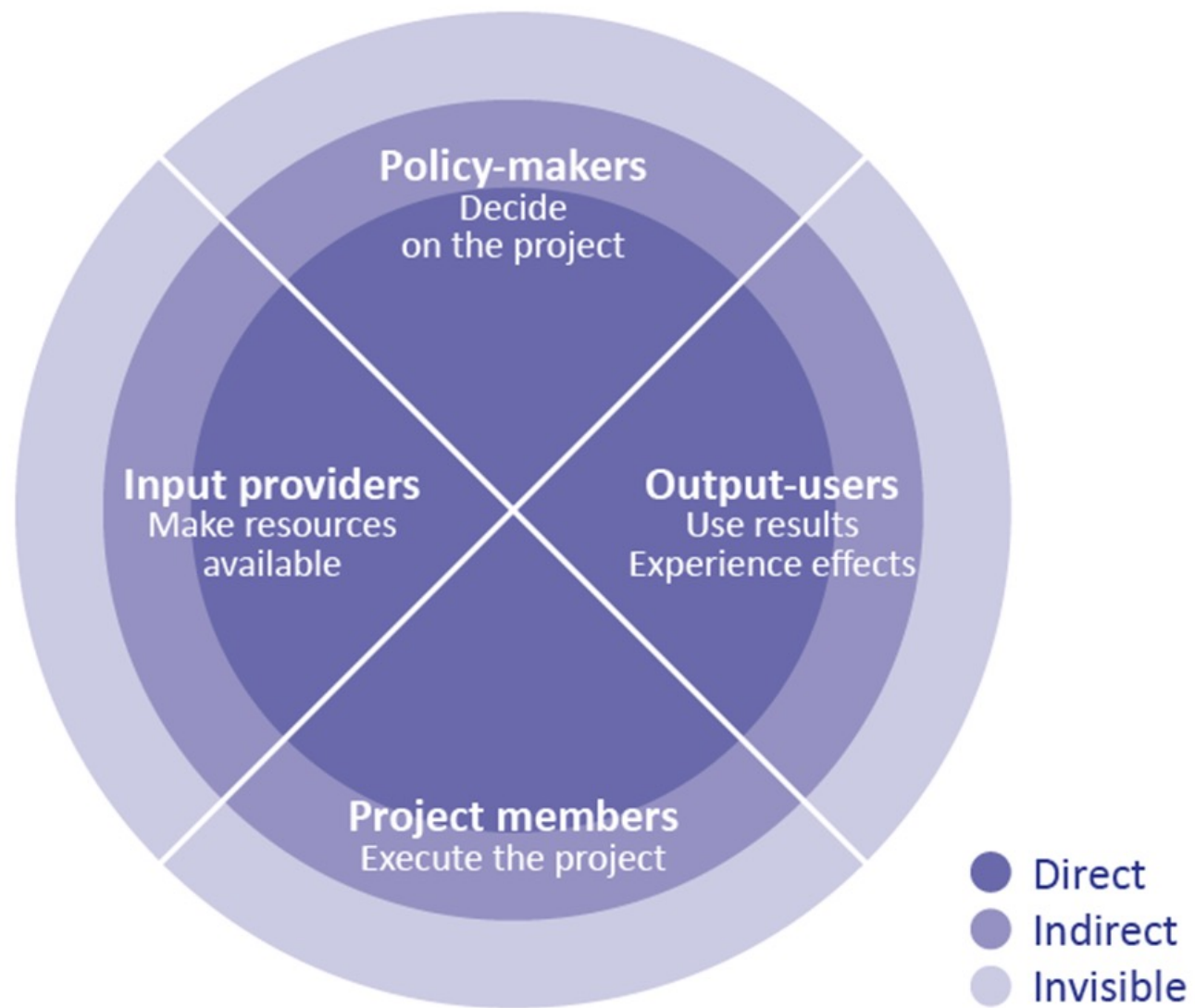






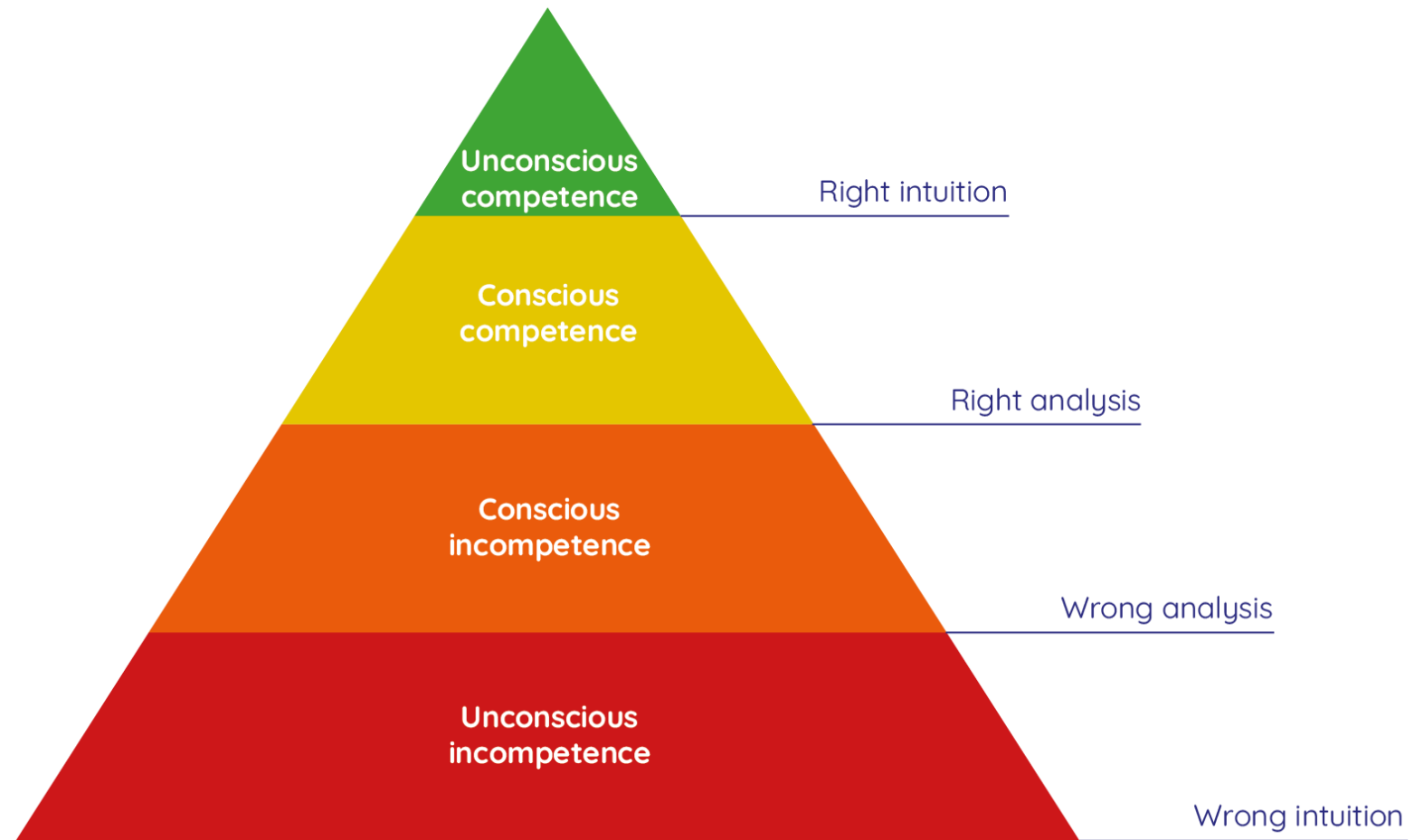


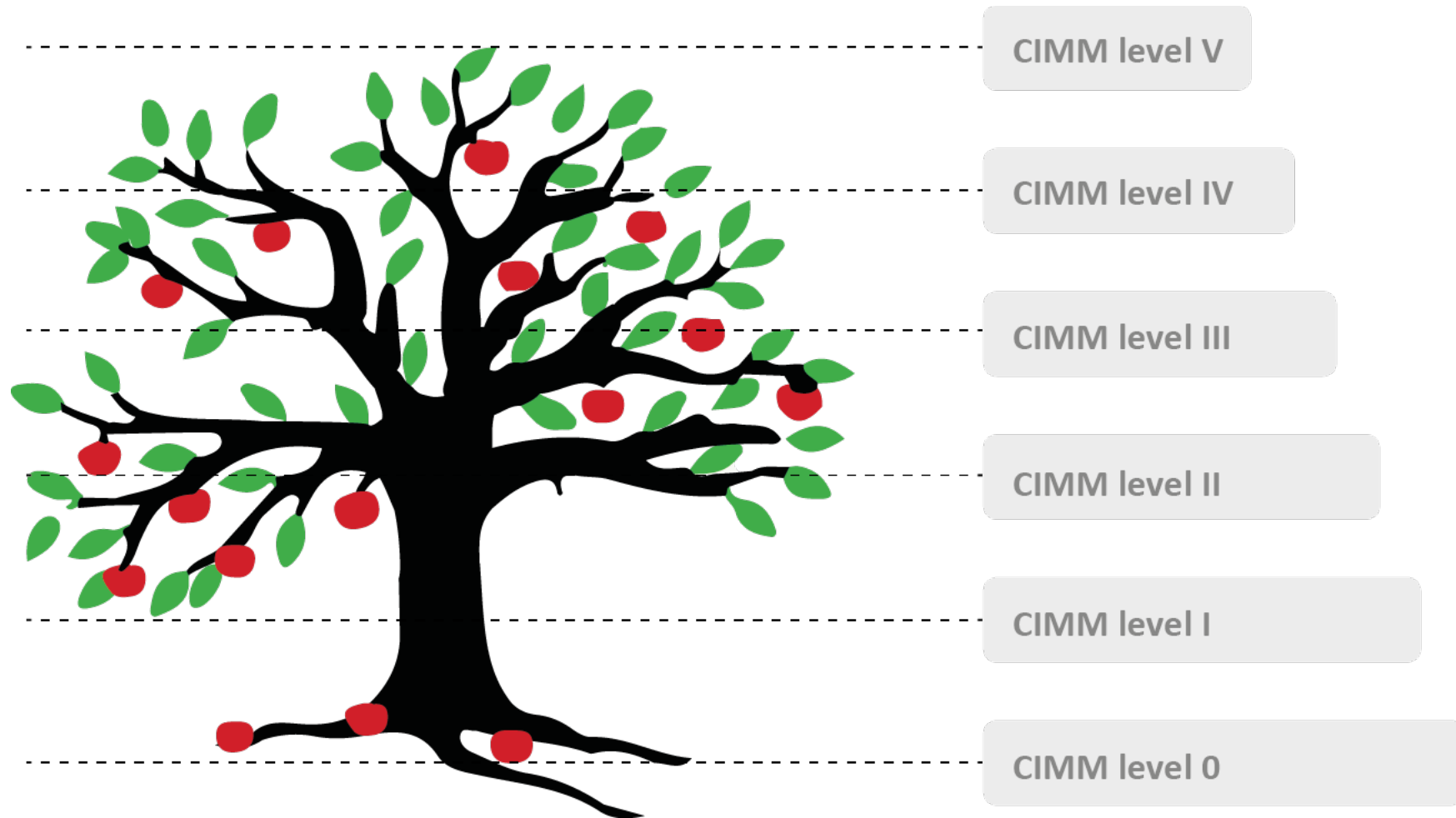


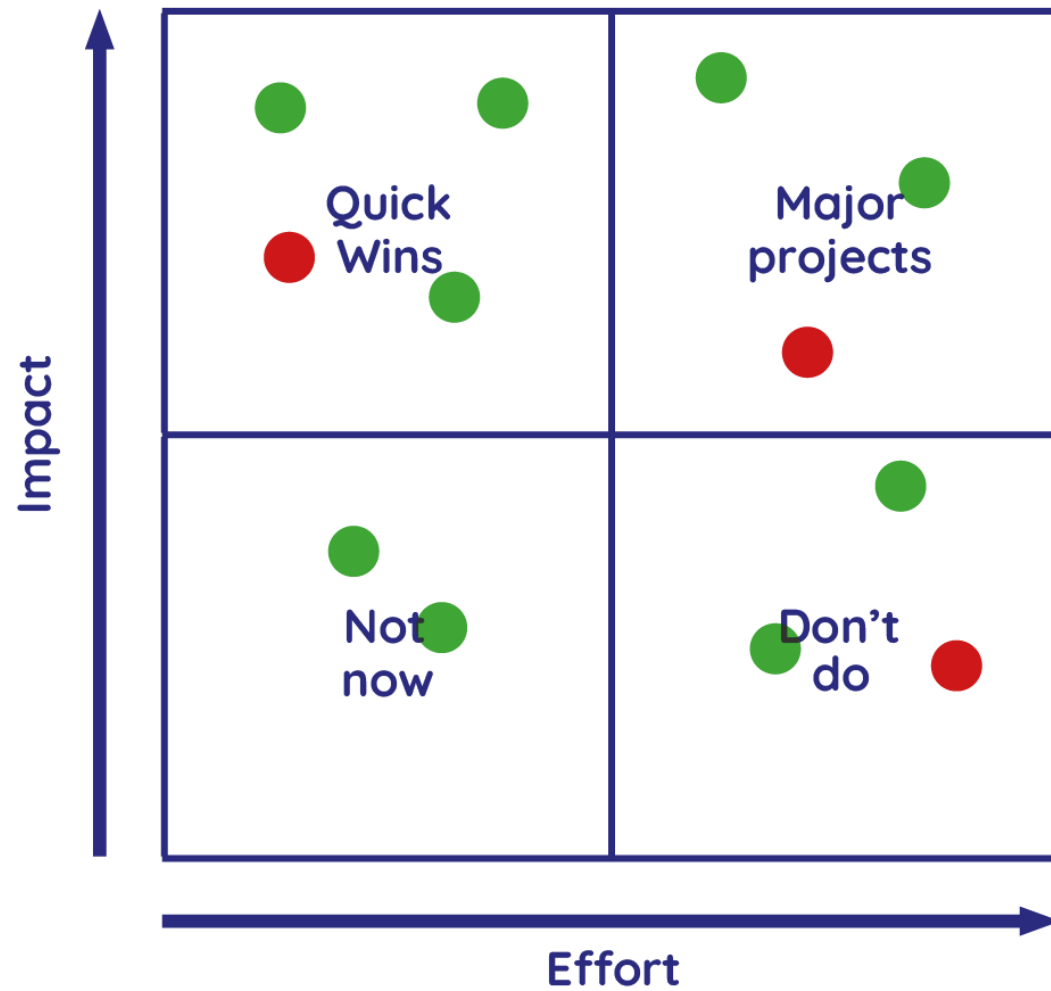


Consensus on content	+	Coalition partner (2)	Coalition partner (2)	Ally (1)
	-/+	Opportunist (4)	Skeptic (3)	Skeptic (3)
	-	Enemy (6)	Opponent (5)	Opponent (5)
		-	-/+	+
		Trust in result		

influence	relationship					
	Ally	Coalition parter	Skeptic	Opportunist	Opponent	Enemy
	much (3)	average (2)	none (1)			
	3	6	9	12	15	18
	2	4	6	8	10	12
	1	2	3	4	5	6





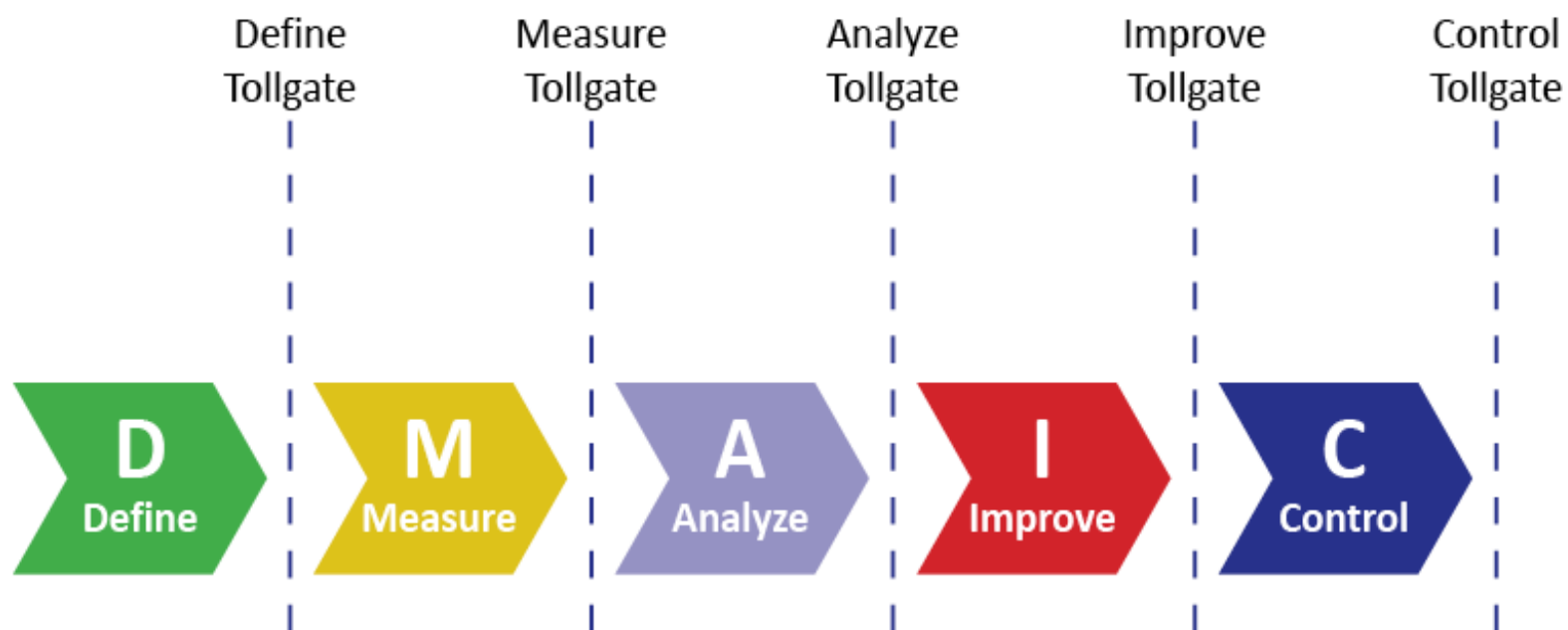


Project Board:



Project Team:

[illegible]



Project: Extruder Engel 4 Team: P. Bronkhorst (Machine owner), H.J. Brok (Project leader), D. Woesteling (Service department)
 Start date: 01-08-20 Current date: 01-09-20 Champion: D. Alferink Operation Manager Type Kaizen: Productivity

Problem Description

Availability loss due to regular use screw puller

Root Cause Analysis

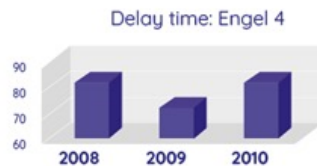
Problem description	Potential causes				
	Why (1)	Why (2)	Why (3)	Why (4)	Why (5)
Exceeded injection time	Does not reach the pressure point	Can't inject material	Remains on core product	Wrong release	Core damage
	Cold material	Fault: the temperature drop	Hydraulic engine runs too tight		

Implementation plan

Main activities	14-sep	15-sep	28-sep	5-okt	12-okt	19-okt
Analyze short stops						
Recover short stops						
Determine the Root Cause						
Solve problems						
Control						
Congratulate team						

Current State

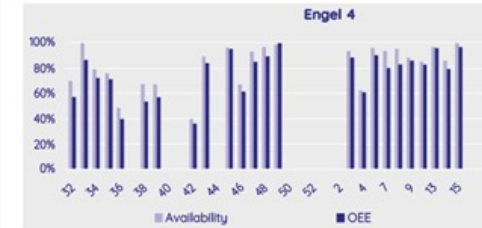
Historical value: Availability 68,8%



Solution

Actions	
Preventive	Corrective
Check the mold for damage	
Mount original Engel engine	

Result



Future State

Purpose: Availability 81%
 Purpose %: Improvement 60%

Measures

- Restoring original condition of machine, clean-up machine, shortned cords from sensors & blowers
- Roughening barrel
- Register checklist
- Check mold every 2 weeks
- Modify header

Lessons Learned

Edit maintenance list together with the technical service departement