

High Performing Cloud Architects

“Micro-teams”
Sander Hoogendoorn

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ENGINEERING



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Collectives and microteams

How we change the way we work. Again

Sander Hoogendoorn

Director at 101 Ways, Chief Architect at Quby

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Next

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Independent dad, post-agile coach,
programmer, speaker, author, traveler

Currently

Director 101 Ways, Chief Architect Quby

Before

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CTO Klaverblad Verzekeringen

Global agile thoughtleader Capgemini

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ways

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A short history of thinkers and workers

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Craftsmanship

Organizing work
in earlier days

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Industrialization changed everything

Even the way
we do our work today

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Thinkers and workers

Efficiency through
standardization and
simplification

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"Building" software
Using the wrong metaphors

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Software development as an assembly line

We **build** software
Centralized decision
making
Detailed linear processes
Thinkers versus doers
Micro-management of
individual tasks
Little creativity

[Read more ...](#)



Linear software development

Computer Services	Prepares Data Requirements Document.
ADP Security	Participates in review of Data Requirements Document, and uses information for capacity planning.
Project Data Administrator	Provides input to the data requirements analysis (optional). Supports generation of application requirements. Adds application-specific entities or objects to the application data model originally taken from the enterprise-wide data model.

De digitalisering van de rechtspraak moet opnieuw worden gedaan, maar dan minder ambitieus. Digitaal procederen komt er voorlopig niet. Het huidige digitaliseringsproject Kwaliteit en Innovatie (KEI) wordt stopgezet. [Dat schrijft](#) de Raad voor de rechtspraak, de organisatie van de rechterlijke macht, aan minister Sander Dekker (Rechtsbescherming, VVD).

Het project kostte tot nu toe zo'n 220 miljoen euro, een overschrijding van ruim 200 miljoen van de oorspronkelijke begroting van 7 miljoen euro.

- Precision (e.g., number of decimal places)
- Data item names, abbreviations, and codes
- Characteristics, such as precision, accuracy, timing, and capacity

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The Times They Are a-Changin'

Much faster than you think

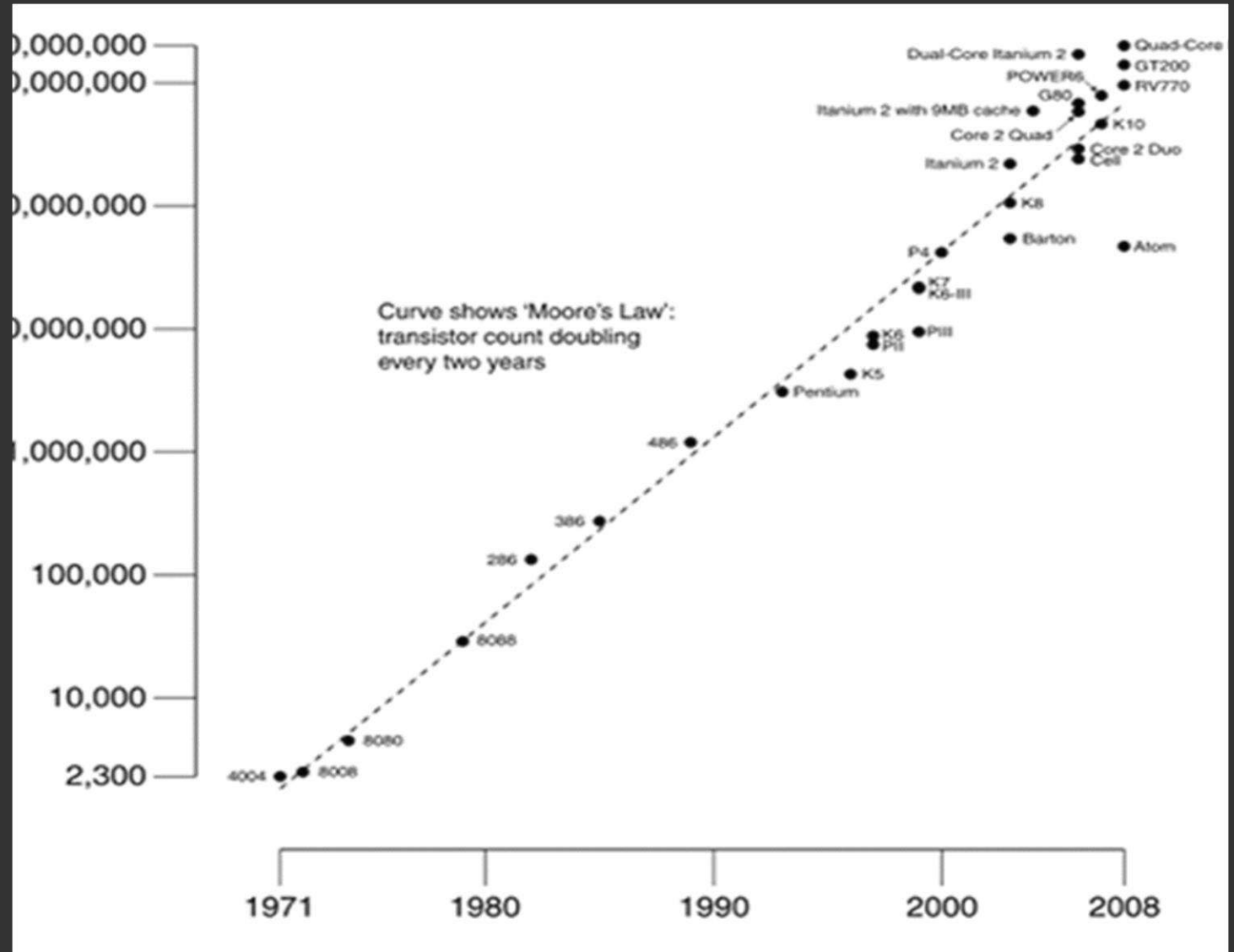
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Moore's Law

The number of transistors in a dense integrated circuit doubles approximately every two years.

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1954



The IBM Personal Computer 5150

The simplest configuration has 16K on-board RAM and uses an audio cassette to load and save data. A floppy drive is optional. A hard drive was not supported.

A system for home or school with a memory of 64K bytes, a single diskette drive and its own display, was priced around \$3,000.

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Amazon EC2

Then, in 2006, Amazon launched its Elastic Compute cloud (EC2) as a commercial web service that allows small companies and individuals to rent computers on which to run their own computer applications.

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About disruption

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Fintech challenges

Payments

Personal Finance & Planning

Insurance

Risk & Compliance

Consumer Lending

Asset Management

DLT & Cryptocurrencies

monzo

The bank of the future

This isn't banking as you know it. More everyone, that works with you, for you

Join today for your own UK current account

Missing your logo?
Let us know! hollandfintech.com/infographic
Version January 2018 © Holland FinTech

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N26

Bank Account Black Pricing Support

BUSINESS INSIDER

TECH INSIDER

The best low-cost airline in the world is taking on Amazon and international banking

Benjamin Zhang · Nov. 18, 2017, 9:37 AM · 8,371

ING ziet grootste dreiging in Amazon

Het grootste gevaar voor de bankenwereld komt niet van start-ups maar van technologie-reuzen als Apple en Amazon, zegt ING-CEO Ralph Hamers.

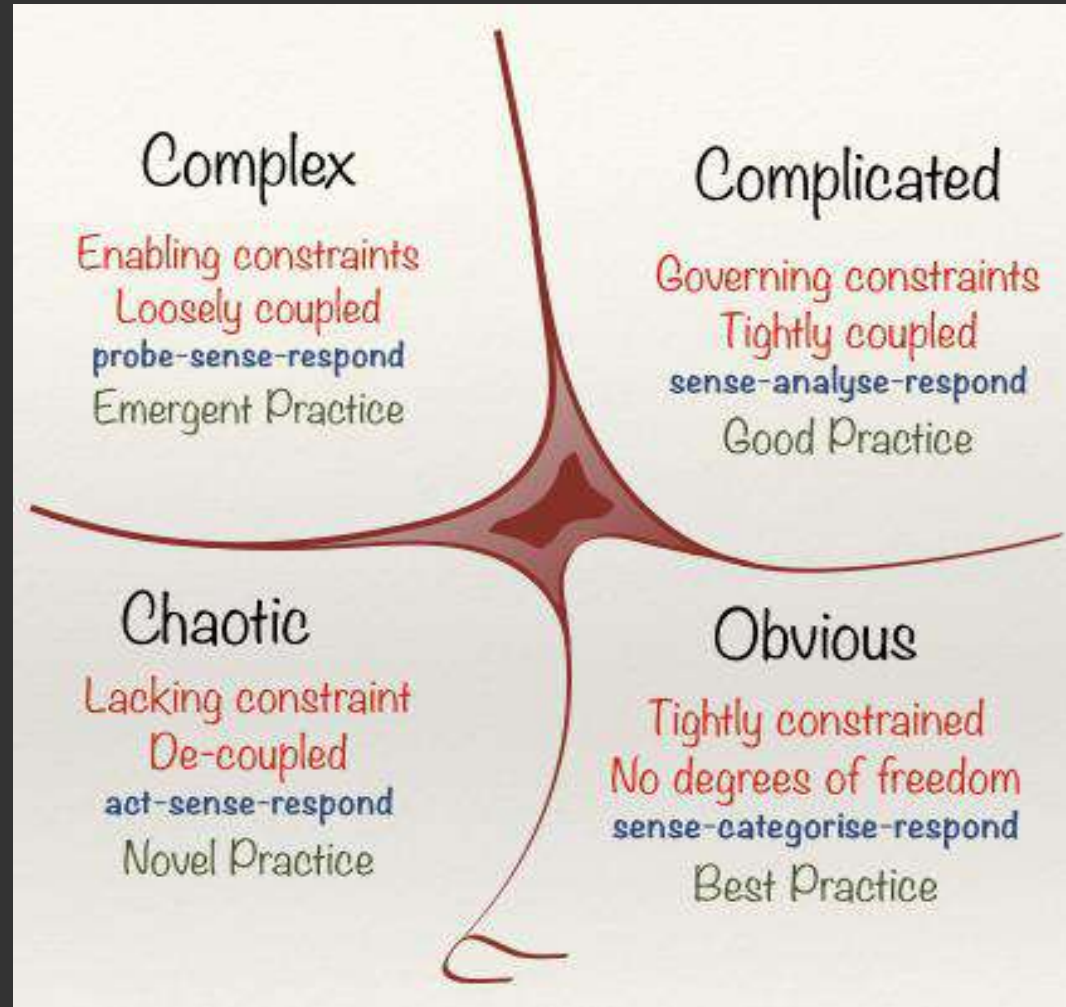
Fintech, kleine start-ups die de financiële we-

AirAsia CEO Tony Fernandes (Left) with Airbus COO Fabrice Bregier.

AirAsia is the best low-cost airline in the world.

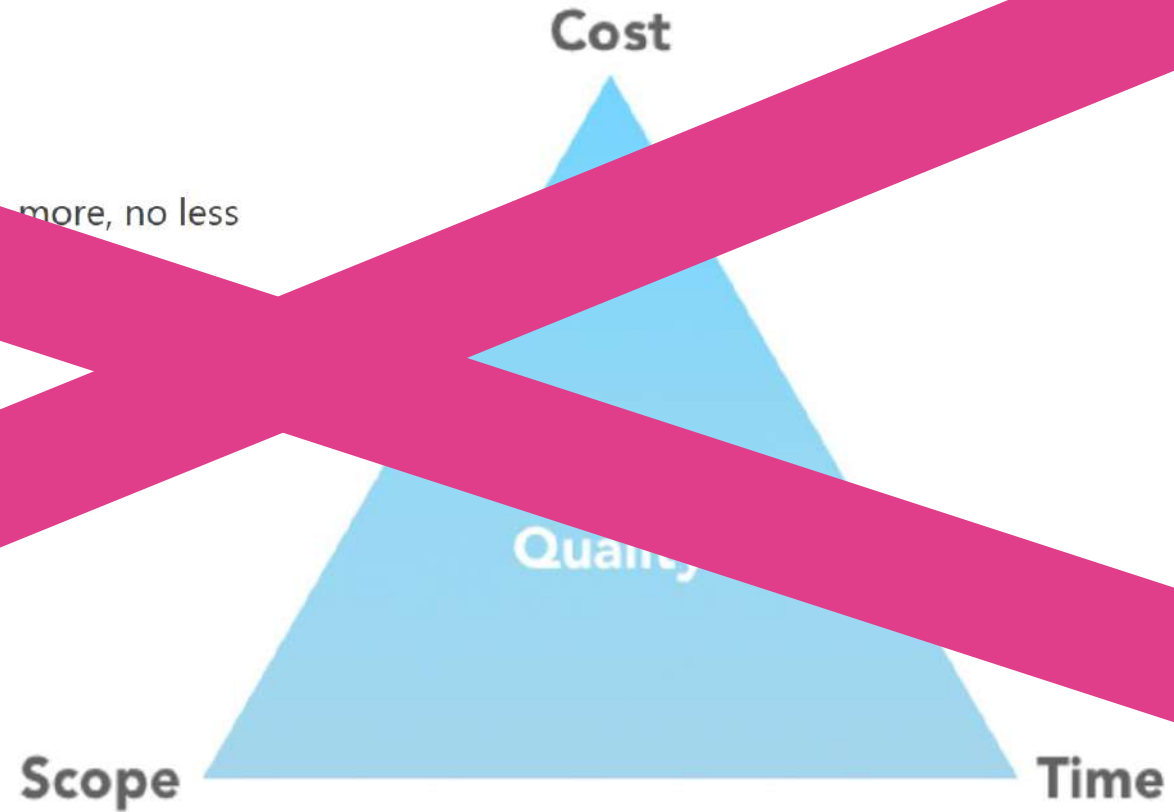
CEO Tony Fernandes wants to shift the

Complex problems require continuous exploration



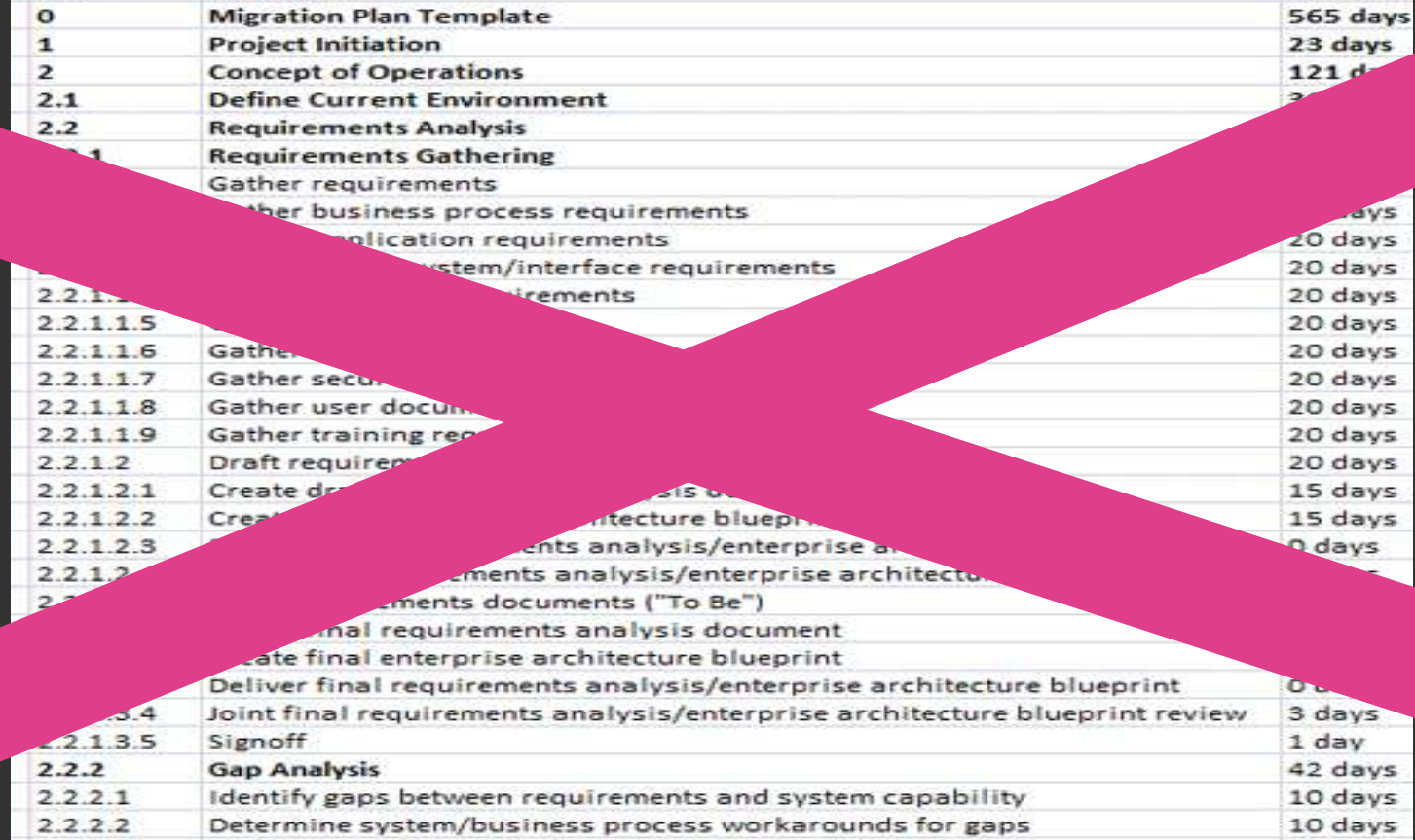
The iron triangle of project management?

- Projects must be delivered within cost
- Projects must be delivered on time
- Projects must meet customer requirements, more, no less
- Projects must also meet customer expectations




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Detailed planning?



WBS	Task Name	Duration
0	Migration Plan Template	565 days
1	Project Initiation	23 days
2	Concept of Operations	121 days
2.1	Define Current Environment	30 days
2.2	Requirements Analysis	100 days
2.2.1	Requirements Gathering	100 days
2.2.1.1	Gather requirements	20 days
2.2.1.1.1	Gather business process requirements	20 days
2.2.1.1.2	Gather application requirements	20 days
2.2.1.1.3	Gather system/interface requirements	20 days
2.2.1.1.4	Gather data requirements	20 days
2.2.1.1.5	Gather security requirements	20 days
2.2.1.1.6	Gather user requirements	20 days
2.2.1.1.7	Gather security requirements	20 days
2.2.1.1.8	Gather user documentation requirements	20 days
2.2.1.1.9	Gather training requirements	20 days
2.2.1.2	Draft requirements analysis document	20 days
2.2.1.2.1	Create draft requirements analysis document	15 days
2.2.1.2.2	Create draft enterprise architecture blueprint	15 days
2.2.1.2.3	Create draft requirements analysis/enterprise architecture blueprint	0 days
2.2.1.2.4	Create draft requirements analysis/enterprise architecture blueprint	0 days
2.2.1.2.5	Create draft requirements analysis/enterprise architecture blueprint	0 days
2.2.1.2.6	Create draft requirements analysis/enterprise architecture blueprint	0 days
2.2.1.2.7	Create draft requirements analysis/enterprise architecture blueprint	0 days
2.2.1.2.8	Create draft requirements analysis/enterprise architecture blueprint	0 days
2.2.1.2.9	Create draft requirements analysis/enterprise architecture blueprint	0 days
2.2.1.3	Final requirements analysis document	0 days
2.2.1.3.1	Create final requirements analysis document	0 days
2.2.1.3.2	Create final enterprise architecture blueprint	0 days
2.2.1.3.3	Create final requirements analysis/enterprise architecture blueprint	0 days
2.2.1.3.4	Joint final requirements analysis/enterprise architecture blueprint review	3 days
2.2.1.3.5	Signoff	1 day
2.2.2	Gap Analysis	42 days
2.2.2.1	Identify gaps between requirements and system capability	10 days
2.2.2.2	Determine system/business process workarounds for gaps	10 days
2.2.2.3	Determine high level customization to address gaps	5 days

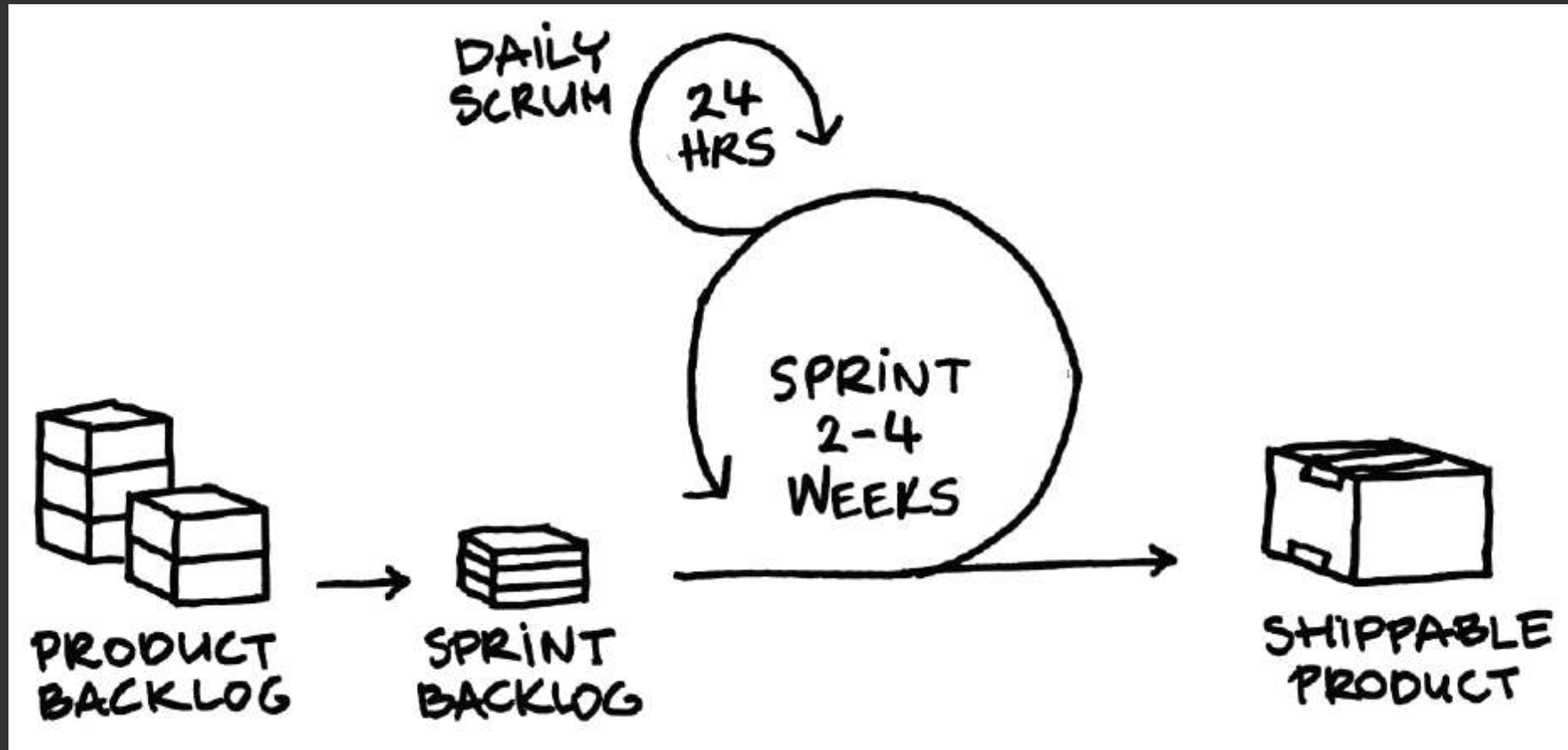
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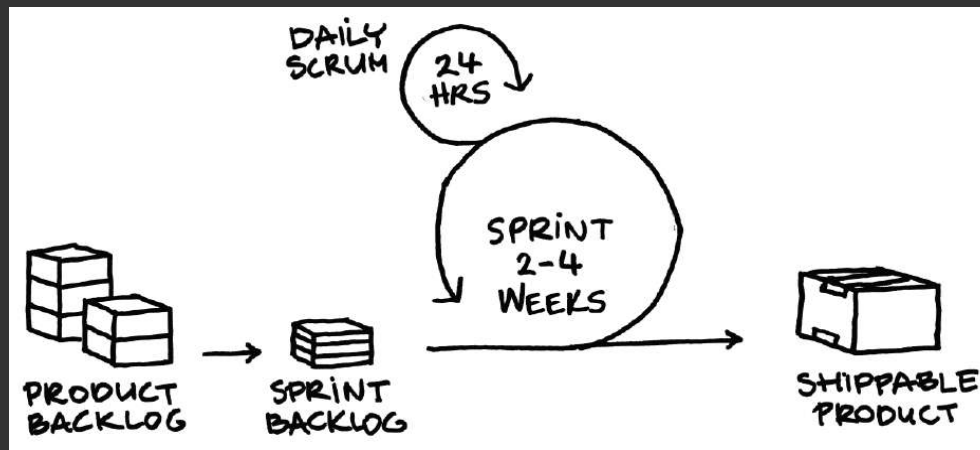
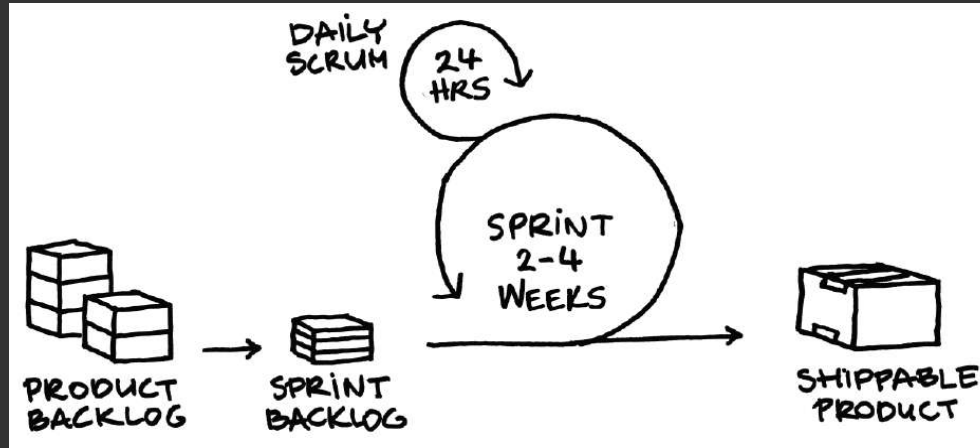
*The framework
doesn't work*

What does being agile really mean?



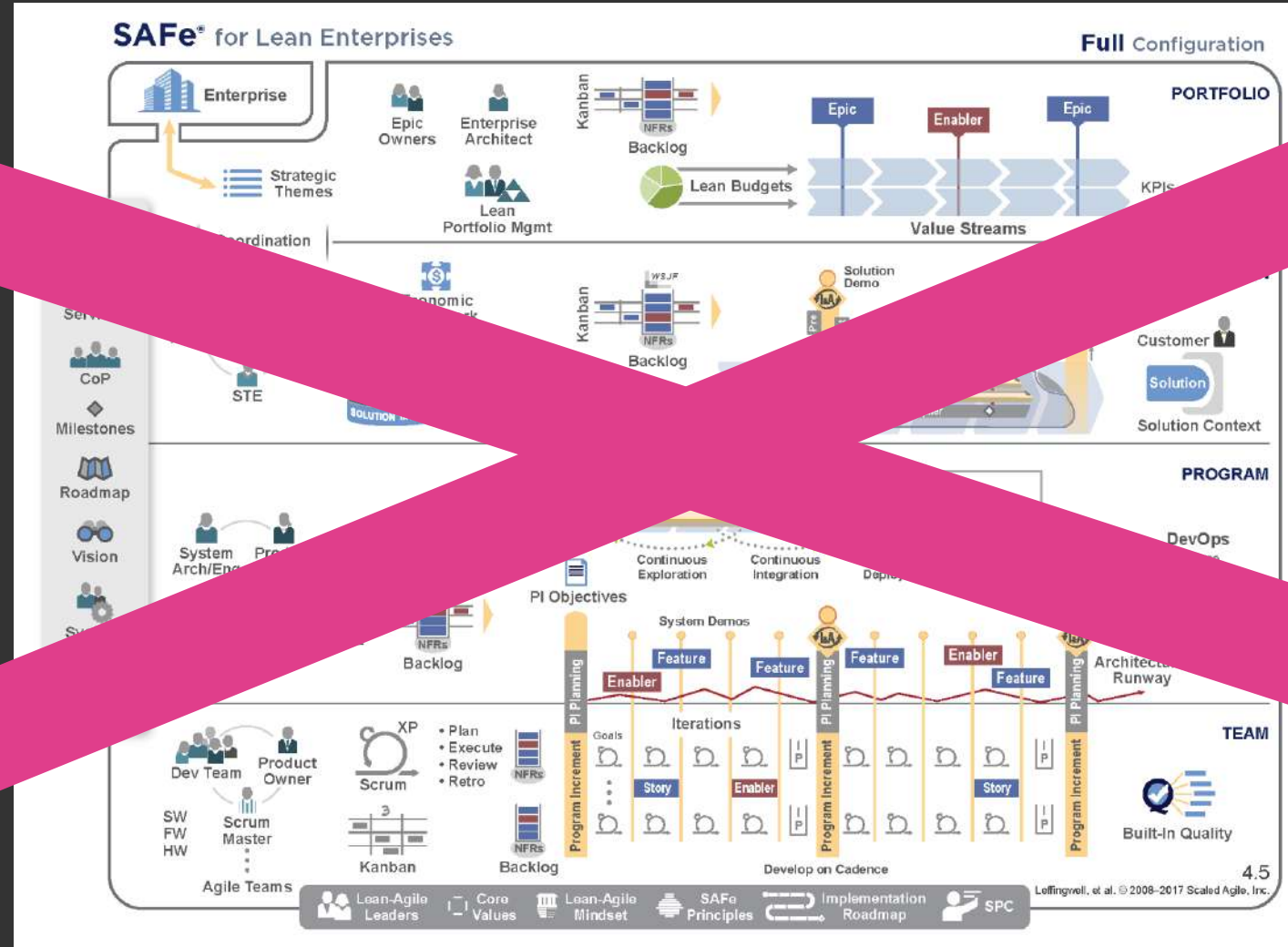
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Does agile scale?

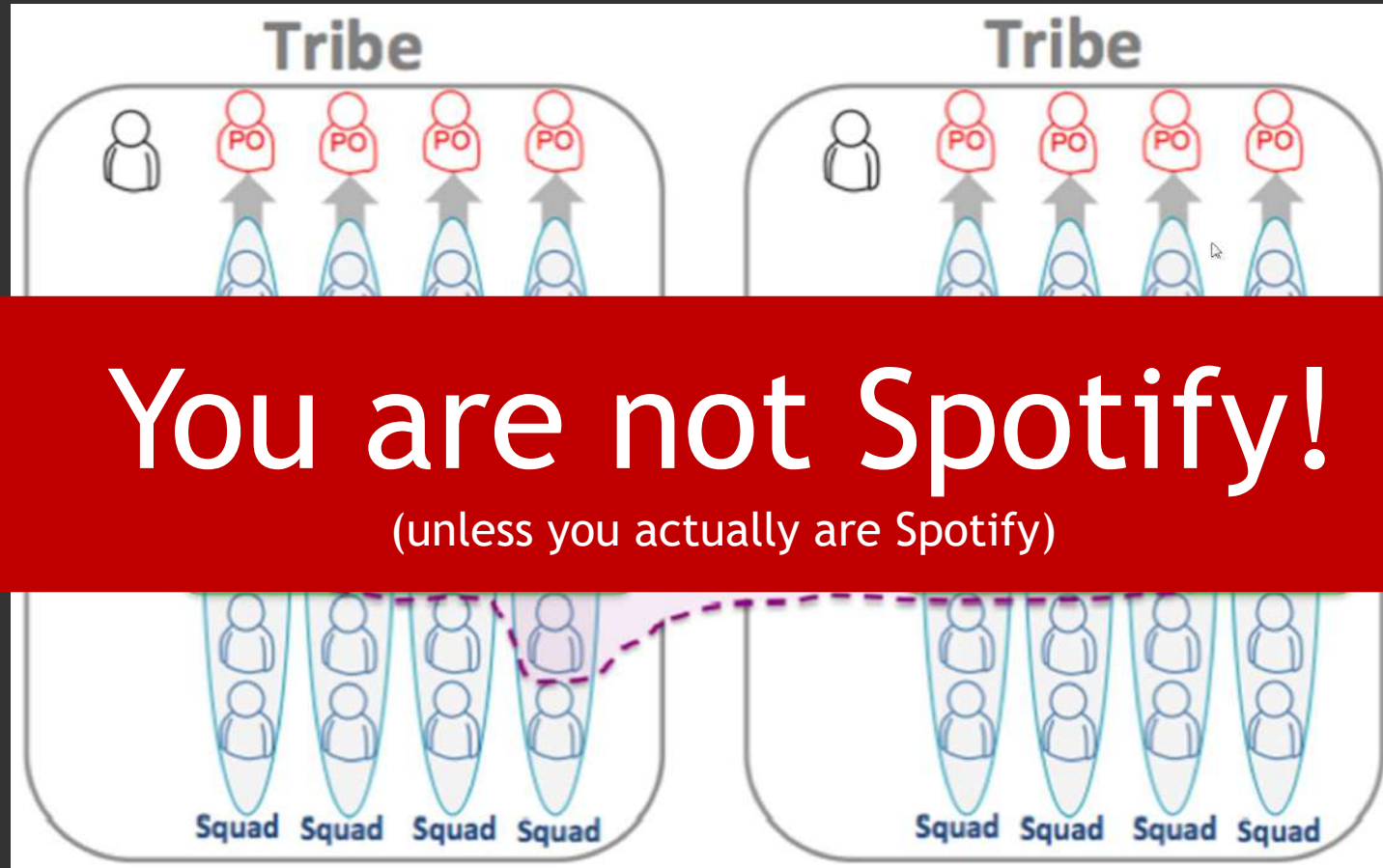


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Enterprise agile transformations?



Let's all copy Spotify!



You are not Spotify!

(unless you actually are Spotify)

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*Find your
own way!*

Don't just copy
someone else's model

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Traditional agile does not solve modern problems

Optimize for speed, agility and adaptability

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Issue 0 Autonomy and self-organization



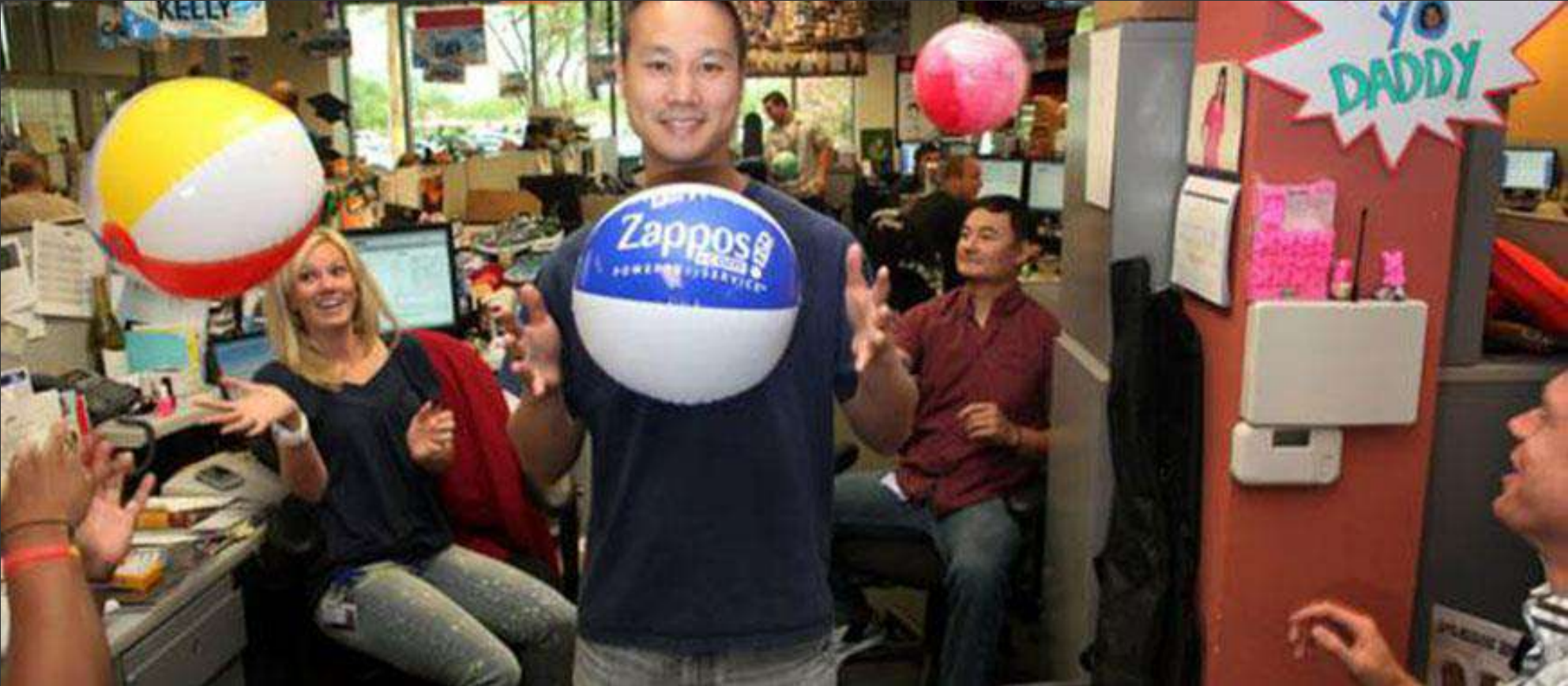
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Autonomy at work

Decide
what to do,
when to do it
and how to do it

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Autonomous teams?



[Click here](#)

Mandatory fun



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Self-organization is hard



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How to draw an owl

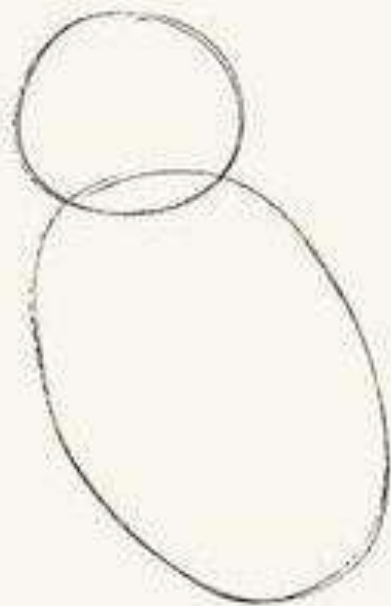


Fig 1. Draw two circles



Fig 2. Draw the rest of the damn Owl

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Less rules

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Medan, Indonesia. September 2018



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De Meern, The Netherlands. July 2018



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Issue 1

9-to-5
doesn't really work

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Issue 2

The programmers mind

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Edsger Dijkstra

The programmer has to be able to think in terms of conceptual hierarchies that are much deeper than a single mind ever needed to face before.

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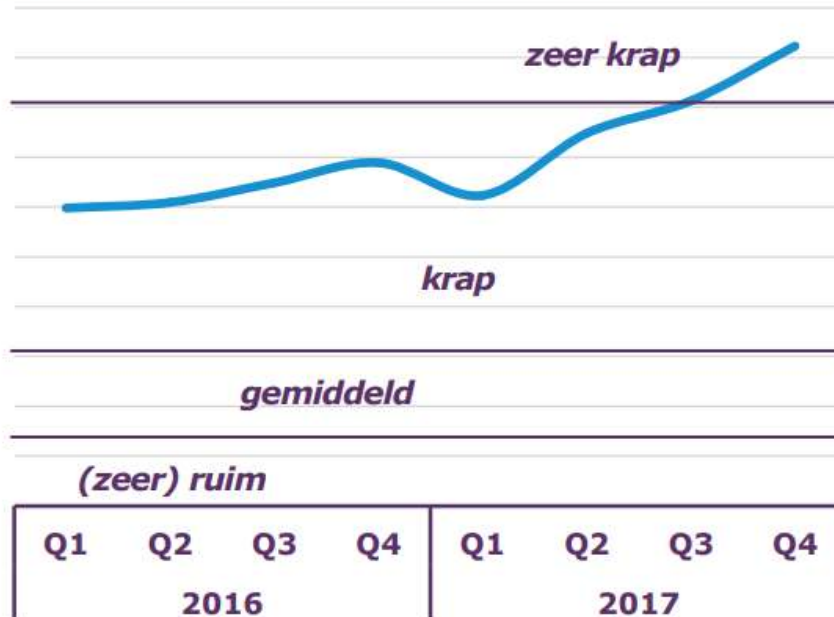
Issue 3

Low availability
of “resources”

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Low availability

Ontwikkeling spanning ict-arbeidsmarkt 2016-2017, spanningsindicator UWV



Bron: UWV

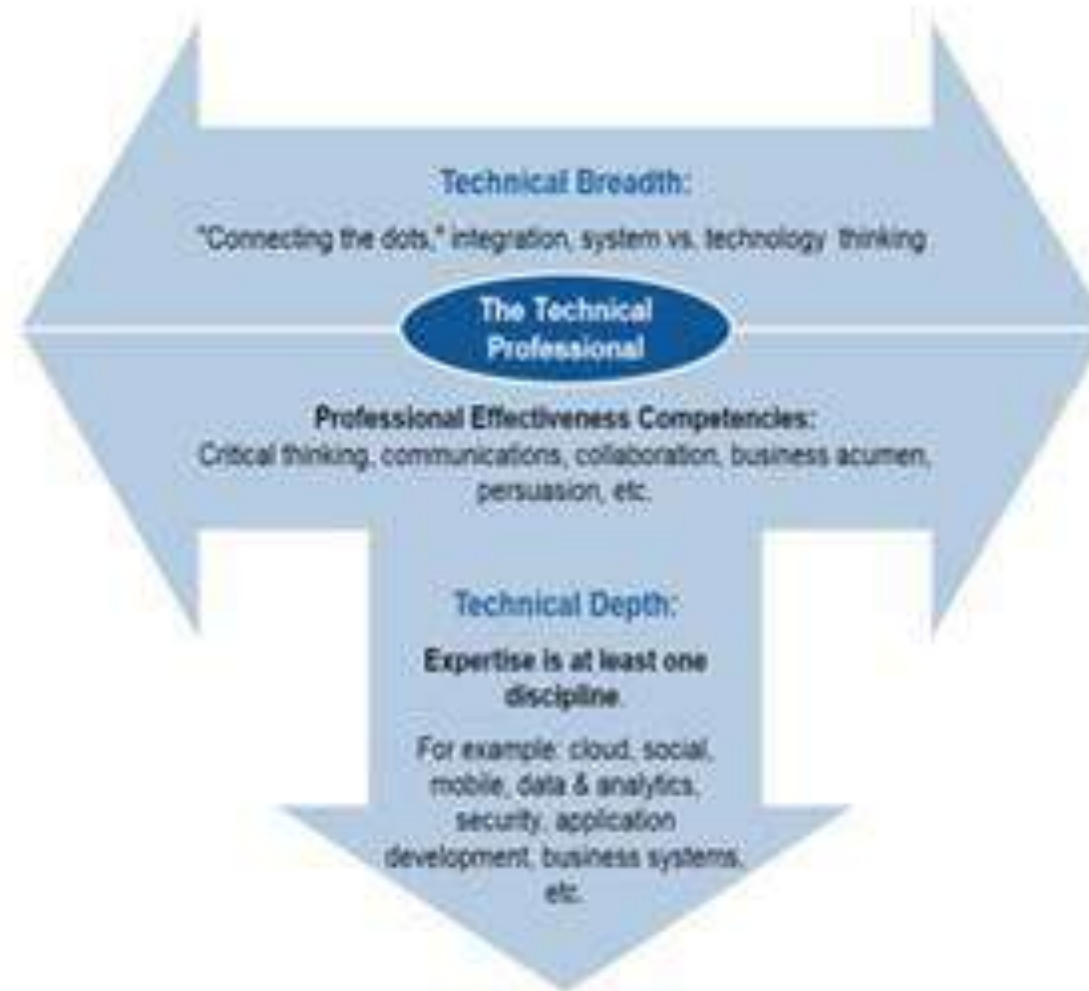
Een zeer krappe arbeidsmarkt

De spanning op de ict-arbeidsmarkt loopt verder op. In de tweede helft van 2017 is er zelfs sprake van een **zeer krappe arbeidsmarkt**. Geen enkele andere beroepsrichting kent zo'n sterke mate van krapte. Hoe krappere de arbeidsmarkt, hoe minder kortdurend werkzoekenden er beschikbaar zijn per openstaande vacature.

Een zeer krappe arbeidsmarkt voor ict'ers betekent **grote wervingsproblemen** voor werkgevers.

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The T-shaped professional





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Issue 4

Communication
is hard

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Too many meetings, too many rituals

Sprint planning

Refinement sessions

Daily stand-ups

Management meetings

Informal management meetings

Demo's

Retrospectives

Release focus periods

Lots of wacky video calls

Backlog grooming

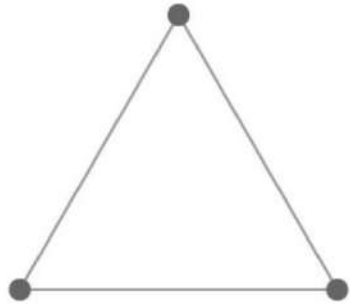
T-shirt sizing

Open floor plans didn't work for everybody

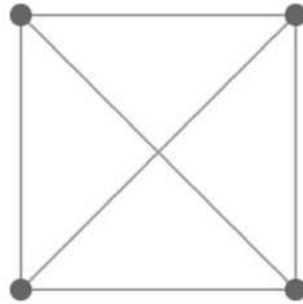
Managers where managing processes (again)

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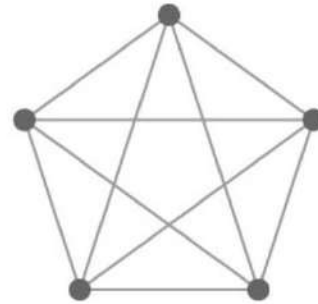
Clear communication is Key



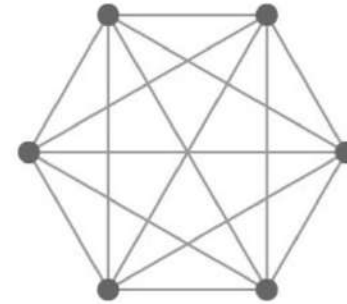
3 people, 3 lines



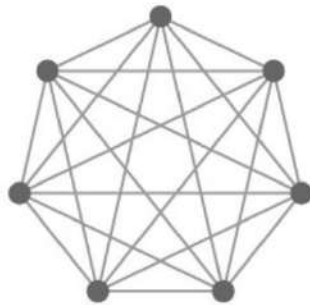
4 people, 6 lines



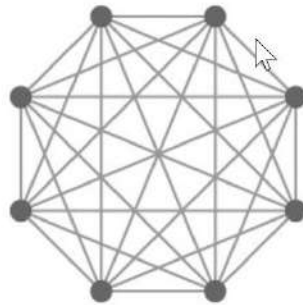
5 people, 10 lines



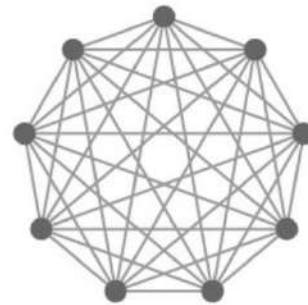
6 people, 15 lines



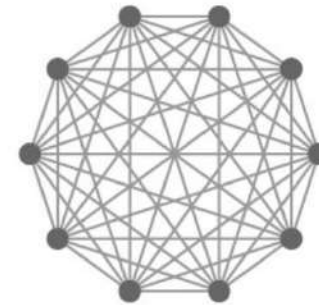
7 people, 21 lines



8 people, 28 lines




9 people, 36 lines



10 people, 45 lines

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*We don't need more collaboration,
we need better collaboration*



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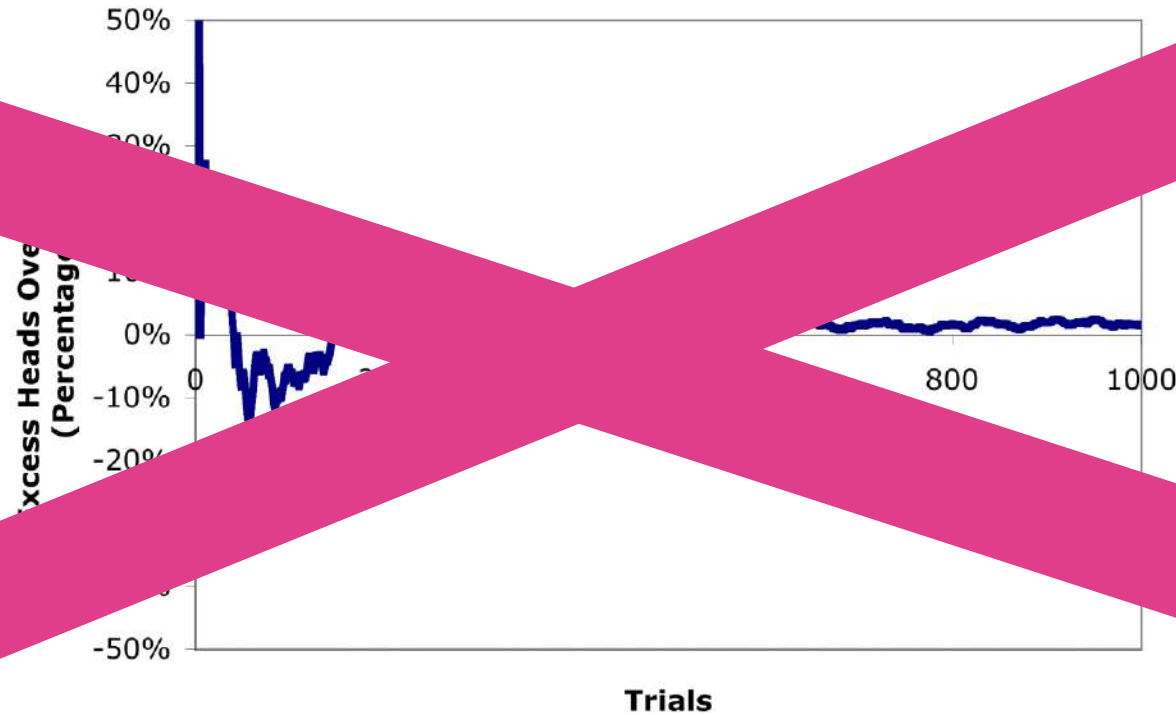
Issue 5

We suck
at estimation

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Less estimates

The Law of Large Numbers



In **probability theory**, the **law of large numbers** states that as the number of trials increases, the sample mean will converge to the expected value. According to the law, the sample mean will become closer to the expected value as more trials are conducted. The LLN is important because it provides a theoretical foundation for the concept of probability.

When you experiment a large number of trials, the sample mean will converge to the expected value, and will tend to stay close to the expected value. For example, while a casino may lose a small amount of money in a single game, over a large number of games, the casino will tend to break even.

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Issue 6

Red sprints

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The red sprint anti-pattern



The agile manifesto

To satisfy the customer through early and continuous delivery of valuable software

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Issue 7

Software development
is too complex for
a 6-plus-or-minus-3 team

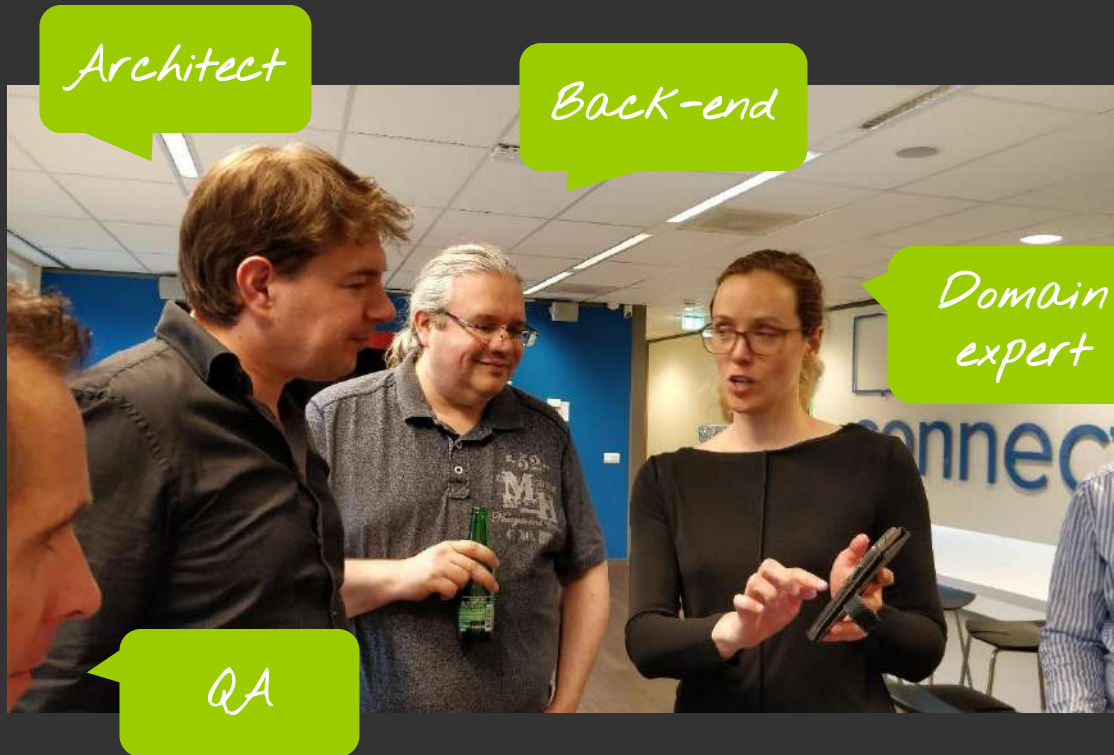
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Software development is complex



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No two work items require the same skillset



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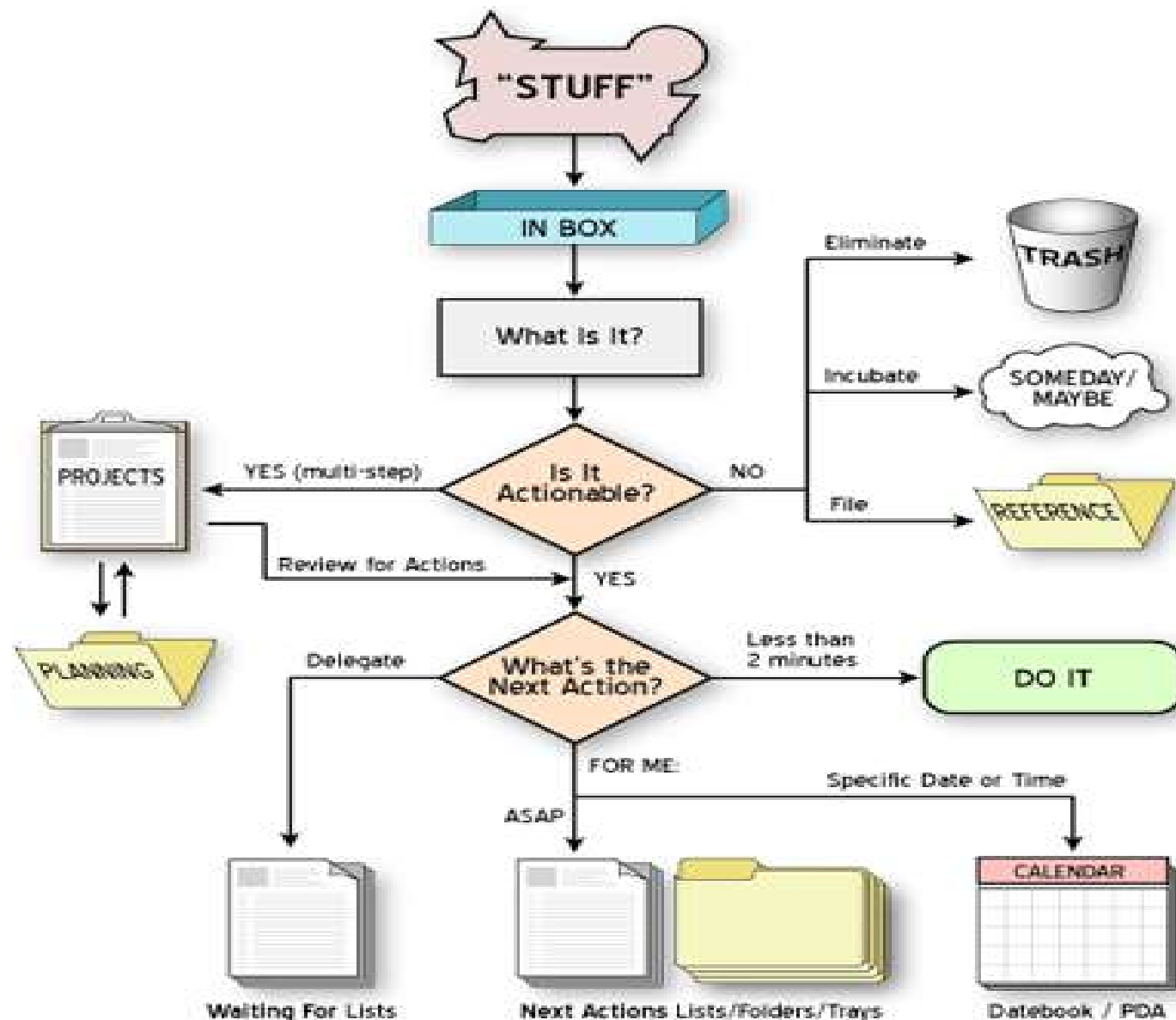
"ROADMAP" UPK fase 1 - versie 15-1-2015

Optimize for speed, agility and adaptability

DOMEIN	CLUSTER / DEELFASE
UPK-v	ORV - Registreren Mutatie - aanvragen, wijzigen, beëindigen, PVA (niet afgerond)
UPK-v/UPK-p	ORV - Registreren Mutatie - overeenkomstcomponent, productcomponent
UPK-p	ORV - Registreren Mutatie - berekenen PVA, waardenoverzicht (niet volledig afgerond)
UPK-v/UPK-p	ORV - Registreren Mutatie - tussentijds opslaan, documenten, premiecomponent, (niet volledig afgerond)

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The innovation board and the funnel



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Introducing collectives and microteams

Towards smaller, shorter, faster

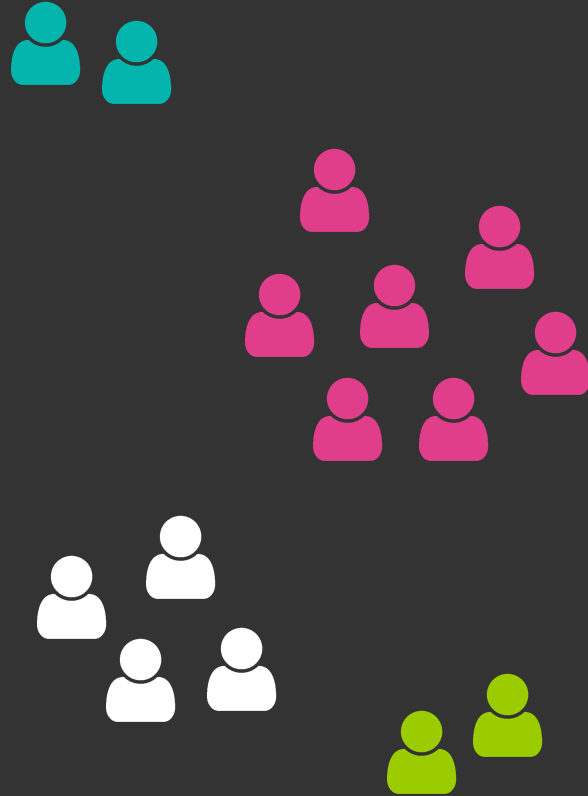
More ...



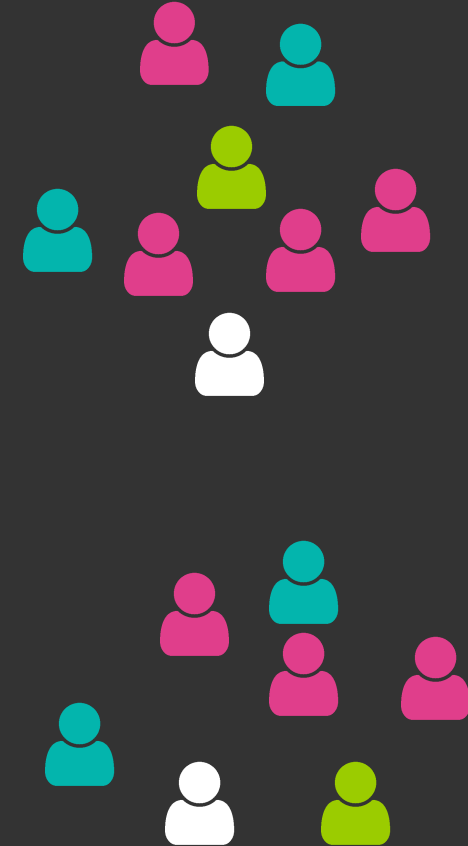
Collectives

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Traditional teams



Agile teams



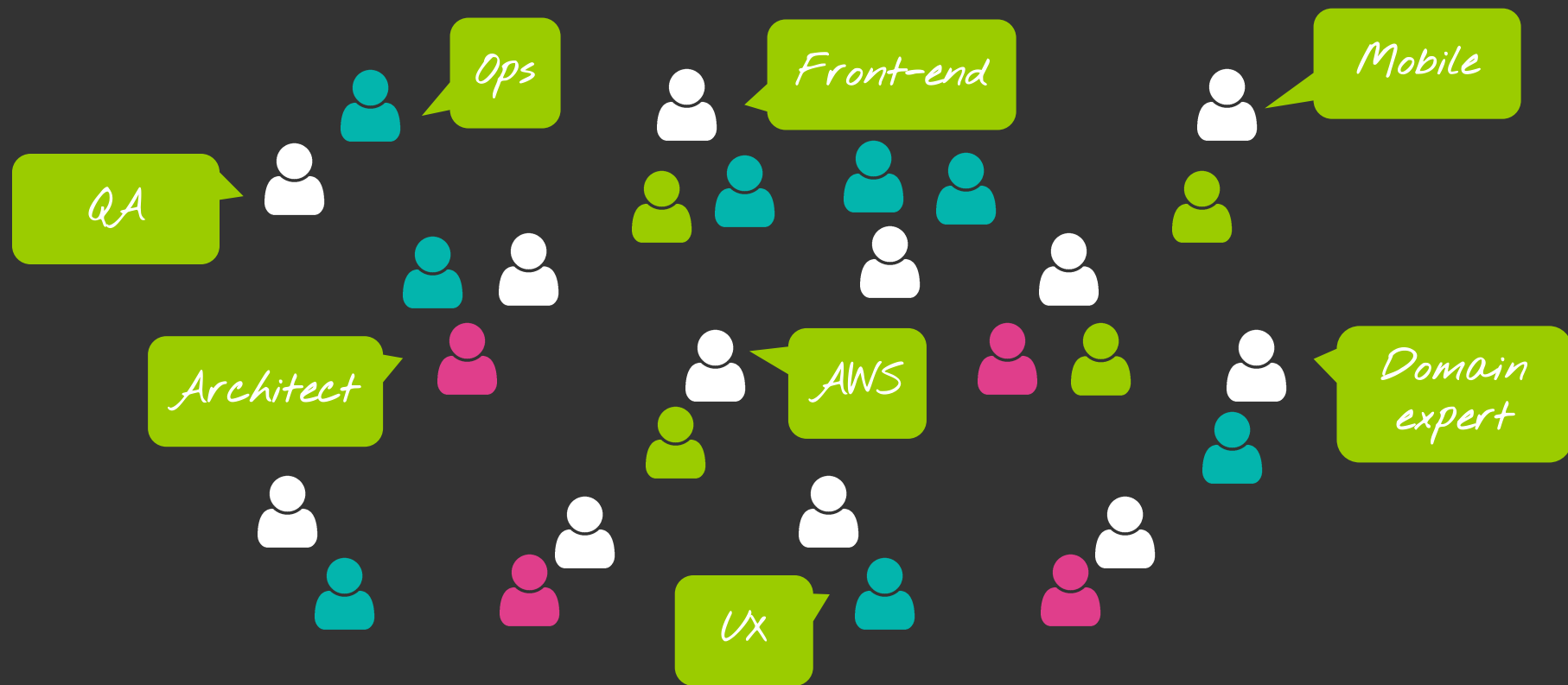
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The New Cool Collective

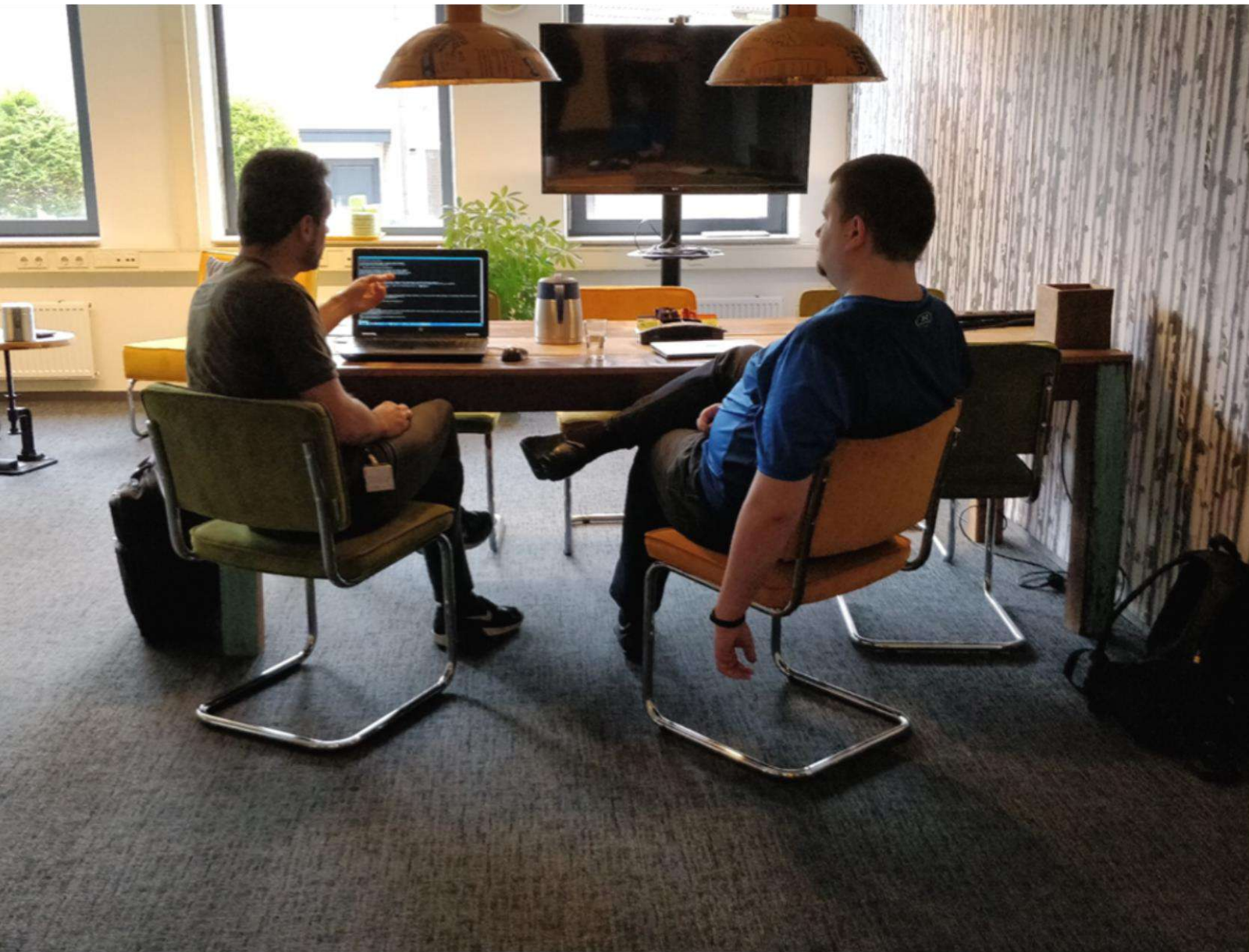


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The collective



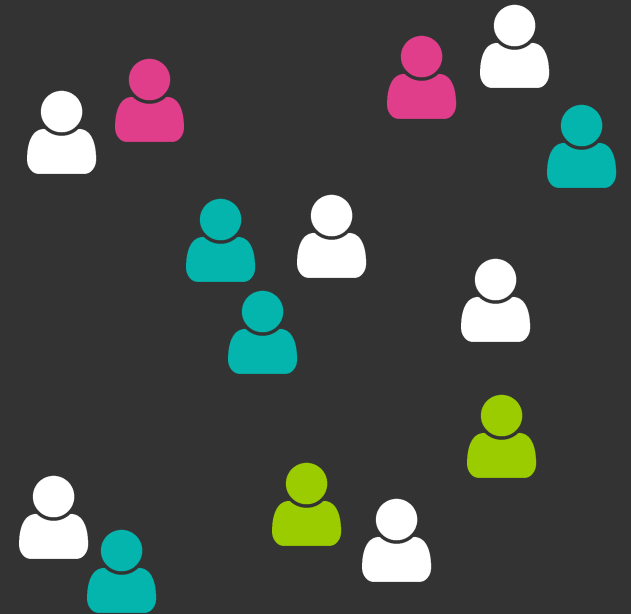
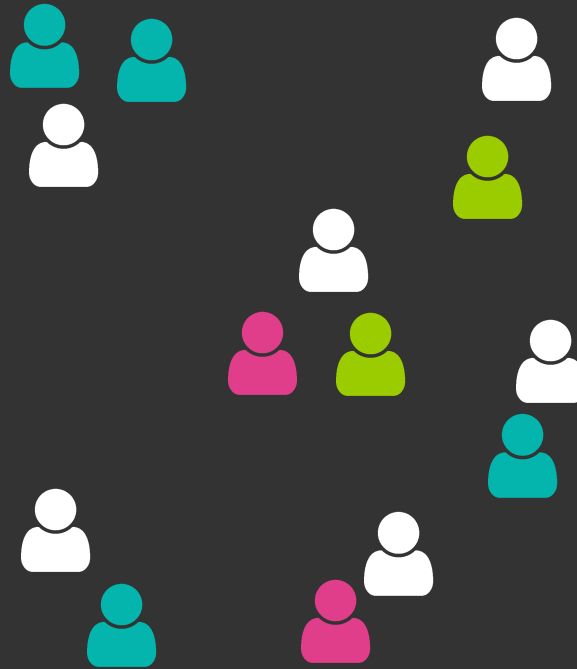
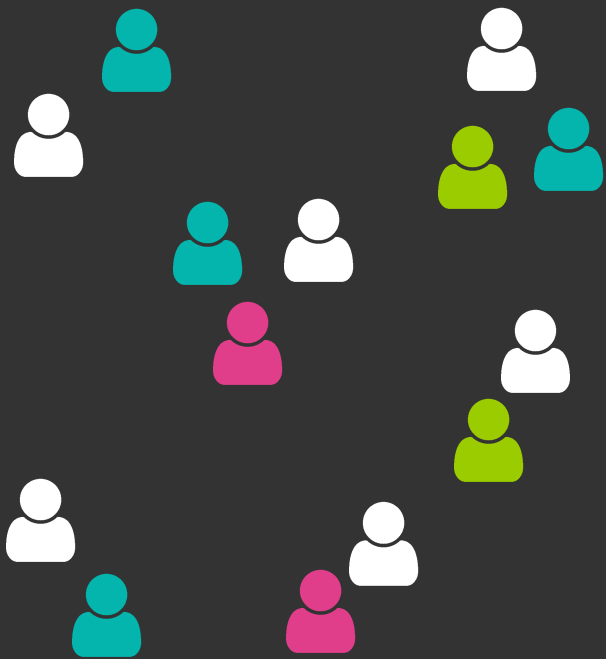
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Microteams

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Microteams

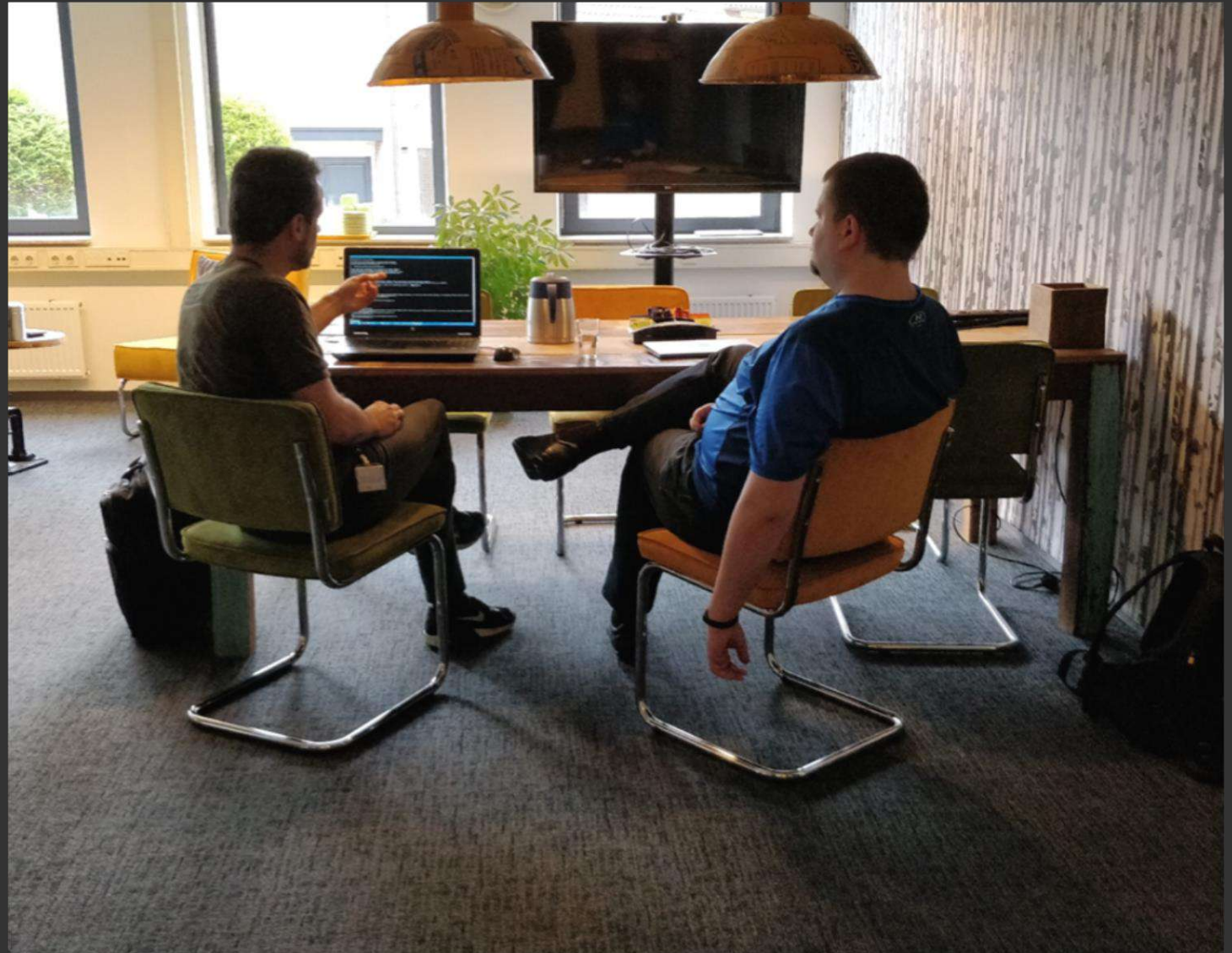


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The microteam recipe

1. Pick
2. Form
3. Discuss
4. Work
5. Report as done
6. Disband
7. Repeat

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Microteams



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Microteams



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*Leadership
is contextual*

Decentralize
decision making

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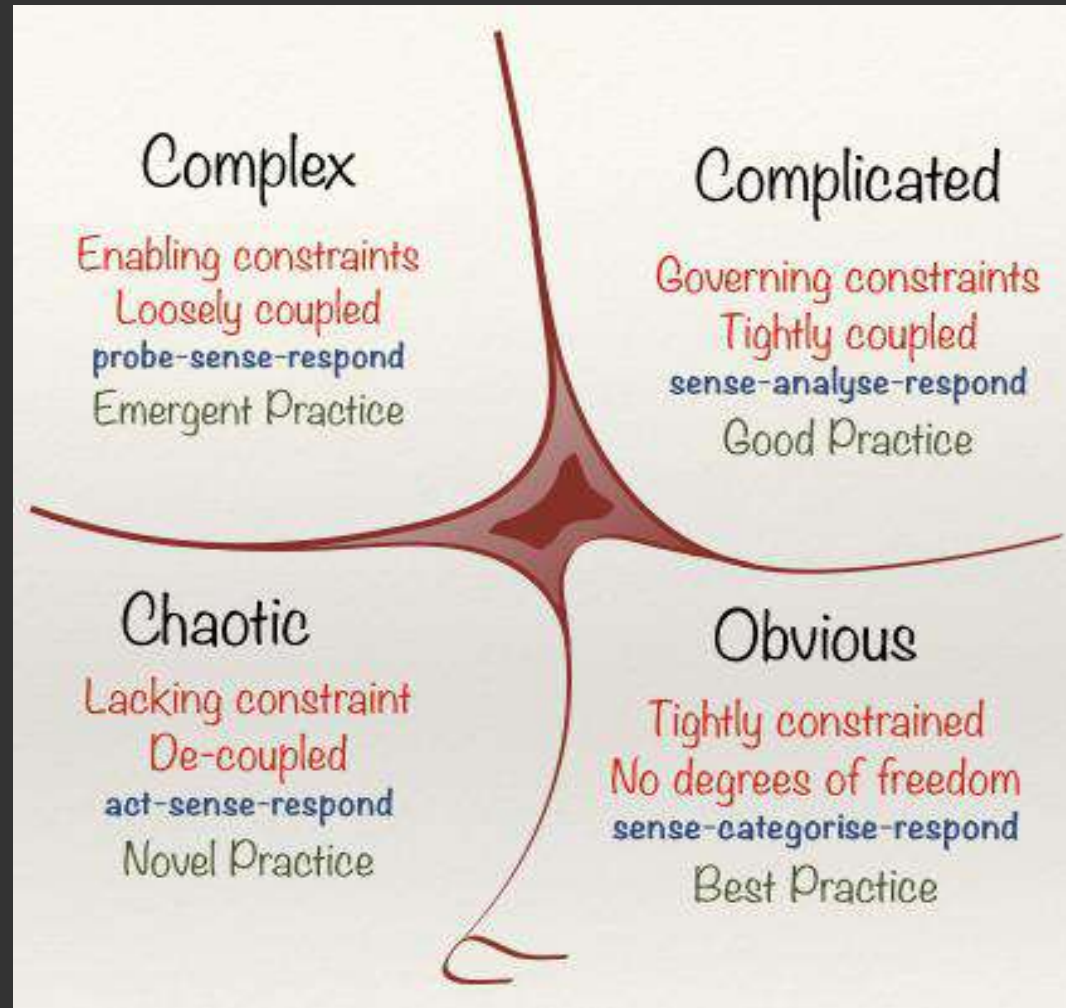


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In retrospective
Some final thoughts

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Complex problems require continuous exploration



Beyond the point of no return



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*It only takes one person
to start a change*



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Never stop learning

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And never forget to have fun


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References and questions

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