

Cloud Native Transformation

Practical Patterns for Innovation

Pini Reznik
@pini42



info@container-solutions.com
container-solutions.com





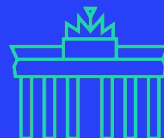
Amsterdam



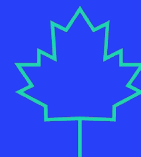
London



Zurich



Berlin



Montreal



Warsaw



**“All great literature is one
of two stories; a man goes
on a journey or a stranger
comes to town.”**

Leo Tolstoy



Meet



WEALTHGRID

**A successful,
mid-size
financial
company**



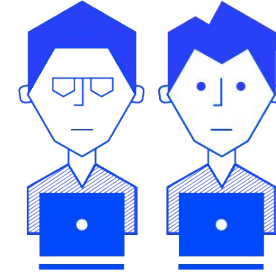
Meet the People



CEO



Jenny
a Technical Manager



Engineers



The Stranger is Coming...





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'We want to be a tech company with a banking license' – Ralph Hamers

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Dutch bank ING to spend millions 'disrupting' its own business

Dutch bank ING used digital technology to reinvent itself following the financial crash, and is about to reinvent itself again, says its global CTO, Brendan Donovan

ComputerWeekly.com

10



STARLING BANK

full production bank was built in a year

2014 Founded by Anne Boden

June 2014 Kick-off with Regulators

September 2015 Technical prototypes

January 2016 Raise \$70m – start build

July 2016 Banking licence & first account in production AWS account

October 2016 Mastercard debit cards

November 2016 Alpha testing mobile app

December 2016 Direct debits live

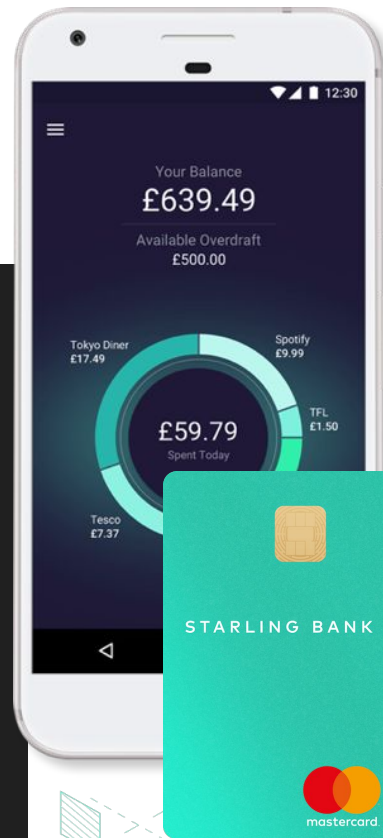
January 2017 Faster payments live

February 2017 Launched beta testing program

May 2017 Public App Store Launch

2 engineers

20 engineers



Greg Hawkins, Starling Bank

Amazon could become the third-biggest US bank if it wants to: Bain study

- Bain writes that Amazon's banking services could grow to more than 70 million U.S. consumer relationships over roughly five years, rivaling Wells Fargo.
- Amazon could evade more than \$250,000,000 in credit card interchange fees every year if it finds a bank willing to partner.
- The Bain report finds one-quarter of U.S. consumers would consider using the Amazon-branded Alexa would consider using the



Thomas Franck | [@tomwfranck](#)

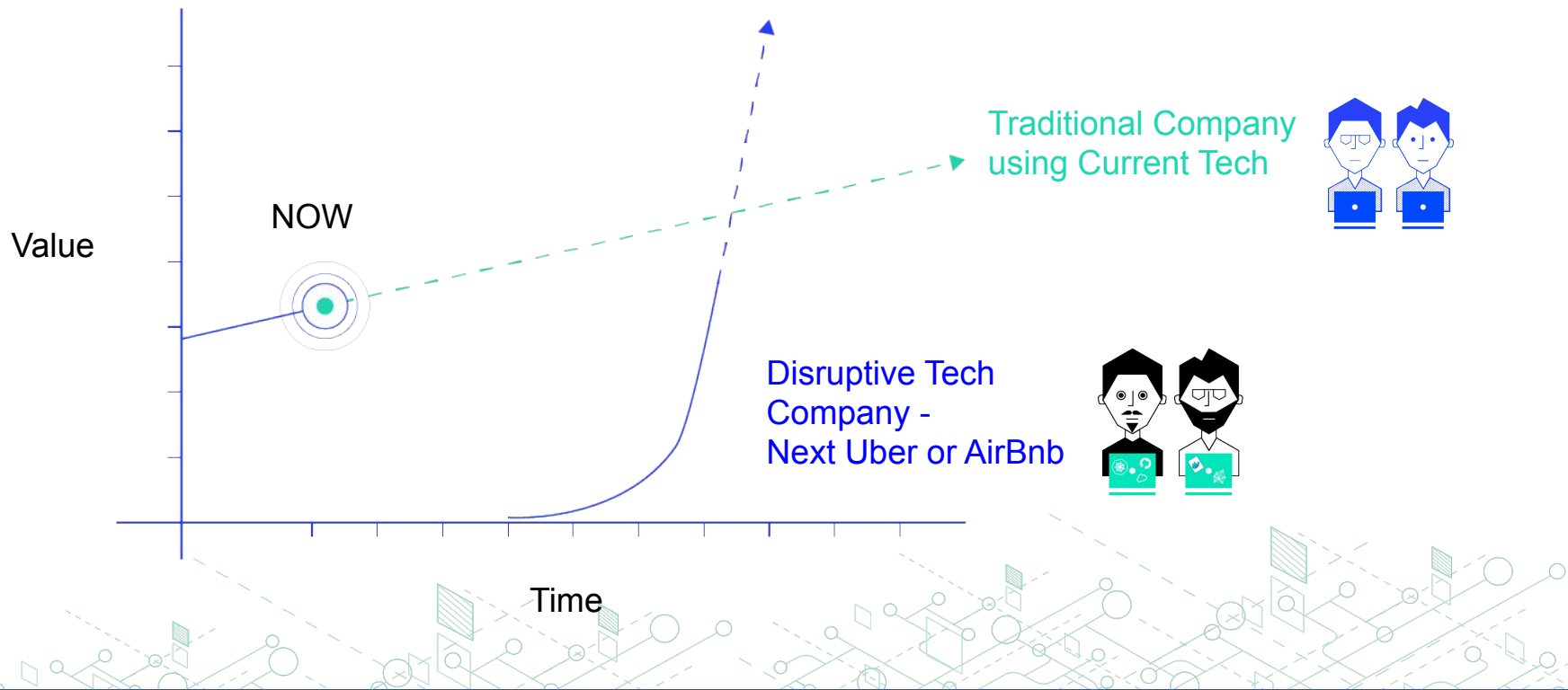
Published 4:23 PM ET Tue, 6 March 2018 |



Pacific

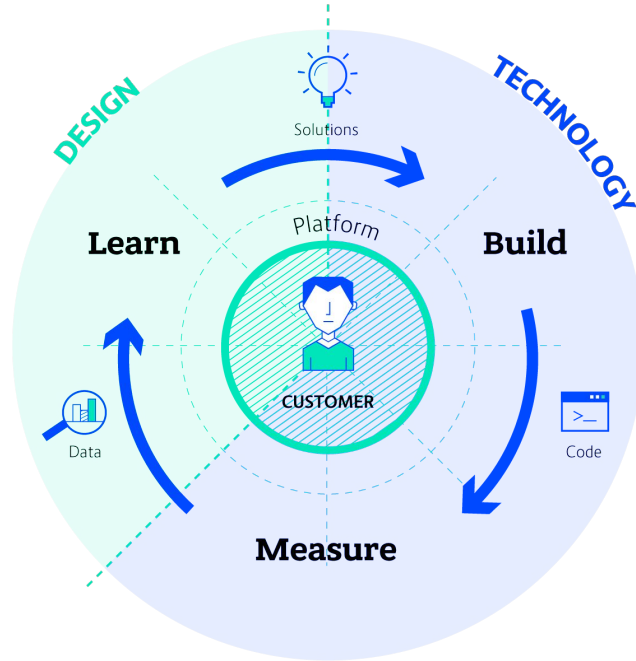
Amazon may eventually have 70 million banking customers

They are coming fast!



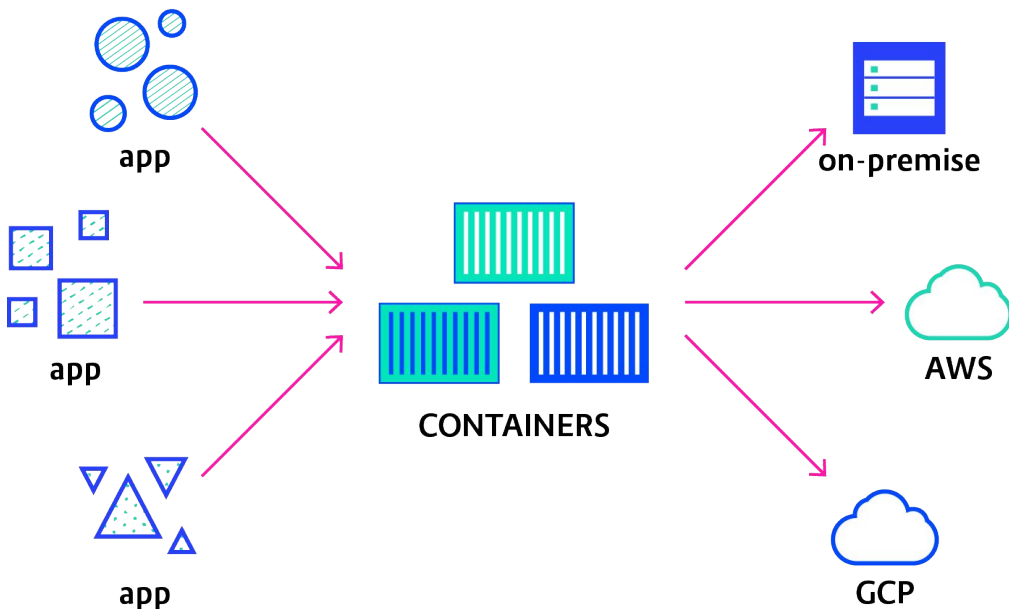
Why?

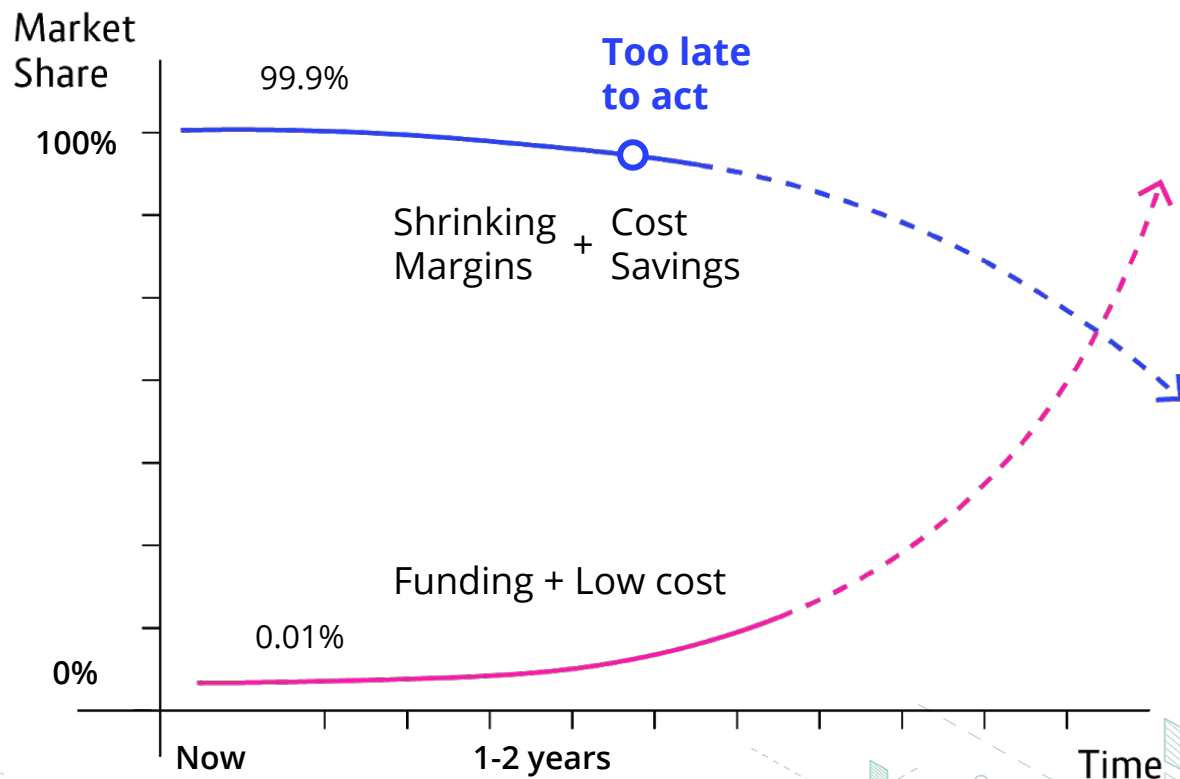
Because they deliver faster and more frequently by using modern technologies



Cloud Native

Public Cloud,
Microservices,
Containers (Docker),
Dynamic Scheduling
(Kubernetes),
etc.





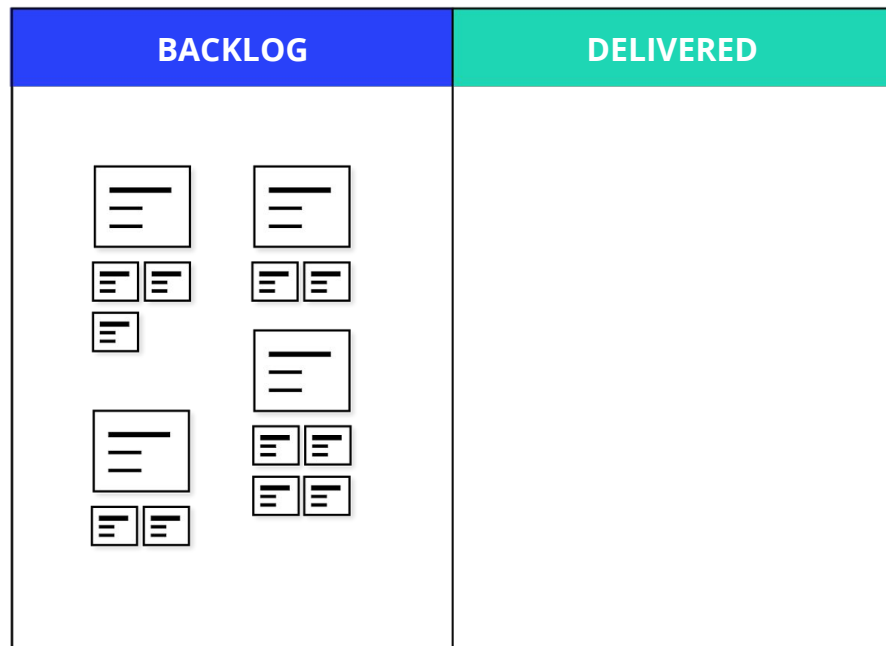
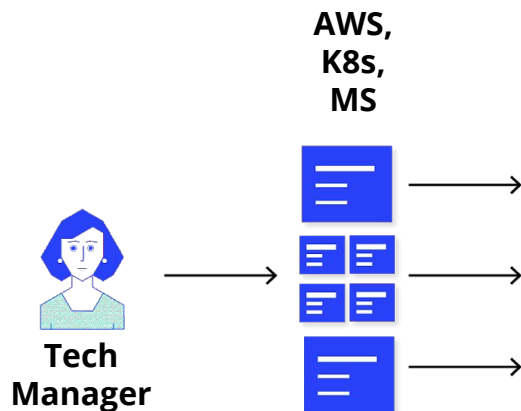
We Must DO Something!

Jenny's wakeup call



Use Cloud Native Tools

Engineering Team



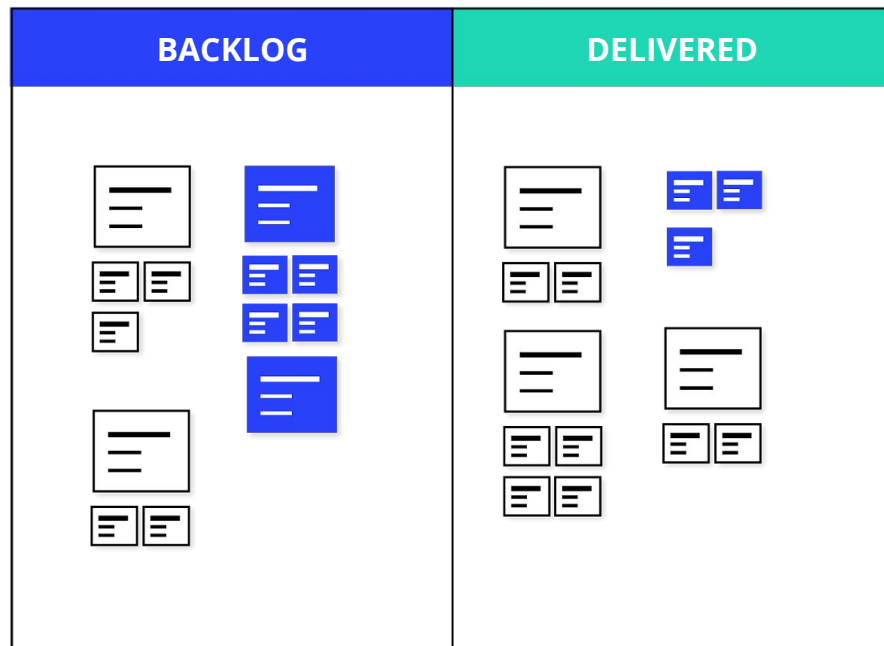
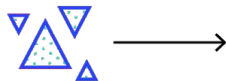
6-12 month later...

Only old stuff +
a bit of CN have
been delivered

Engineering
Team

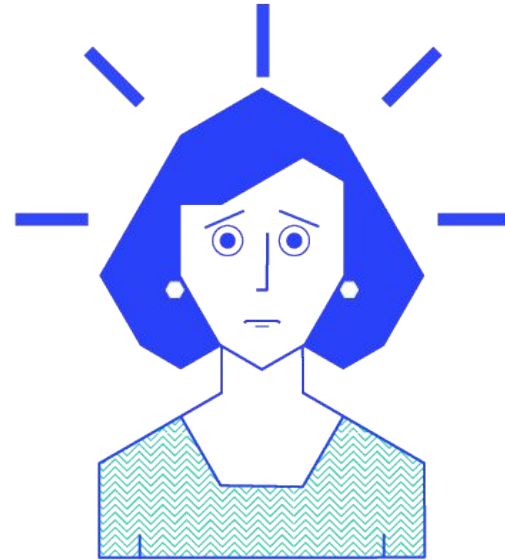


Feature

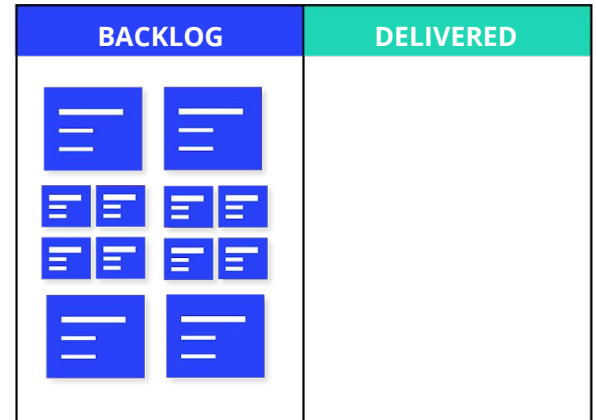
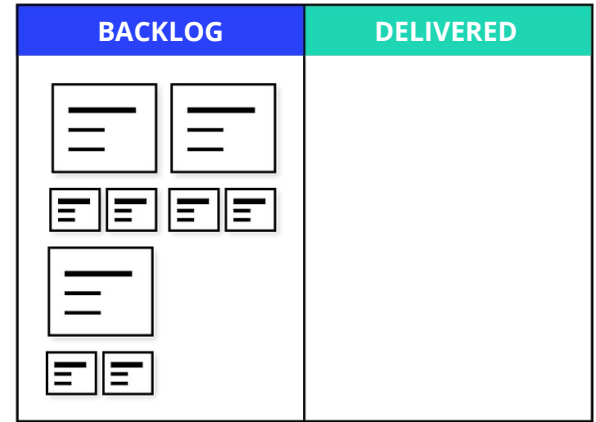
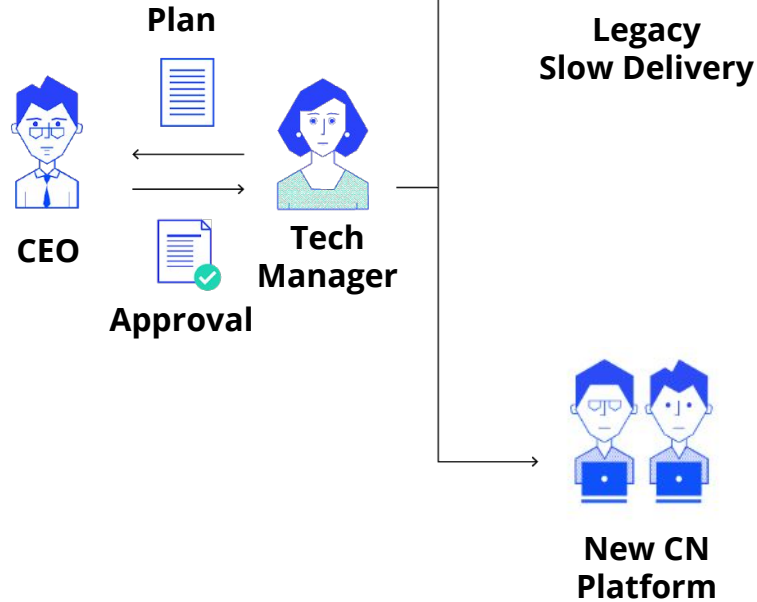


We Must DO Something ELSE!

Jenny's second wakeup call

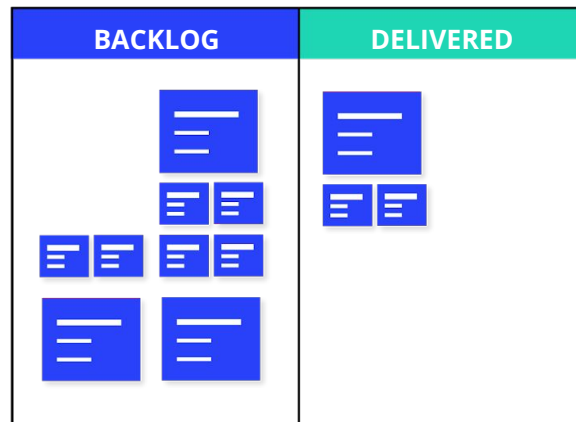
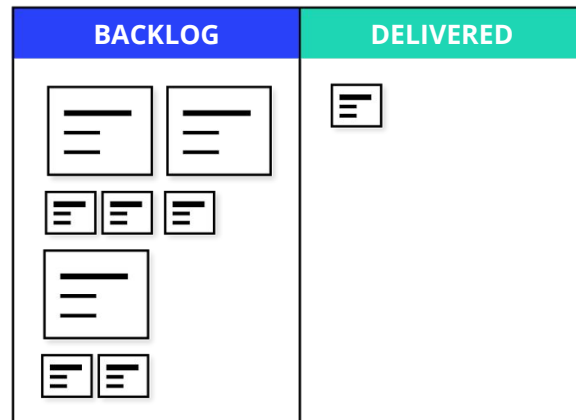
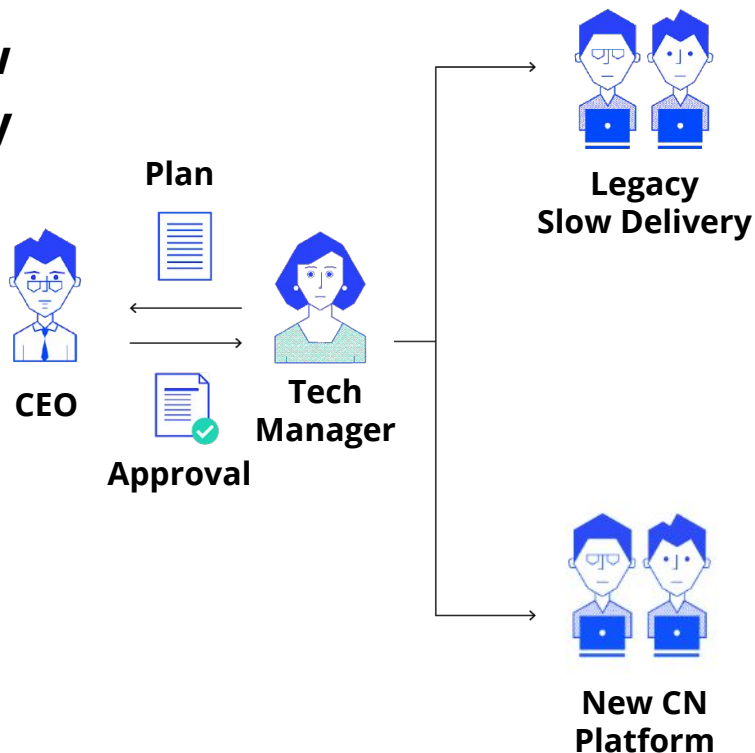


Cloud Native Rewrite



6-12 month later...

**Almost no new
features + only
30% on CN
have been
delivered**



Why is it so difficult?

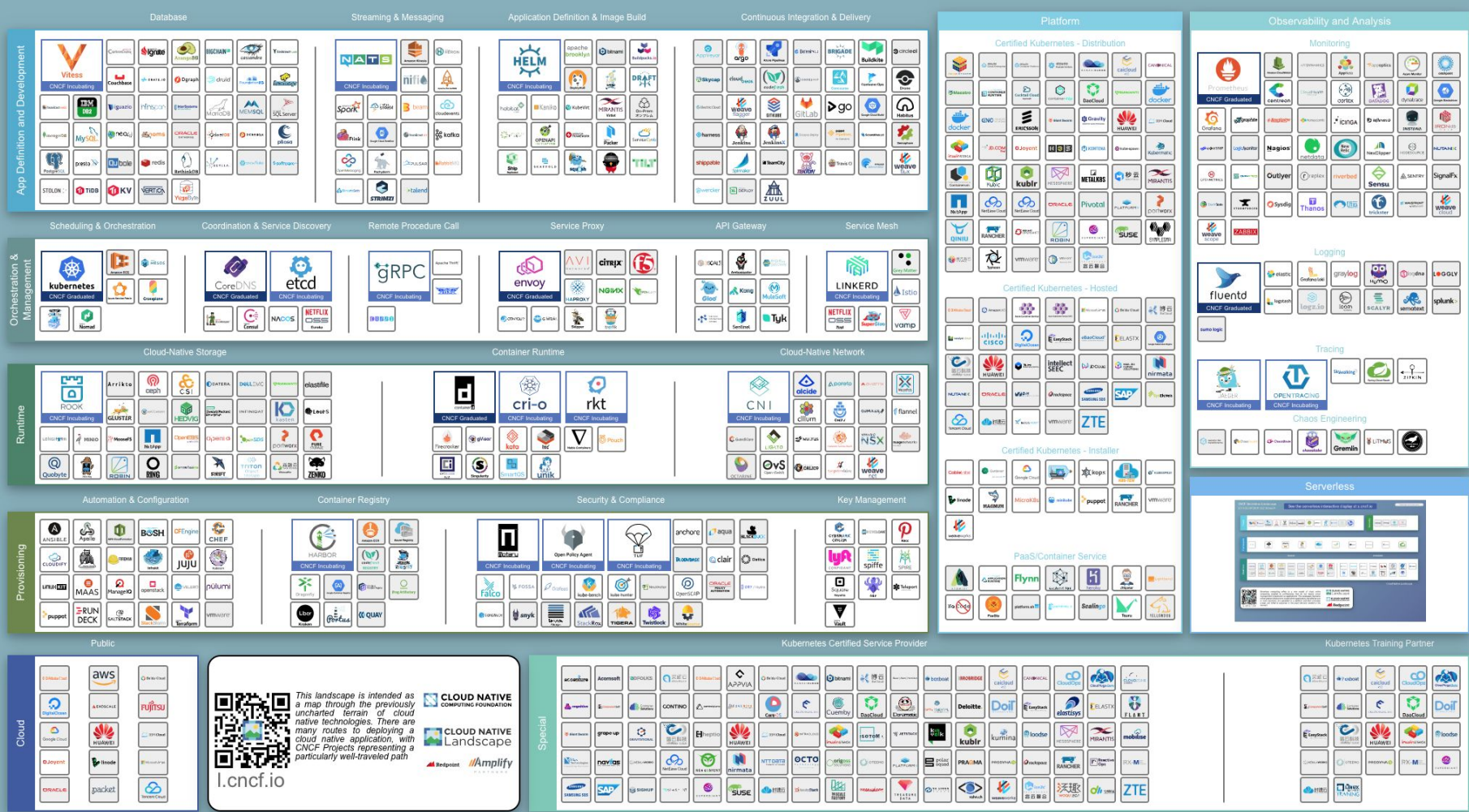
Because - Cloud Native is New, Complex
and requires new ways of thinking!

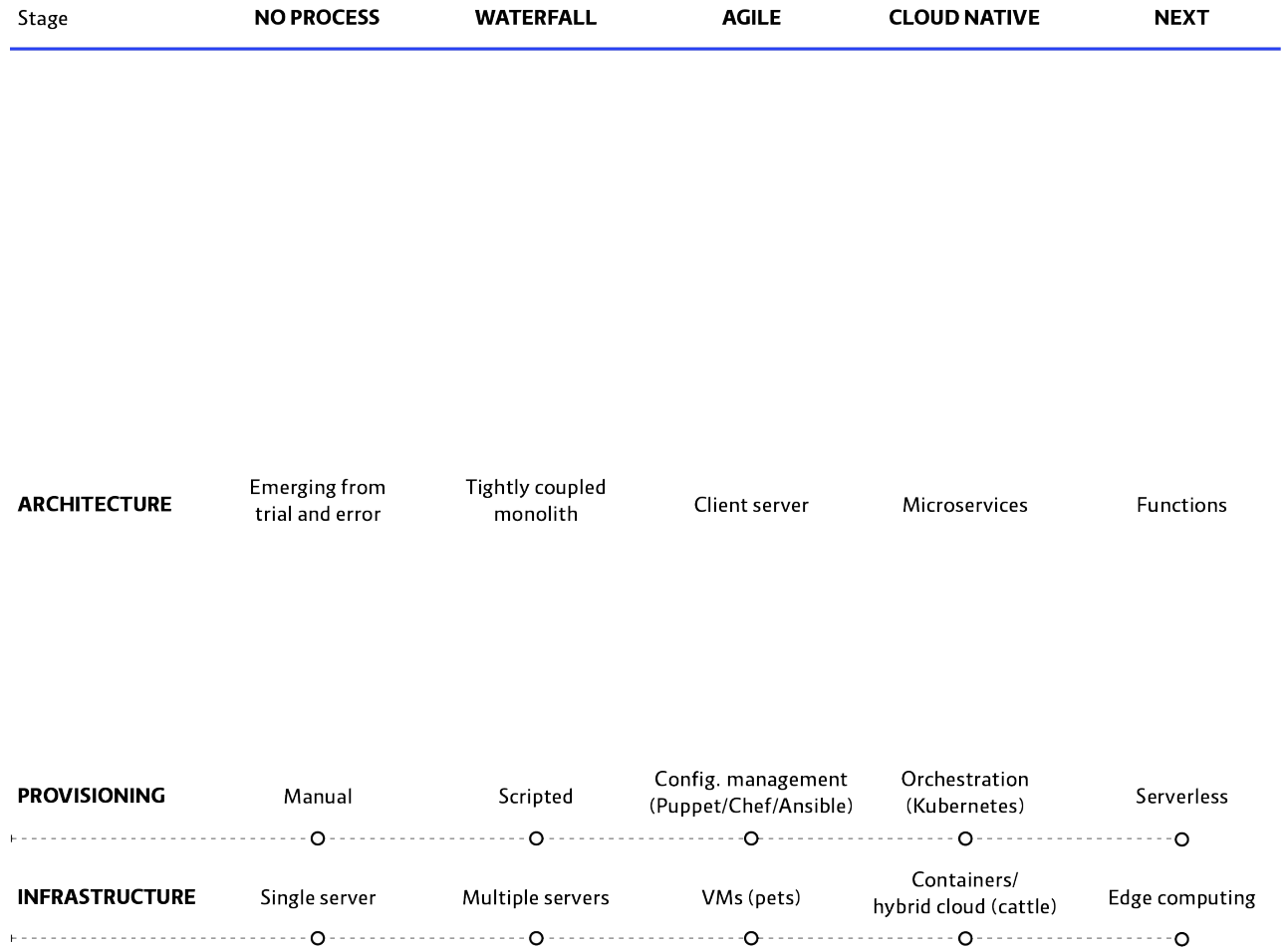


What is CNCF?

CNCF is an open source software foundation dedicated to making cloud-native computing universal and sustainable. Cloud-native computing uses an open source software stack to deploy applications as microservices, packaging each part into its own container, and dynamically orchestrating those containers to optimize resource utilization. Cloud-native technologies enable software developers to build great products faster.

JOIN

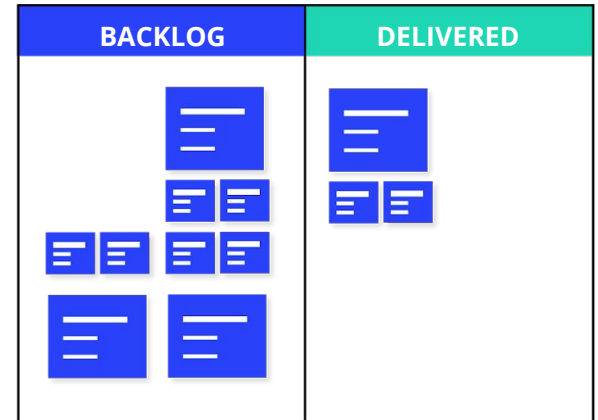
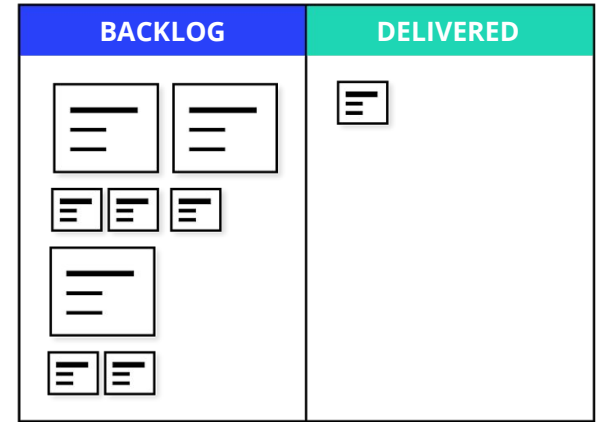
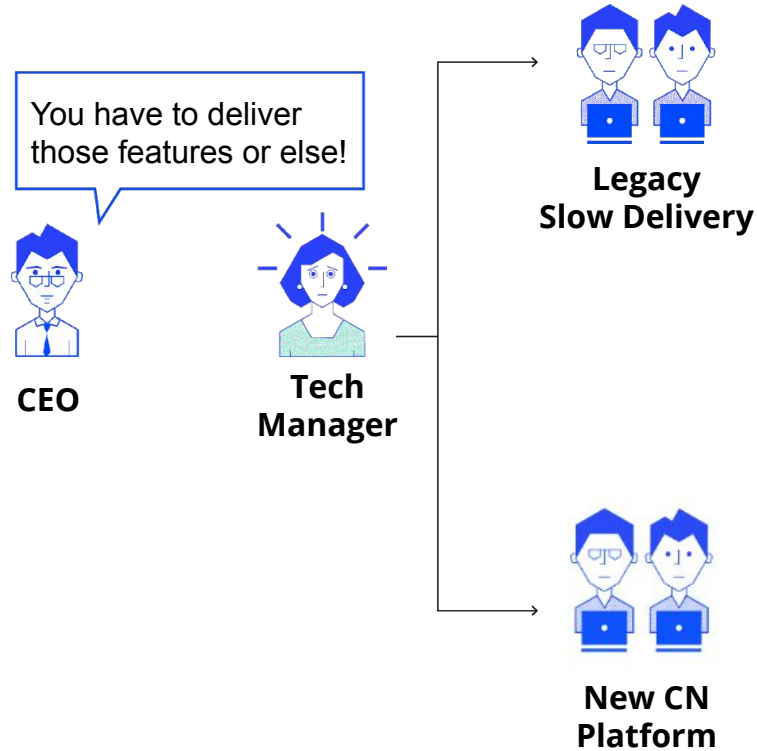




Maturity Matrix

Stage	NO PROCESS	WATERFALL	AGILE	CLOUD NATIVE	NEXT
CULTURE	Individualist	Predictive	Iterative	Collaborative	Experimental
PROD/SERVICE DESIGN	Arbitrary	Long-term plan	Feature driven	Data driven	All driven
TEAM	No organization, single contributor	Hierarchy	Cross-functional teams	DevOps / SRE	Internal supply chains
PROCESS	Random	Waterfall	Agile (Scrum/Kanban)	Design Thinking + Agile + Lean	Distributed, self-organized
ARCHITECTURE	Emerging from trial and error	Tightly coupled monolith	Client server	Microservices	Functions
MAINTENANCE	Respond to users complaints	Ad-hoc monitoring	Alerting	Full observability & self-healing	Preventive ML, AI
DELIVERY	Irregular releases	Periodic releases	Continuous Integration	Continuous Delivery	Continuous Deployment
PROVISIONING	Manual	Scripted	Config. management (Puppet/Chef/Ansible)	Orchestration (Kubernetes)	Serverless
INFRASTRUCTURE	Single server	Multiple servers	VMs (pets)	Containers/ hybrid cloud (cattle)	Edge computing

The Ultimatum



We Must DO Something Else AGAIN!

Jenny's third wakeup call



Let's introduce some tools ...



Tool no. 1

Creativity vs. Proficiency



Mystery

Heuristics

Algorithmic

CREATIVITY

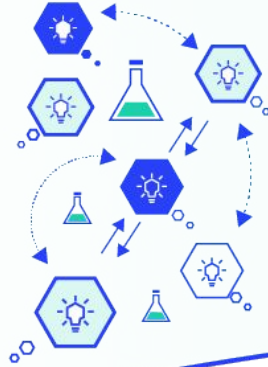
PROFICIENCY

START UP

ENTERPRISE

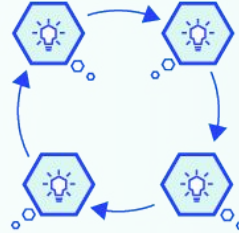
Mystery

Research
Design Thinking



Heuristics

Agile
Kanban



Algorithmic

Bureaucracy
Lean/Waterfall



CREATIVITY

PROFICIENCY

START UP

ENTERPRISE

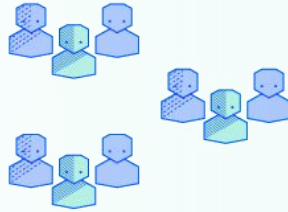
Mystery

Research
Design Thinking



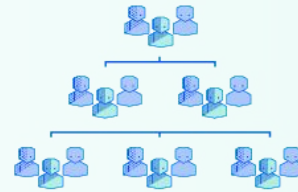
Heuristics

Agile
Kanban



Algorithmic

Bureaucracy
Lean/Waterfall



CREATIVITY

PROFICIENCY

START UP

ENTERPRISE

Mystery

Research
Design Thinking

Heuristics

Agile
Kanban

Algorithmic

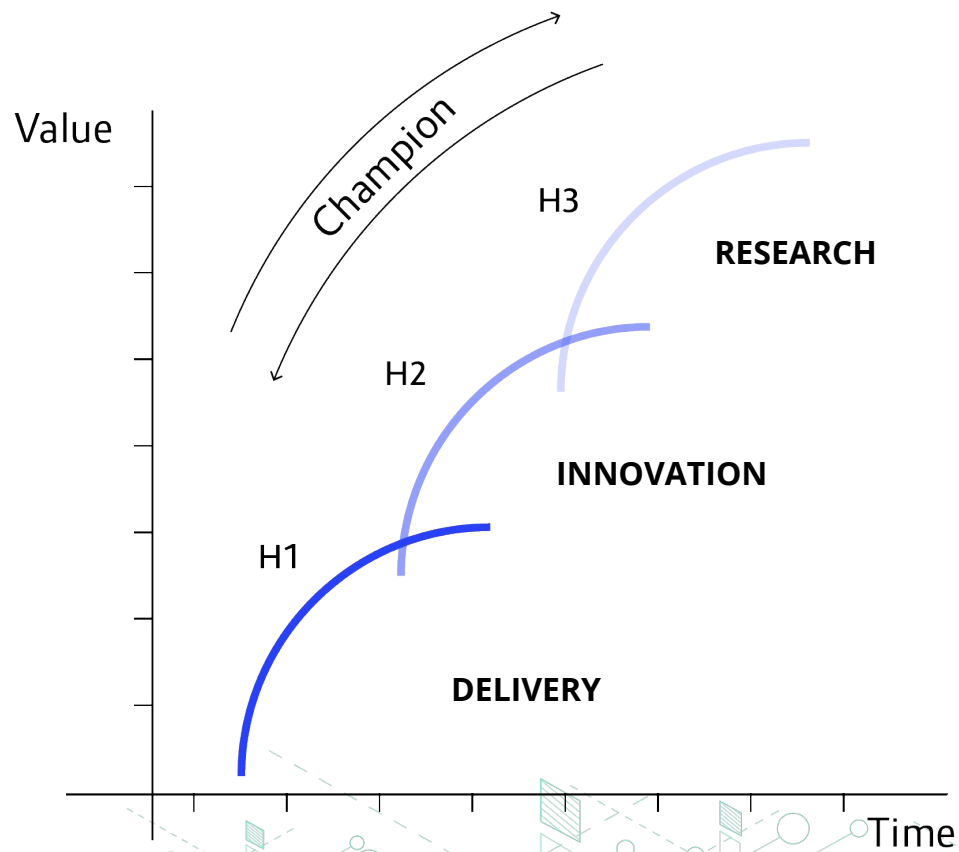
Bureaucracy
Lean/Waterfall

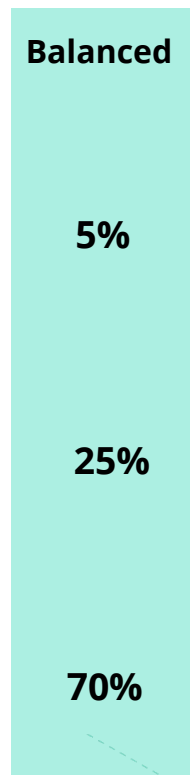
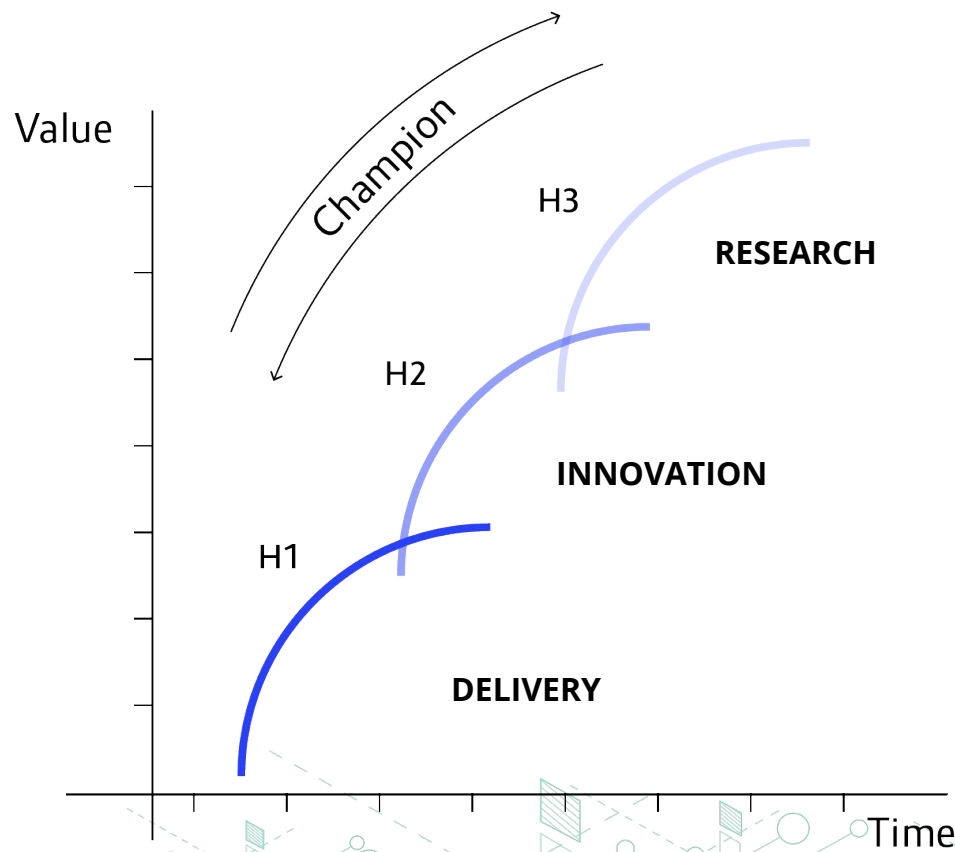
CREATIVITY

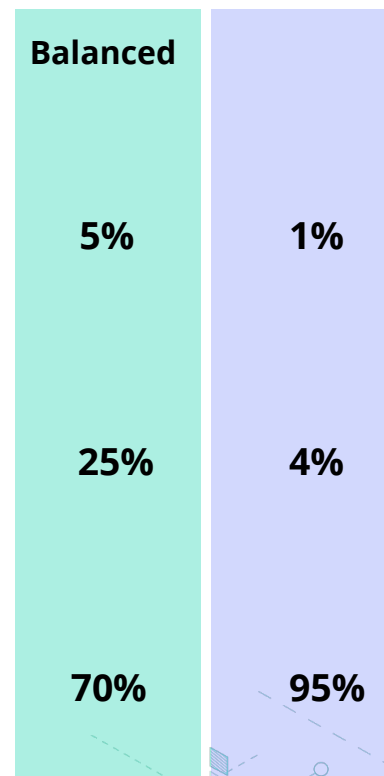
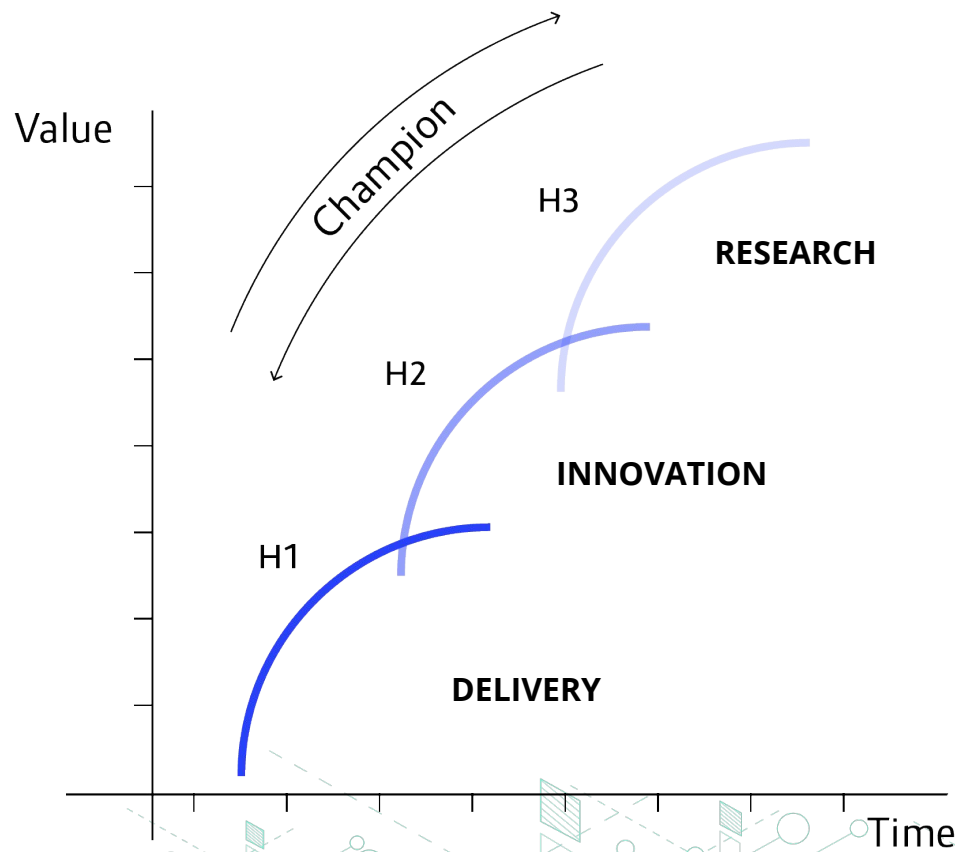
PROFICIENCY

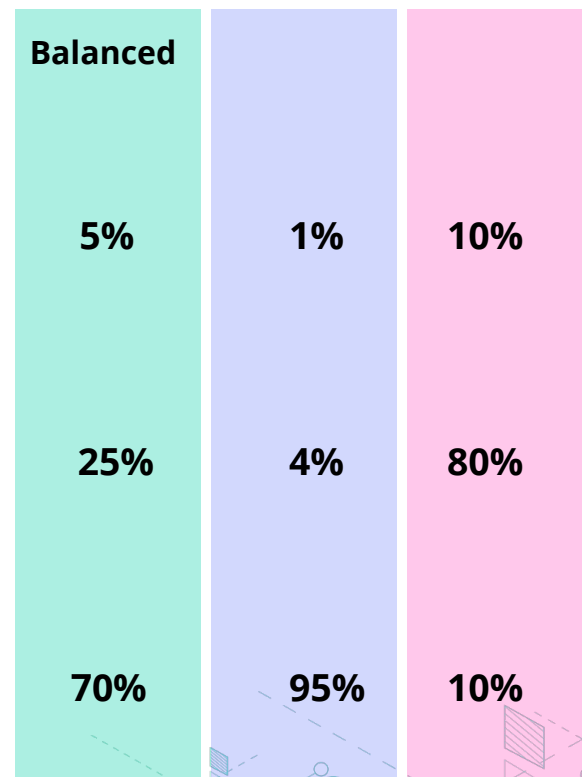
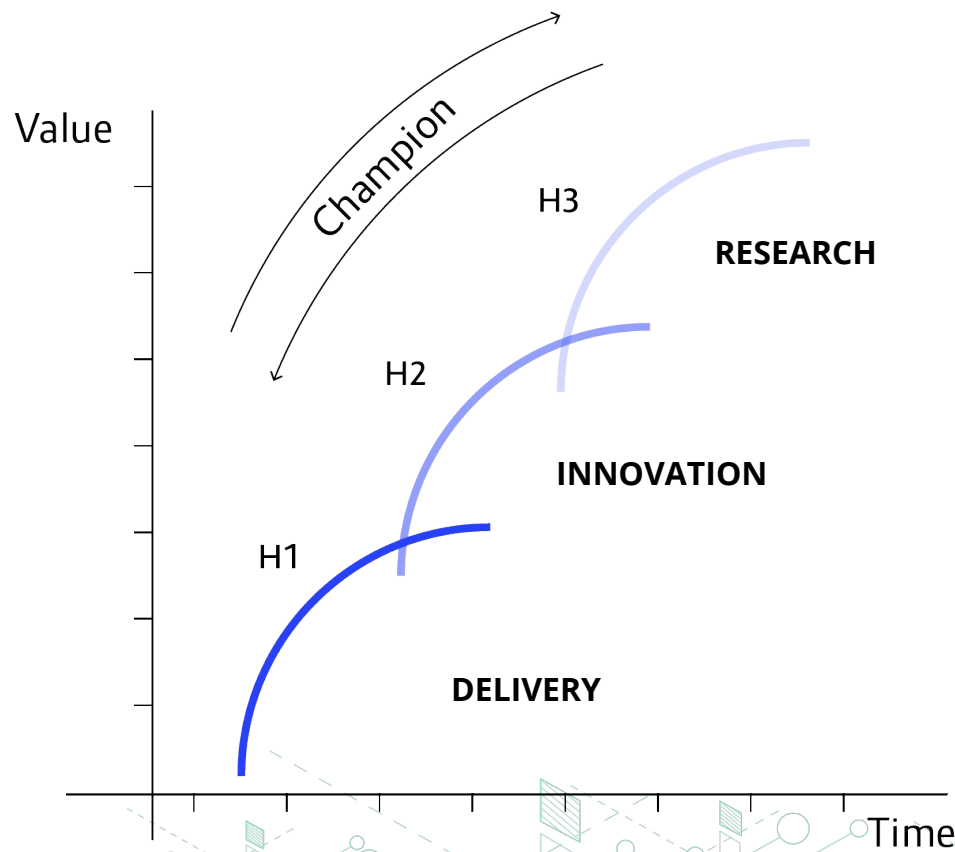
START UP

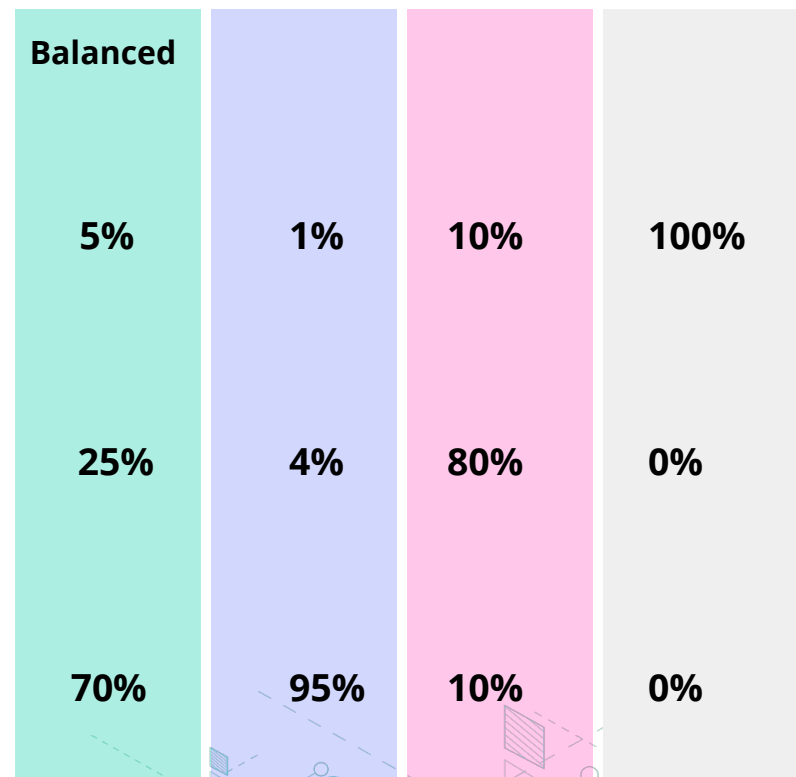
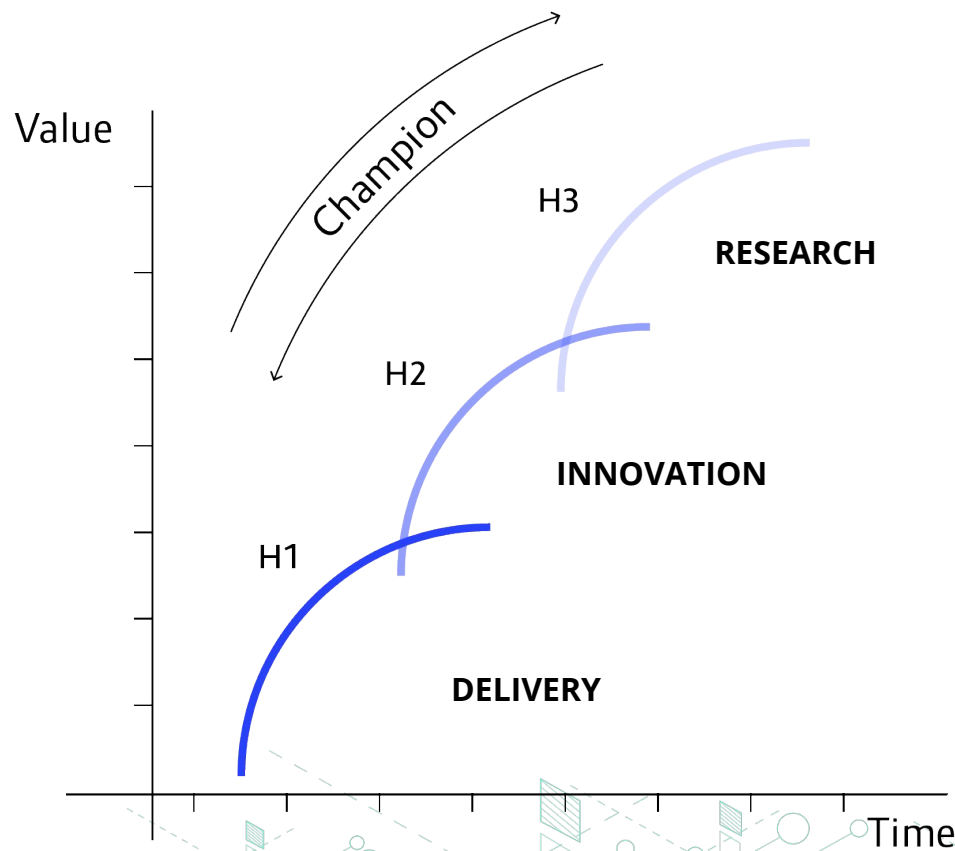
ENTERPRISE

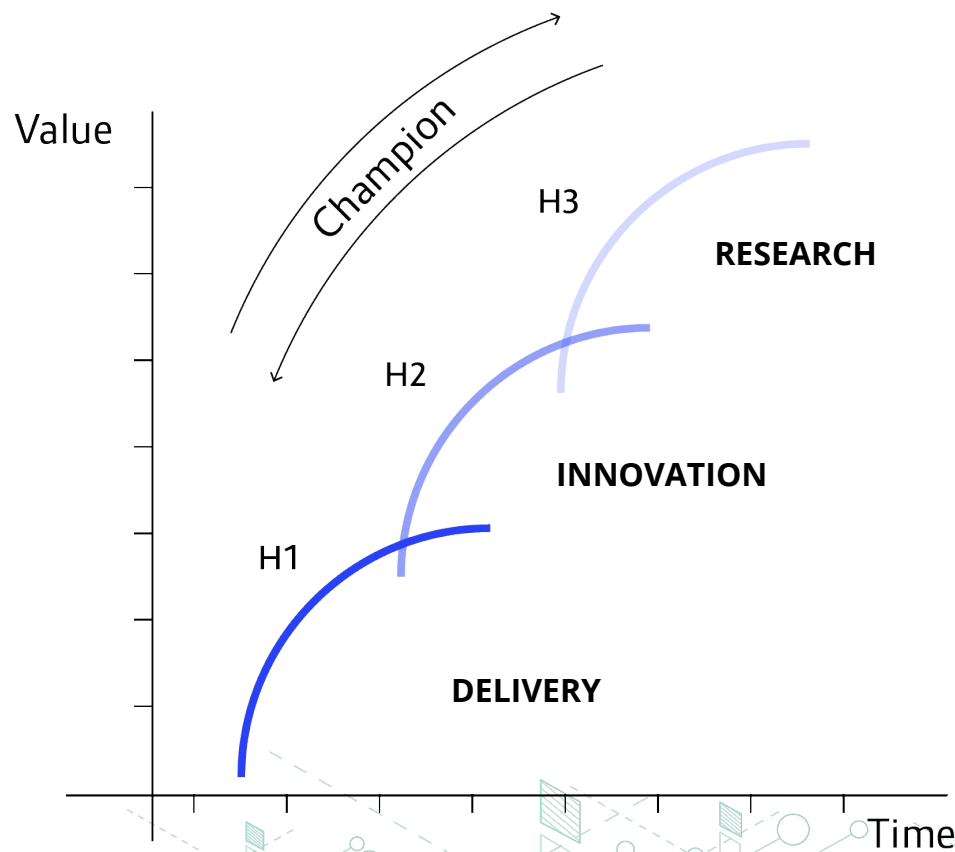










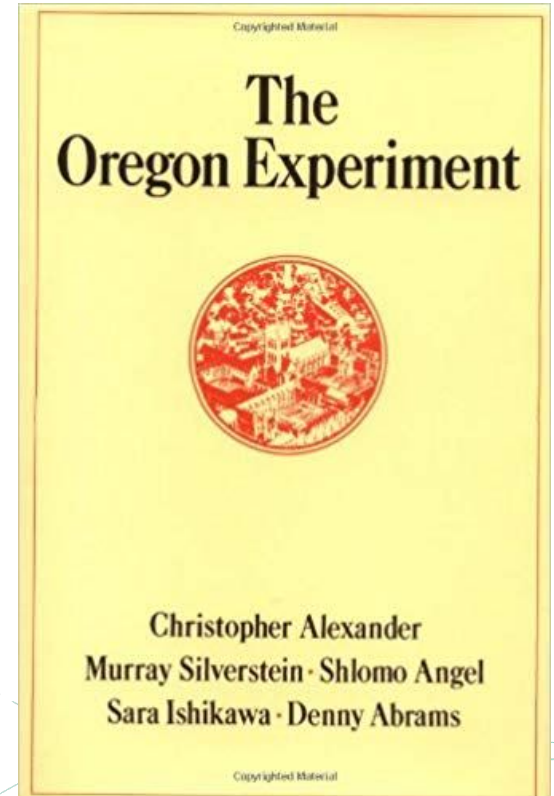
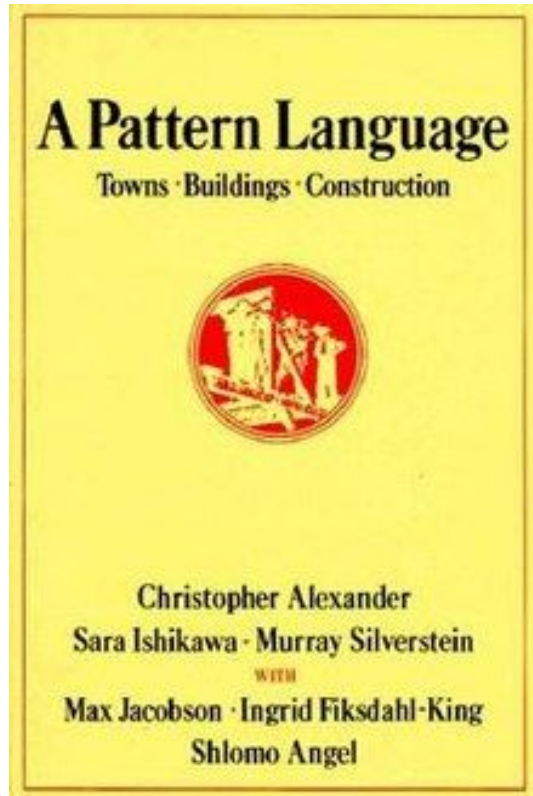
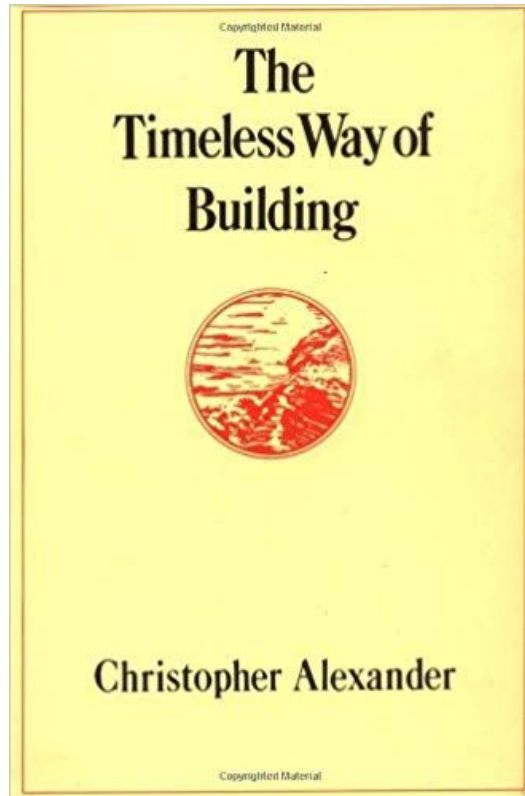


Balanced	Enterprise	Startup	University
5%	1%	10%	100%
25%	4%	80%	0%
70%	95%	10%	0%

Tool no. 2

Patterns





Patterns, Languages and Designs

**Pattern is a
Word:**

**Table
Chair
Sofa**

...

Patterns, Languages and Designs



**Pattern is a
Word:**

**Table
Chair
Sofa**

...

Patterns, Languages and Designs



**Pattern is a
Word:**

**Table
Chair
Sofa
...**

**Languages consist
of Words:**

Furniture language

Patterns, Languages and Designs



**Pattern is a
Word:**

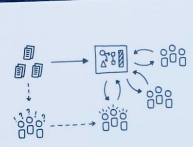
**Table
Chair
Sofa
...**

**Languages consist
of Words:**

Furniture language

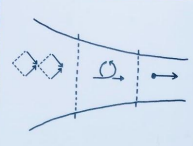
Designs are Stories:

There is a square table with 4 chairs and a sofa in a room.



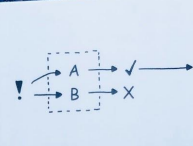
ARCHITECTURE DRAWING

A picture—or, in this case, a high-level outline sketch of your system's basic architecture—can replace a thousand words, save time, and prevent misunderstandings.



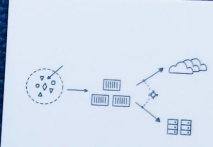
AGILE FOR NEW DEVELOPMENT

Balance proficiency and innovation by building a separate time for each into your development cycle.



A/B TESTING

Comparing multiple versions of something (a feature, new functionality, UI, etc.) under real customer-use conditions quickly gives useful data about which performs better.



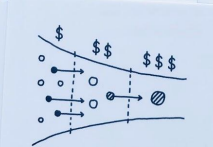
CONTAINERIZED APPS

When an application is packaged in a container with all its necessary dependencies, it does not rely on the underlying runtime environment and so can run agnostically on any platform.



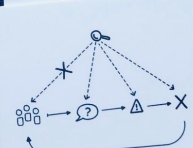
Get your free deck here: 

Order your Cloud Native Transformation book here: 



BIG BET

When enough information is available, commit to a significant solution for moving the cloud migration forward. Focus on execution rather than research.



BLAMELESS INQUIRY

When a problem occurs, focusing on the event instead of the people involved allows them to learn from mistakes without fear of punishment.

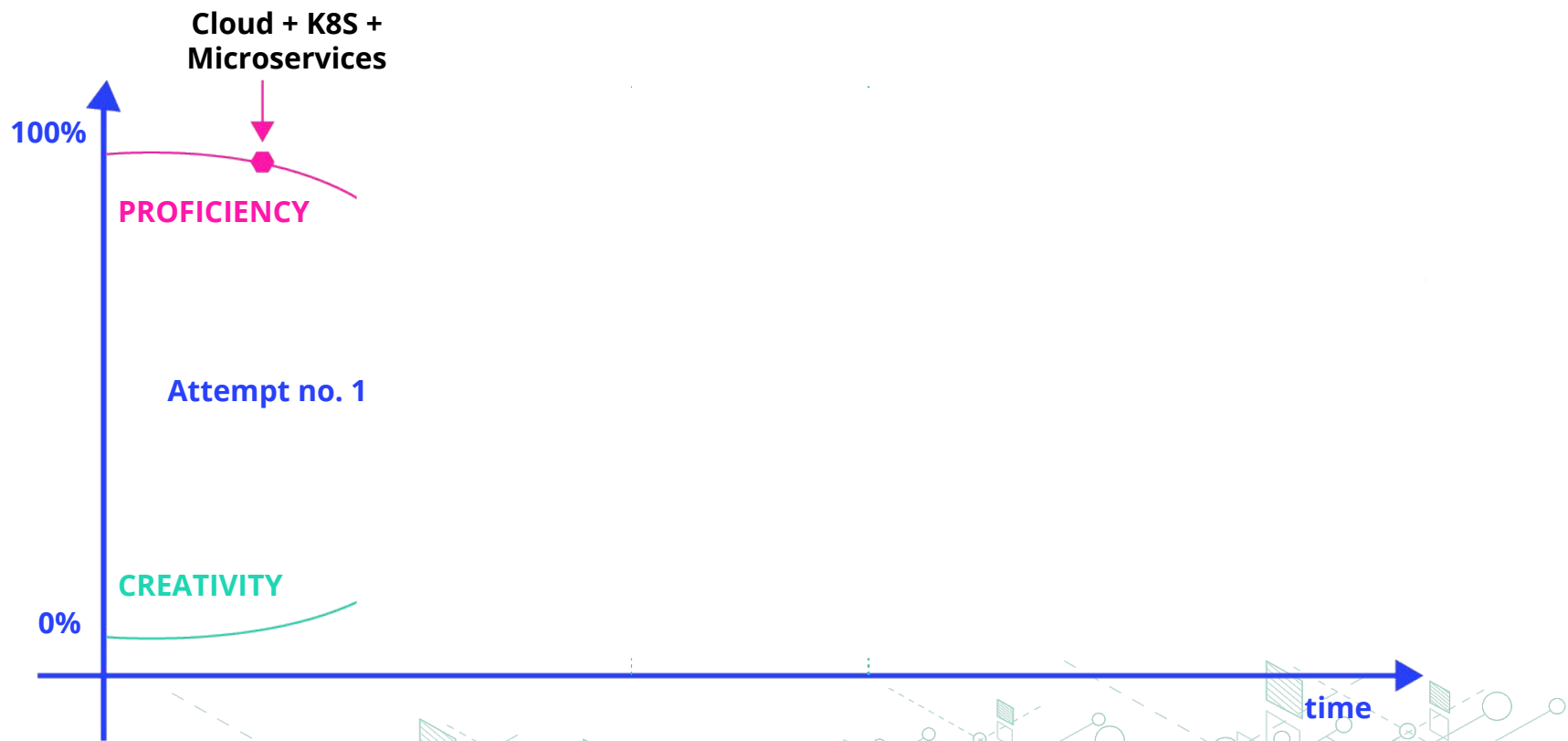


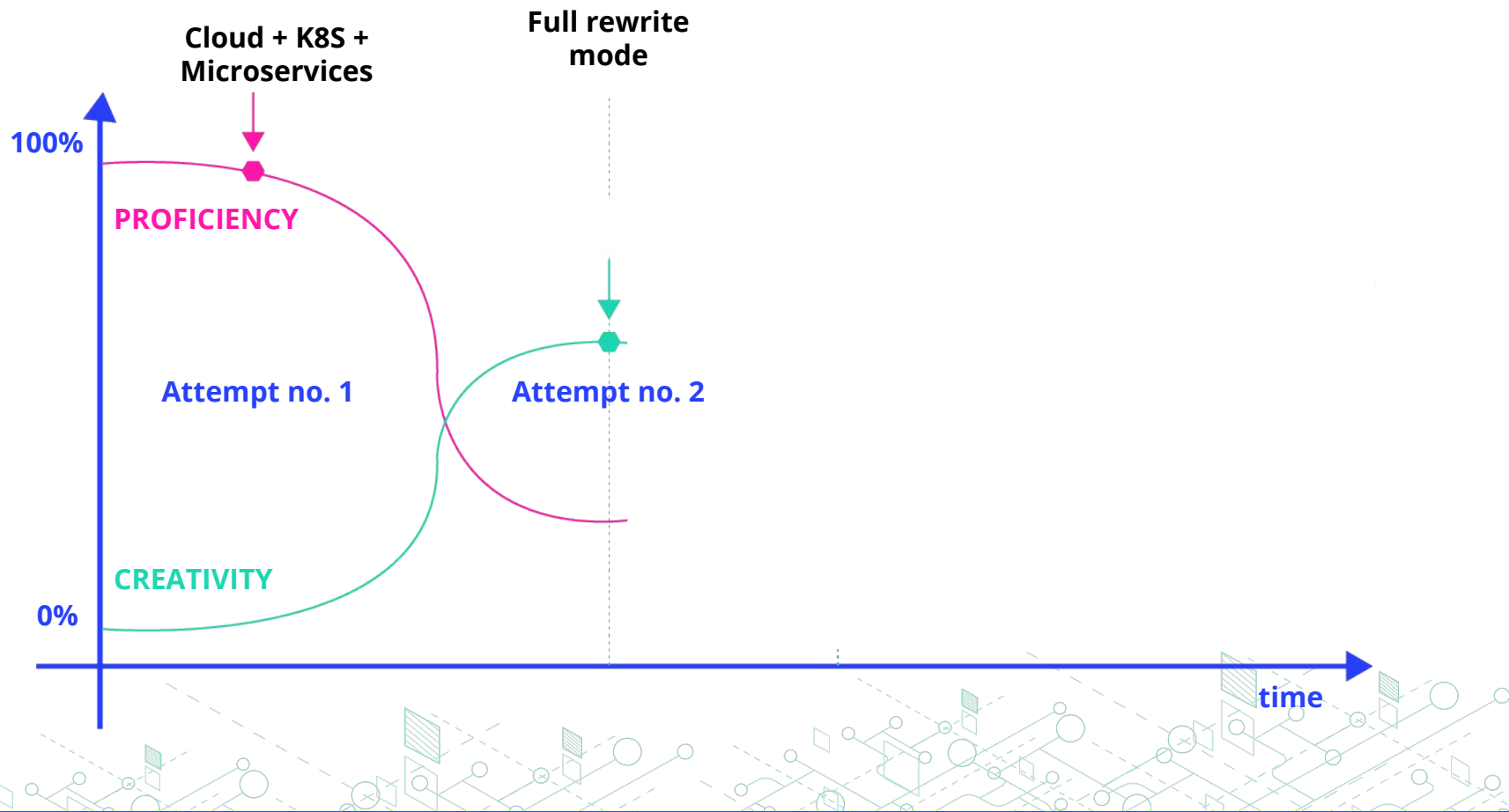
COMMUNICATE THROUGH TRIBES

Create groups of people who have similar skills but are on different teams to cross-pollinate ideas across the company and provide valuable whole-organization perspective.

What happened so far?







Design the Transformation

By using Cloud Native Patterns Language





Transformation
Champion

Business Case

Executive
Commitment



Transformation
Champion

Business Case

Vision First

Executive
Commitment

Core Team

Transformation
Strategy

Transformation
Champion

Business Case

Executive
Commitment

Vision First

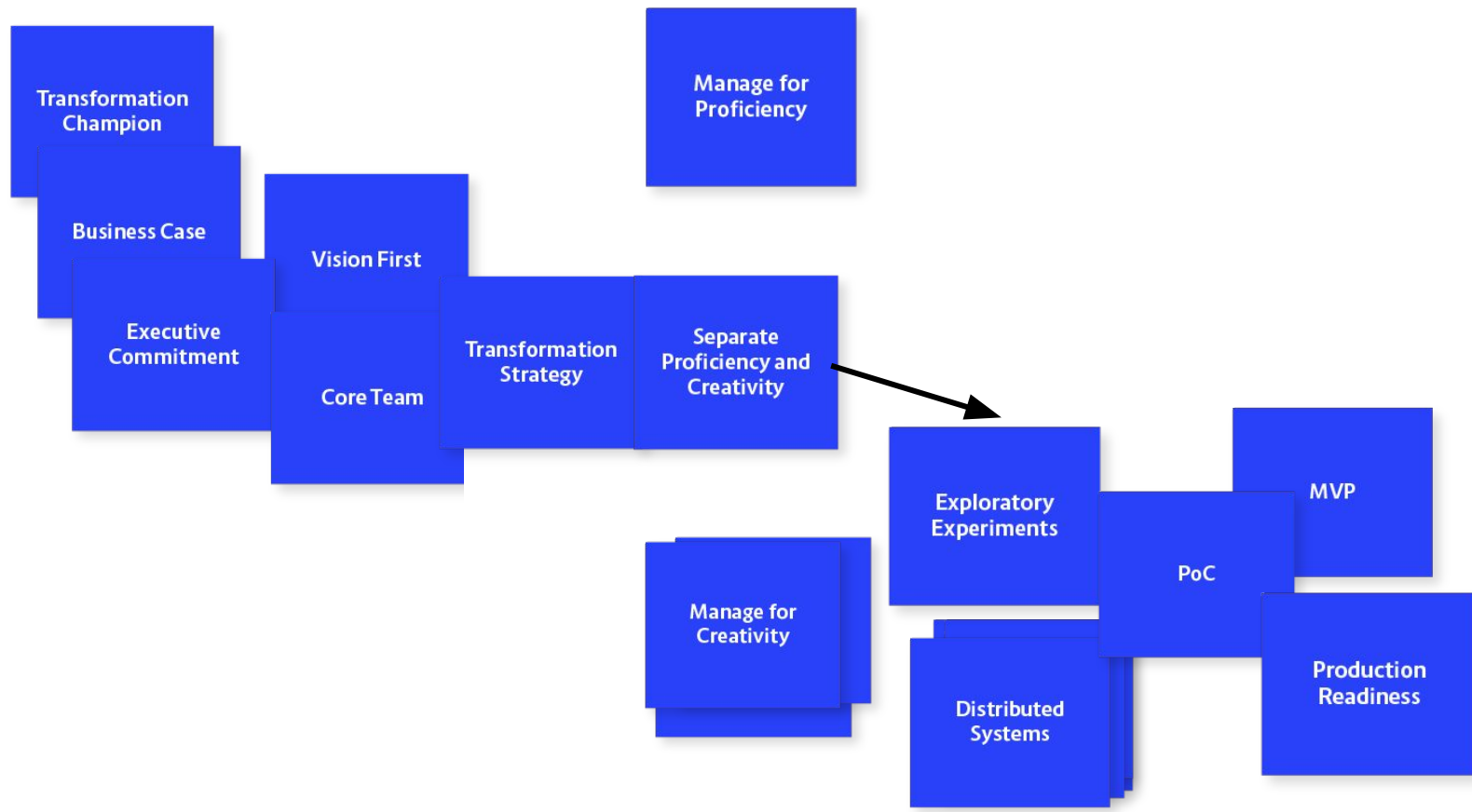
Core Team

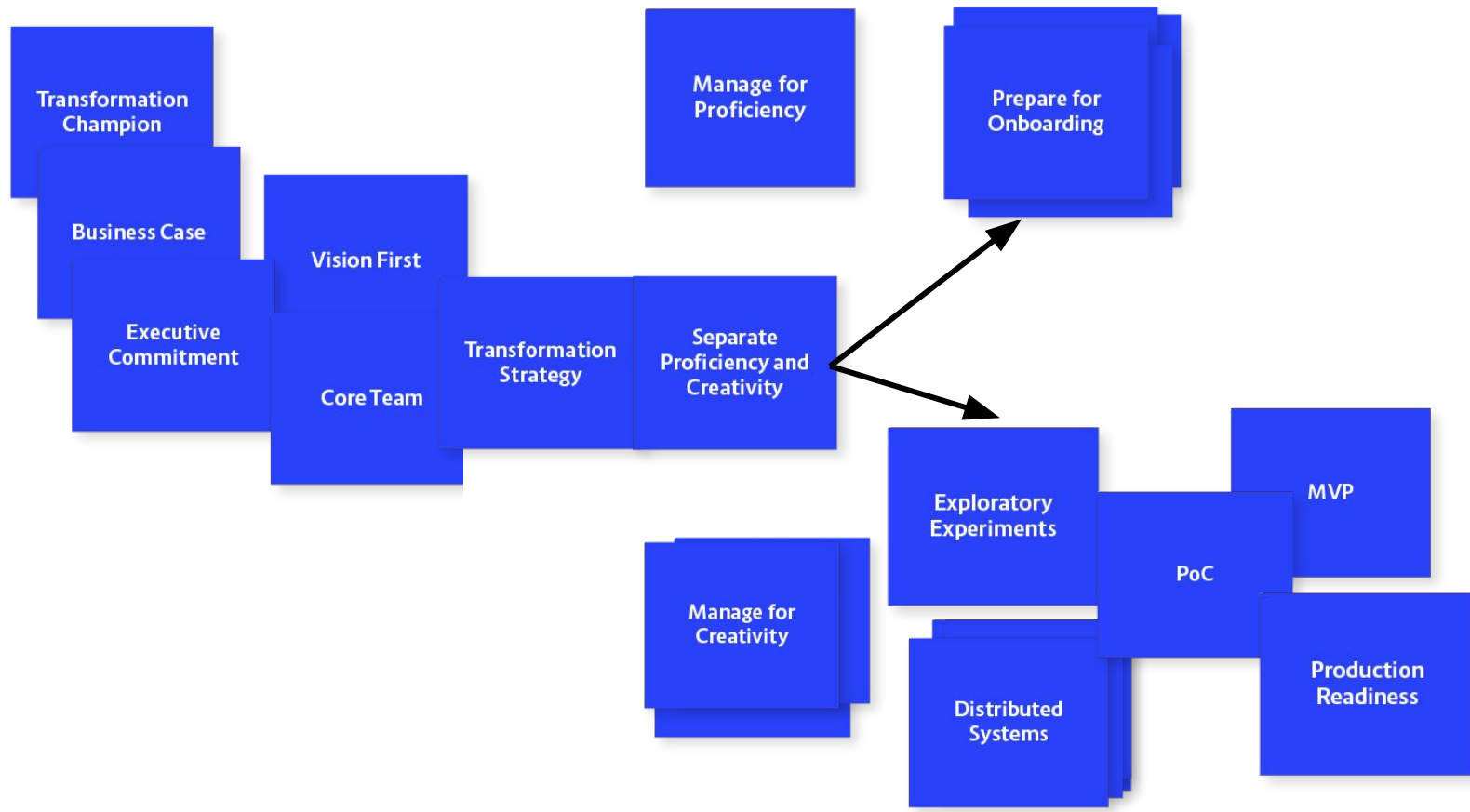
Transformation
Strategy

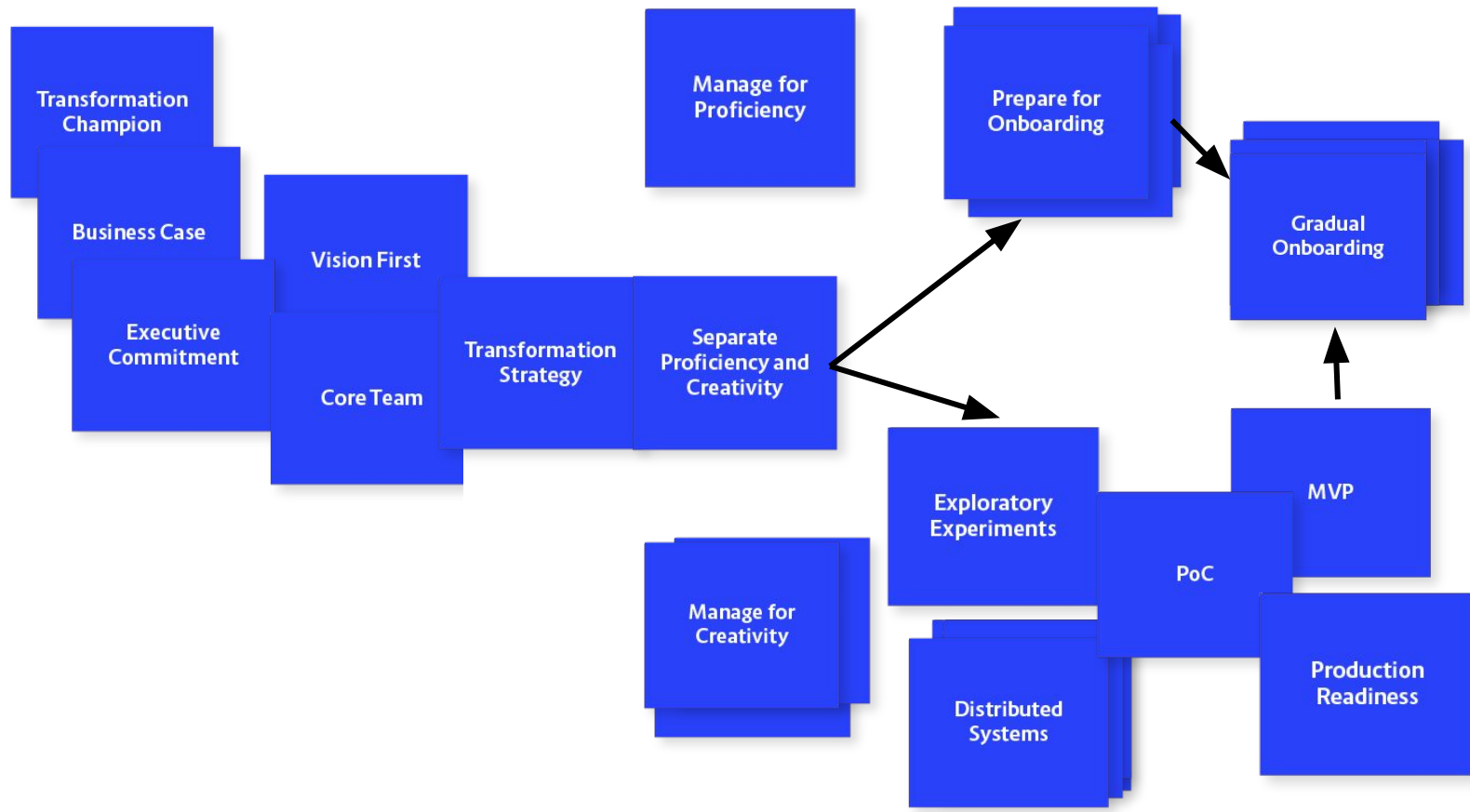
Separate
Proficiency and
Creativity

Manage for
Proficiency

Manage for
Creativity





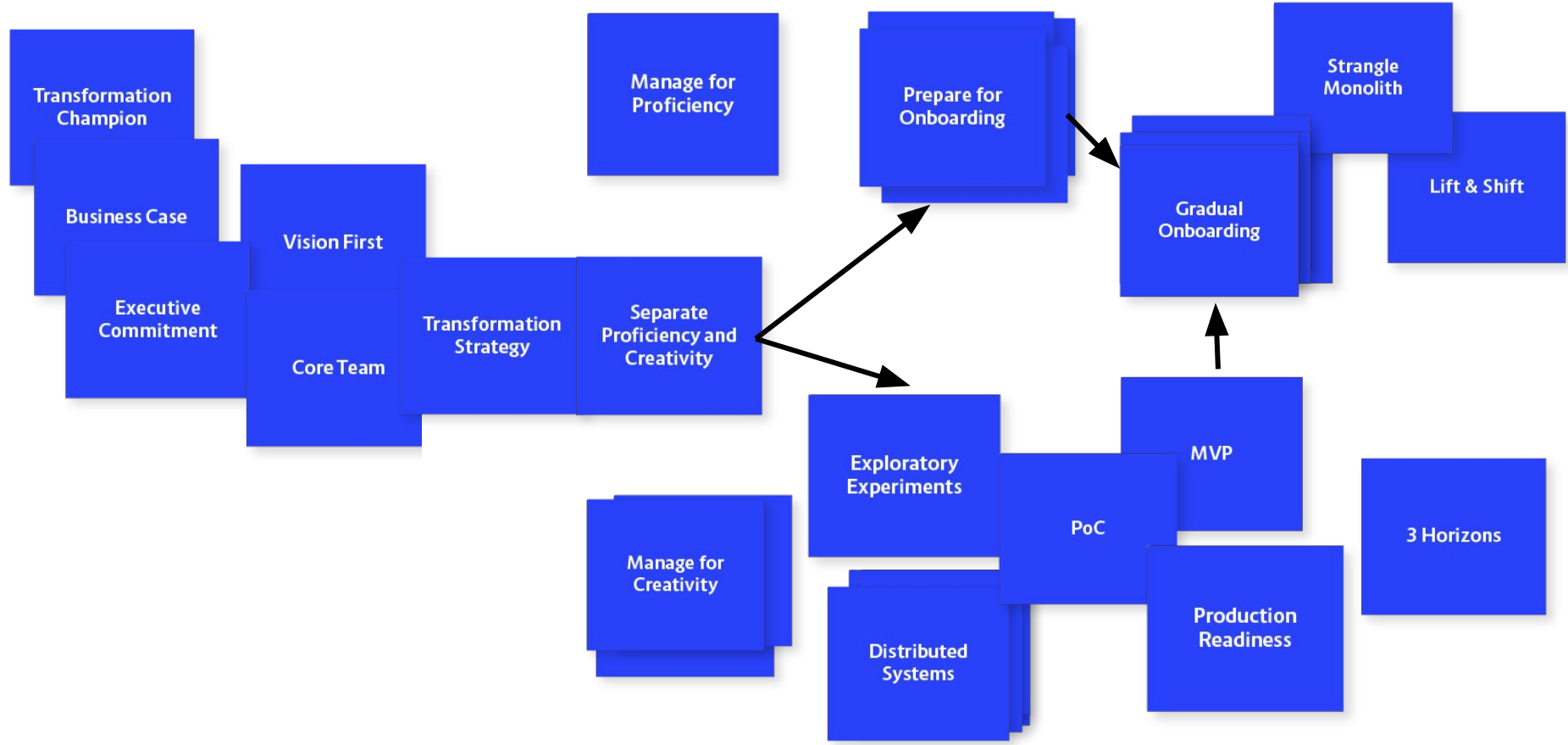


%
95, 4, 1

%
60, 30, 10

%
70, 25, 5

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80, 15, 5

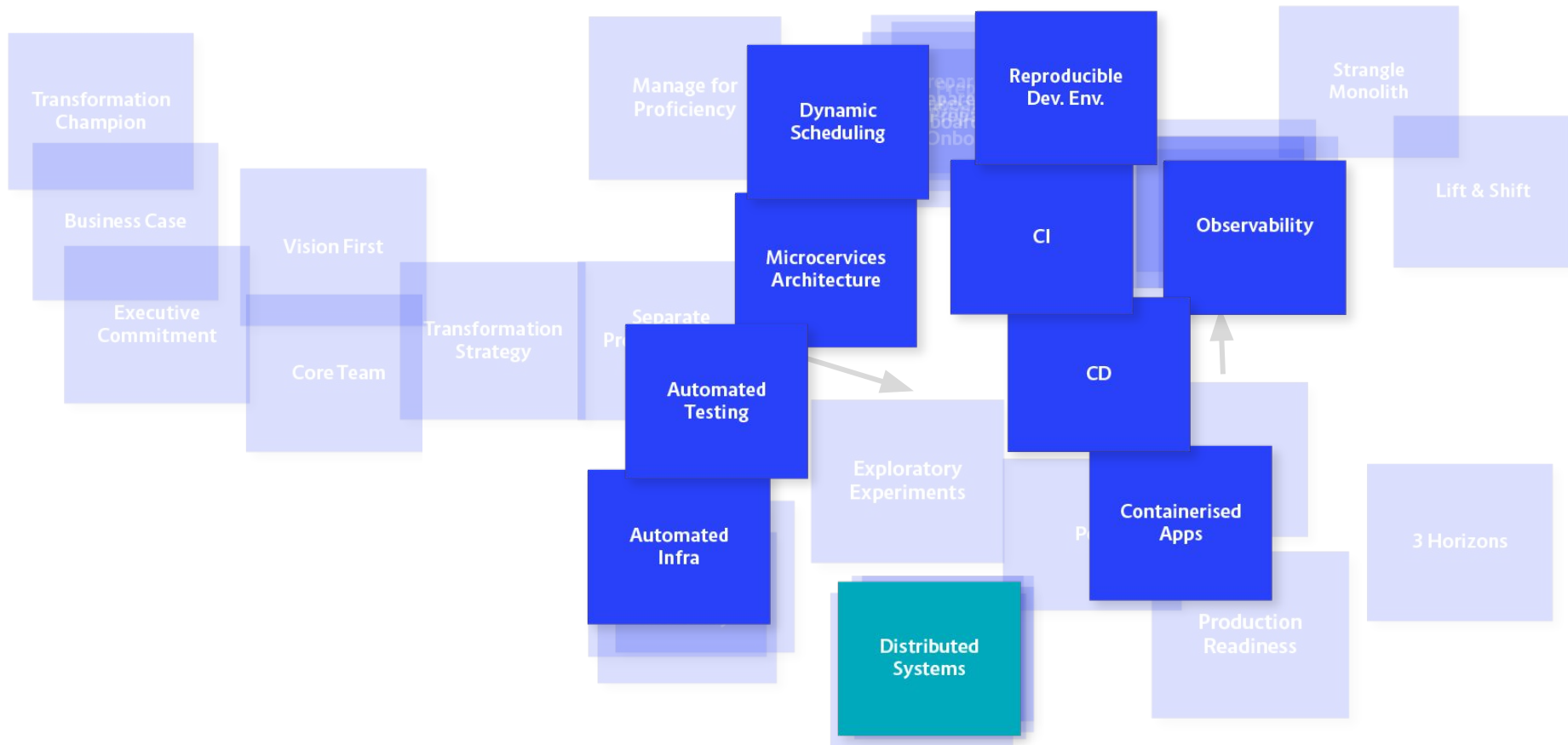


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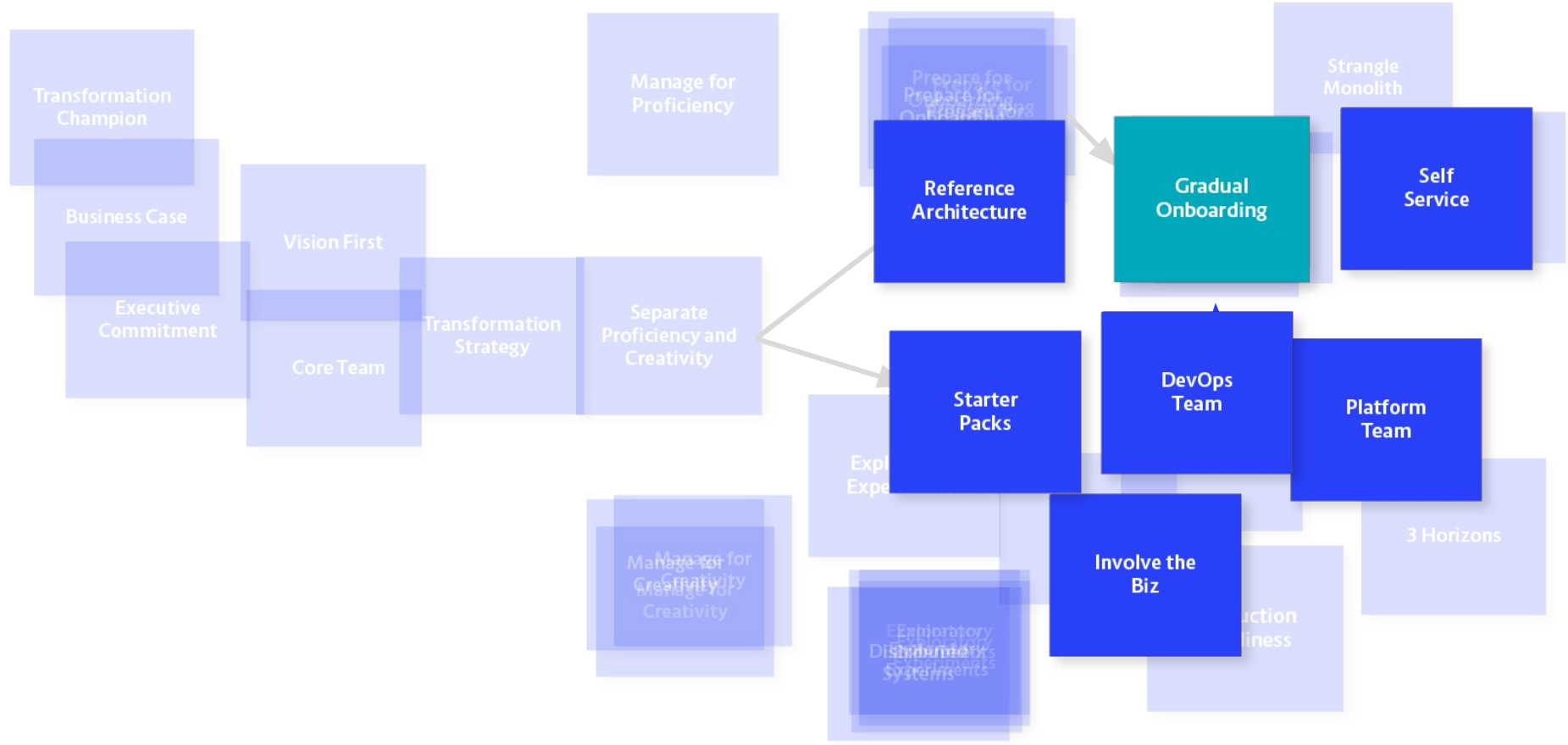


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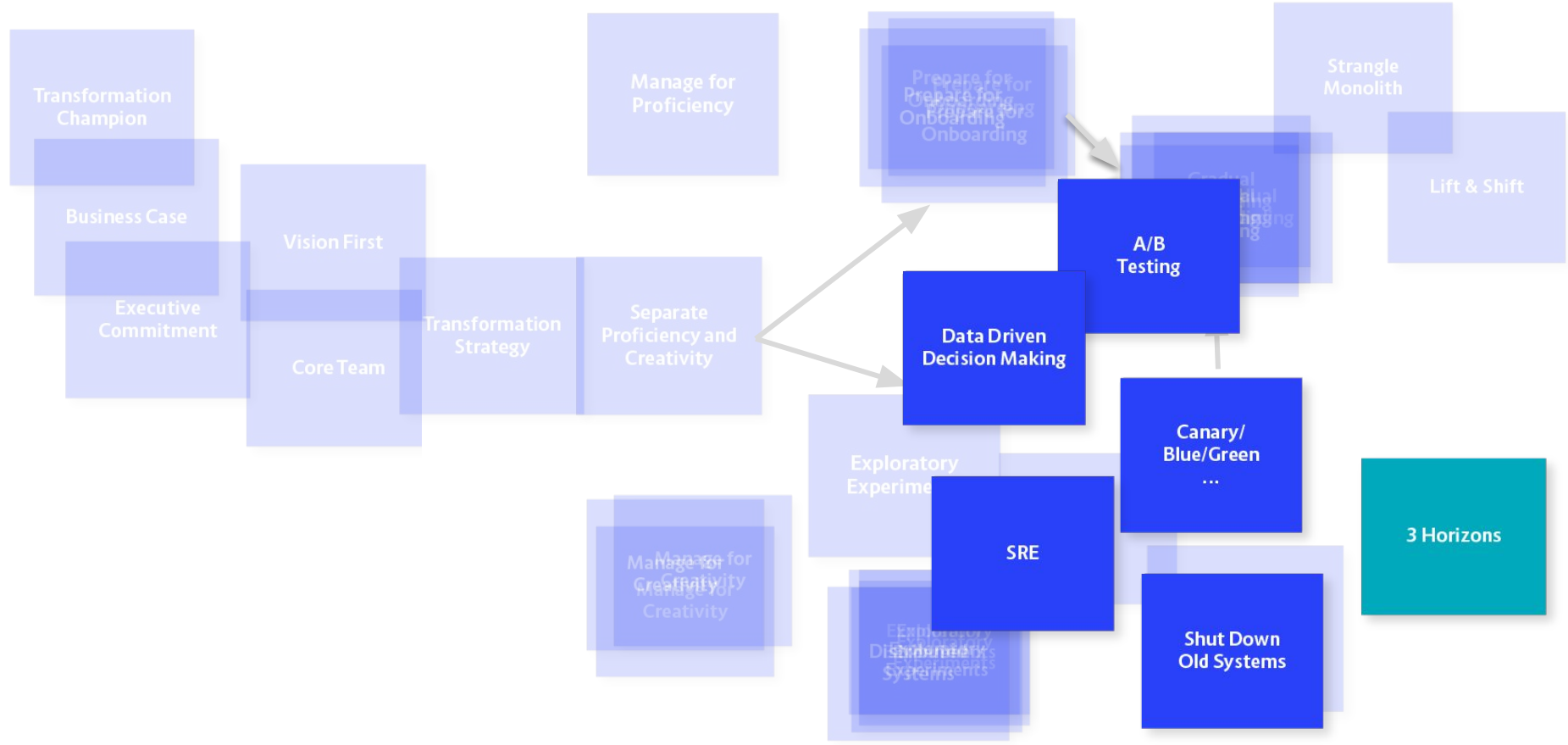


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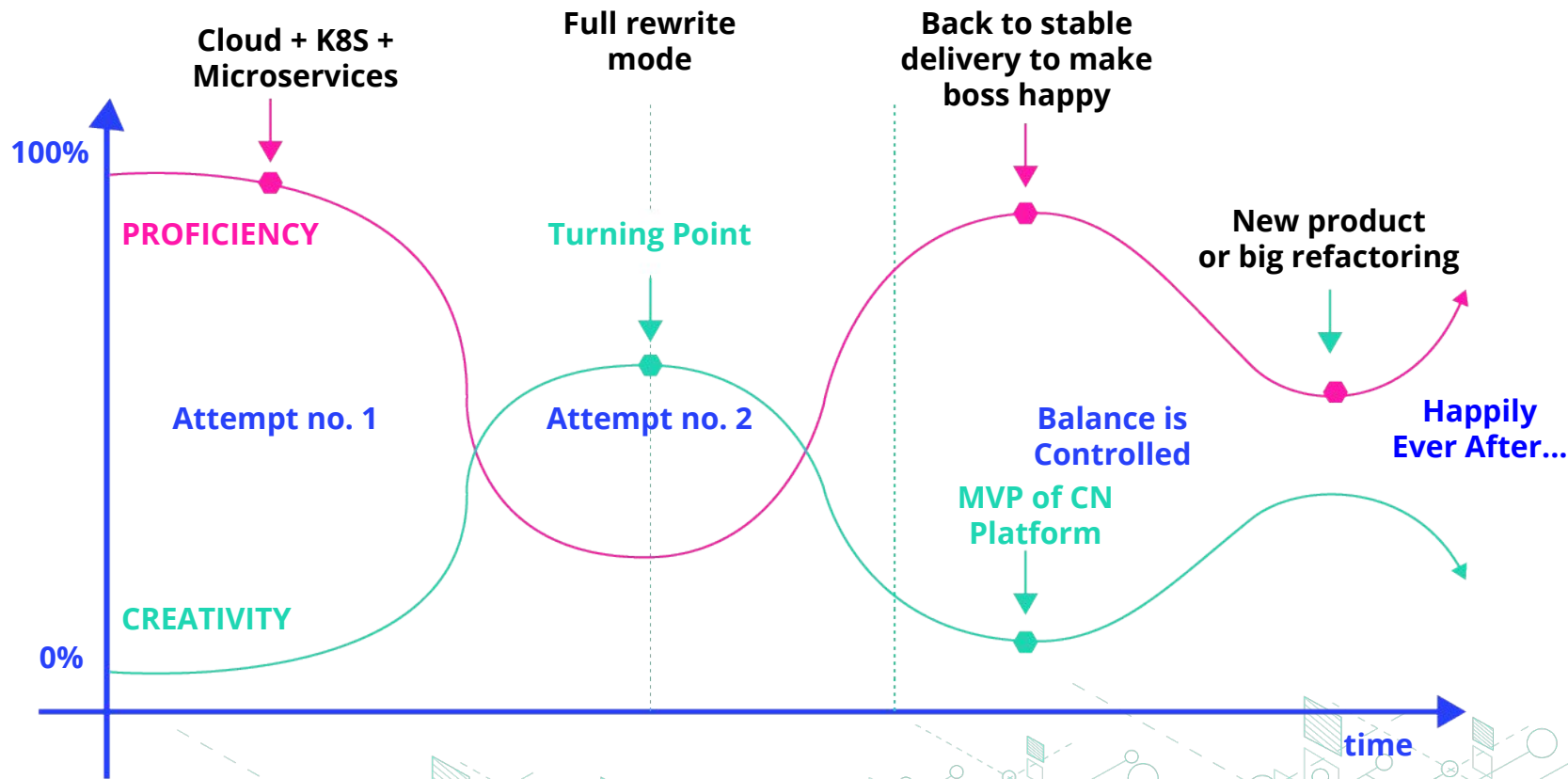


Culture Patterns

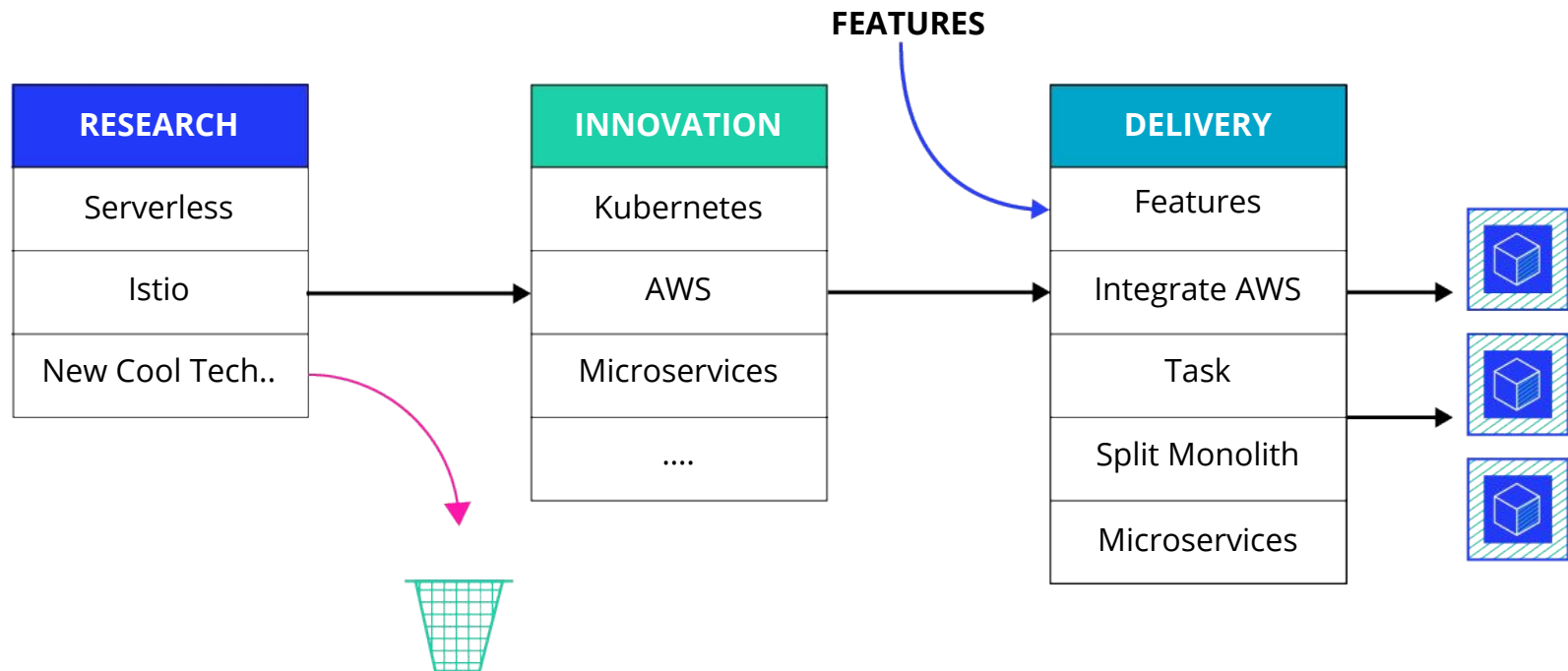
“Culture is a set of living relationships working toward a shared goal. It’s not something you are. It’s something you do.”

The Culture Code
Daniel Coyle

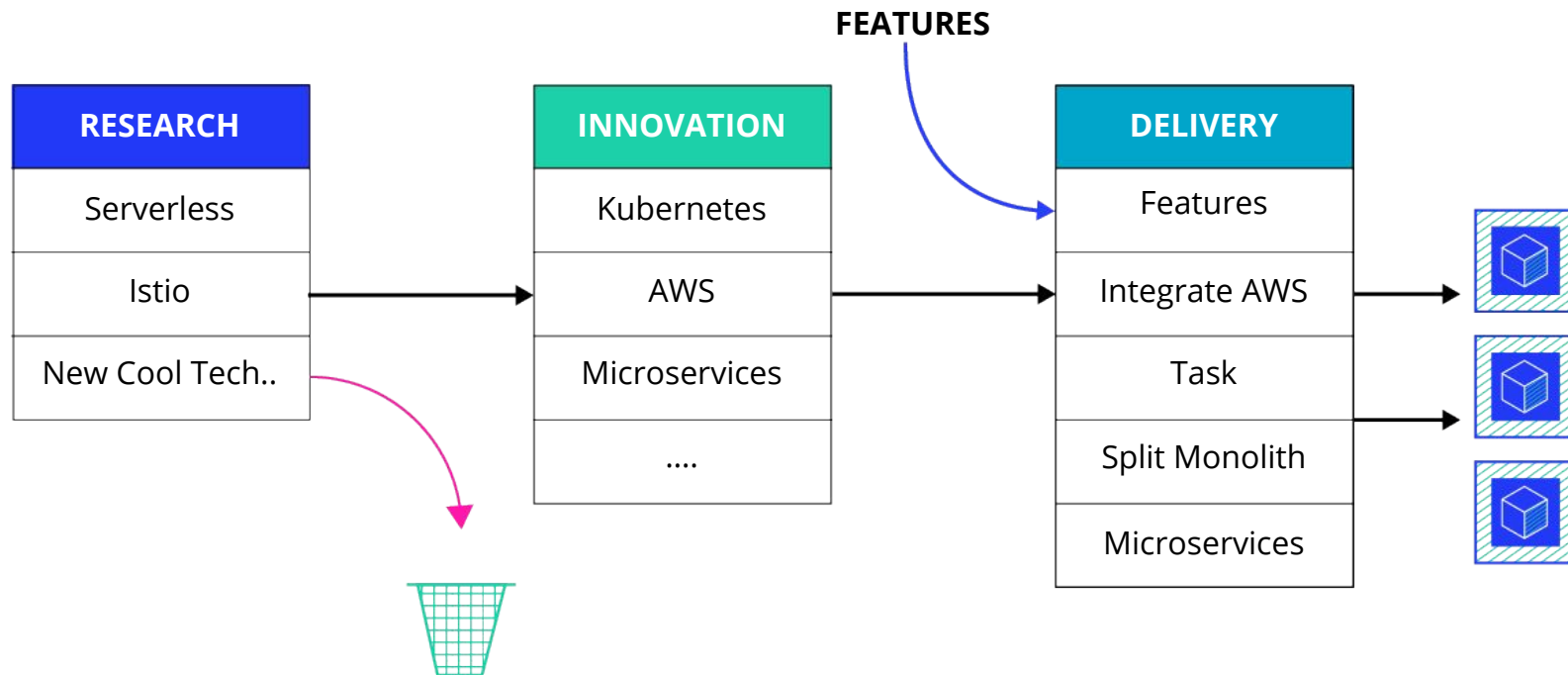




Cloud Native Innovation

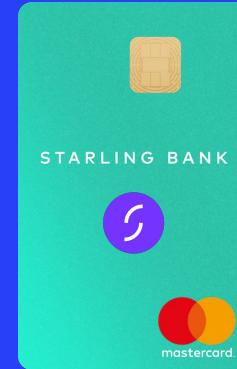


~~Cloud Native~~ Innovation

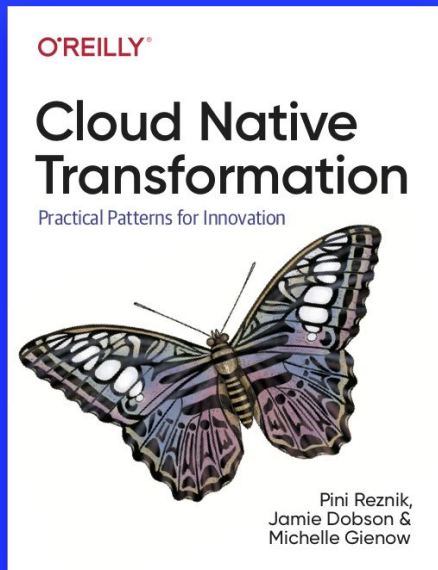


The Stranger is Coming...

... you are ready now!



A Common Cloud Native Transformation Scenario to Avoid: **'Lift and Shift'**. Read the blog:



Get your **free** pack of pattern cards to map your journey

