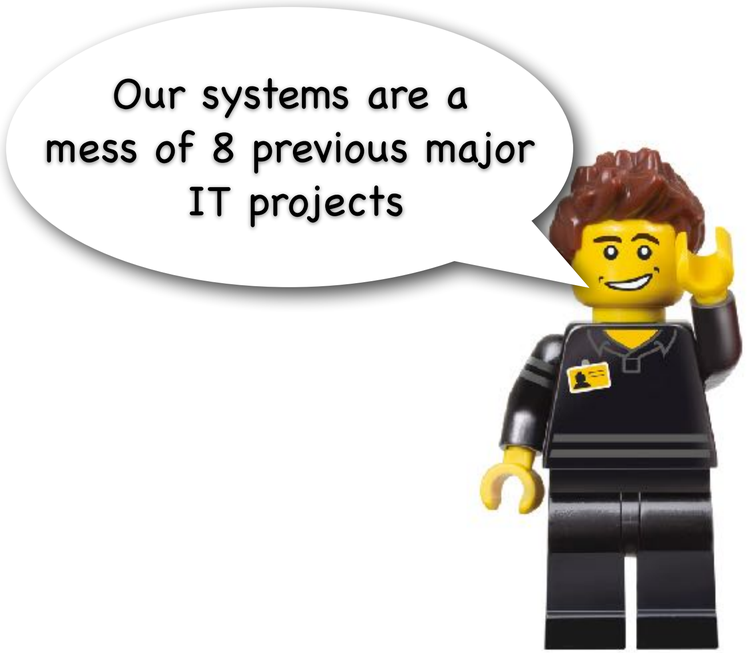
LEADING EDGE FORUM

Crossing the river by feeling the stones

simon.wardley@leadingedgeforum.com

COMMENTS …


Our systems are a mess of 8 previous major IT projects

Our systems are a mess of 8 previous major IT projects





We will build a new Death Star and learn the lessons from the past.

Our systems are a mess of 8 previous major IT projects



We will build a new Death Star and learn the lessons from the past.



Our systems are a mess of 9 previous major IT projects



Our systems are a mess of 8 previous major IT projects



We will build a new Death Star and learn the lessons from the past.



Our systems are a mess of 9 previous major IT projects



We will build a new Death Star and learn the lessons from the past.



CREATIVE COMMONS
SHARE ALIKE

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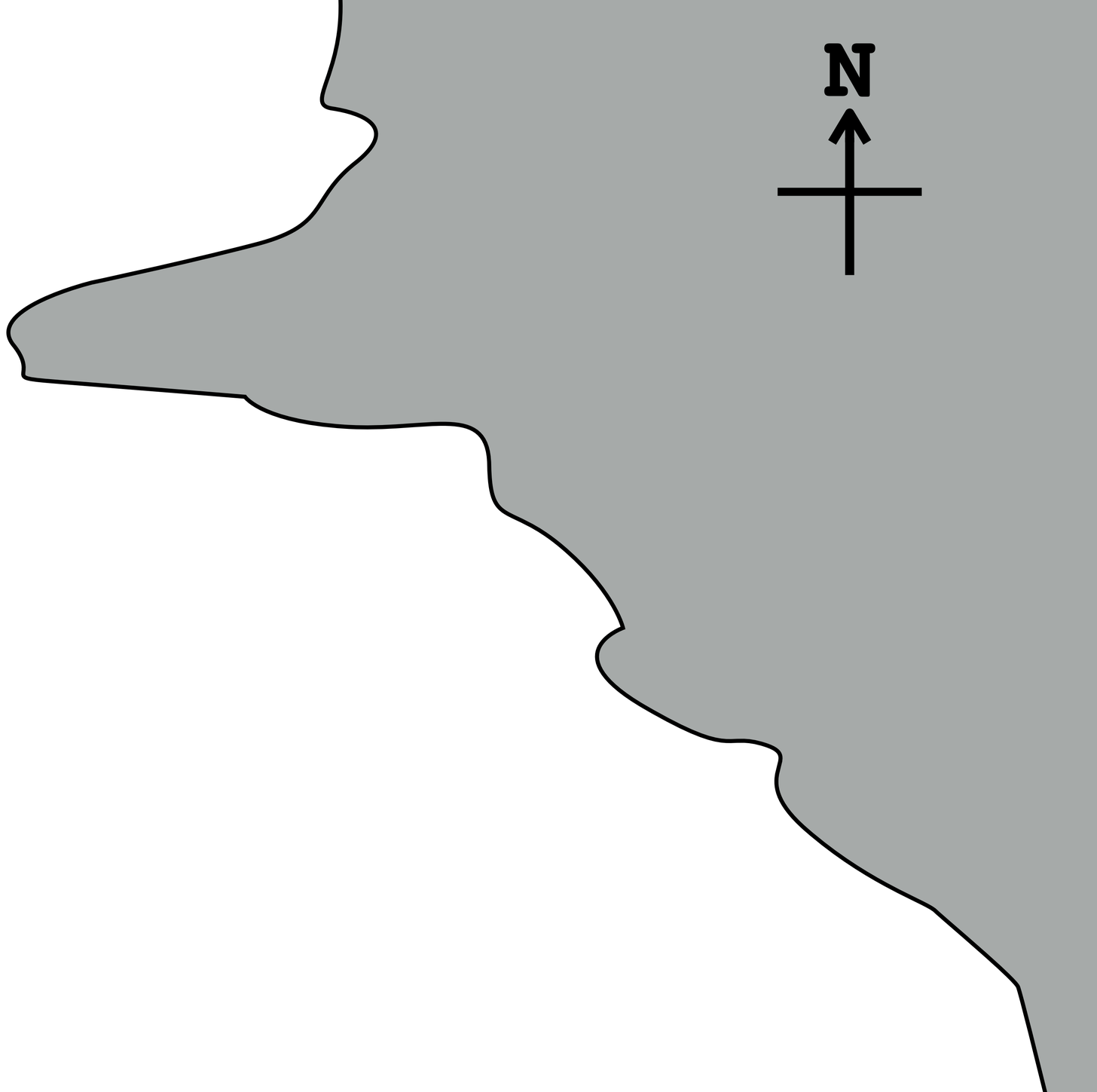
This track …

17 MEN

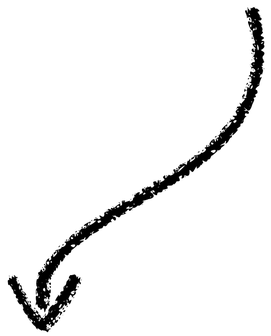
3 WOMEN

Do better.

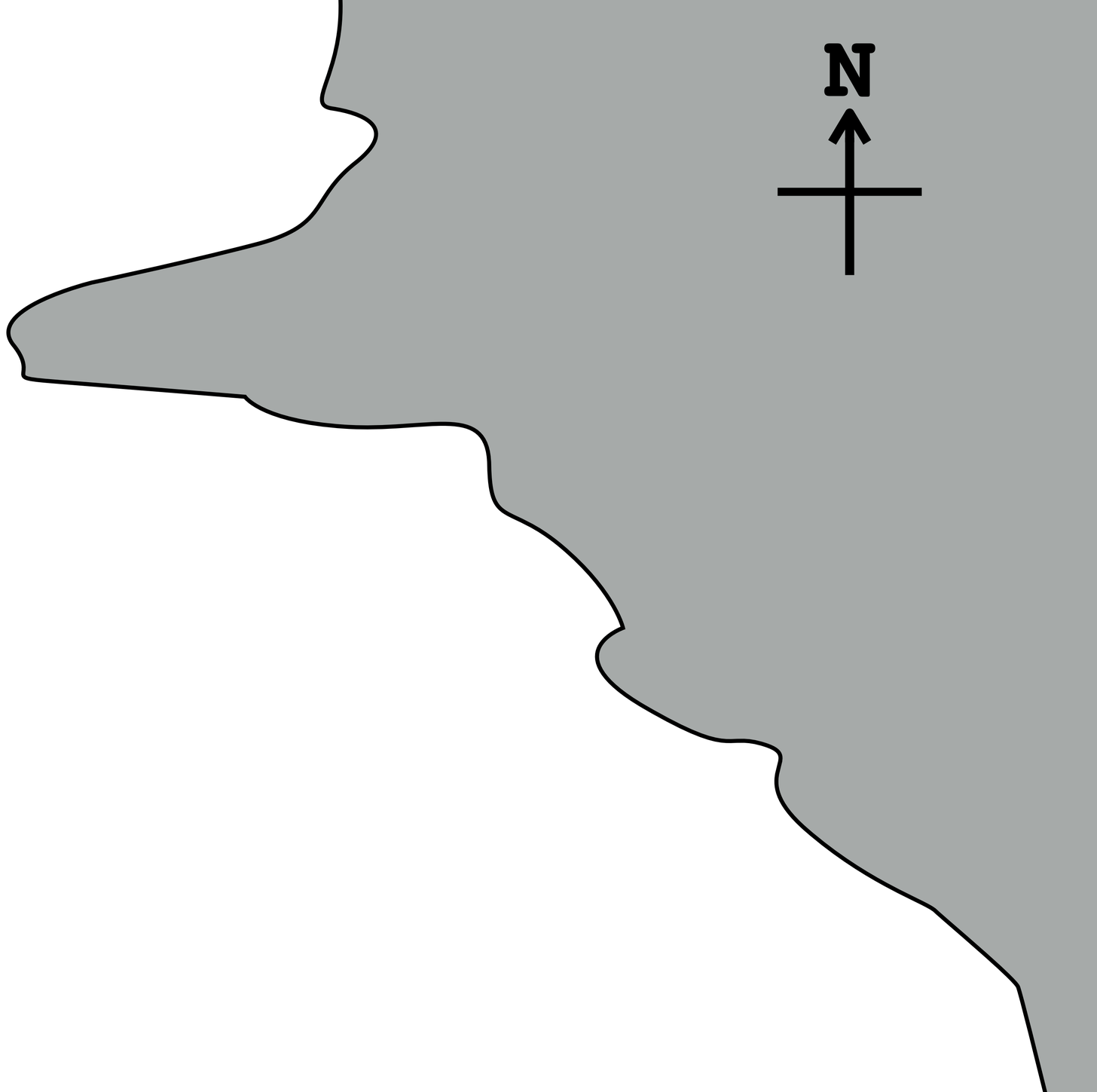
Strategy

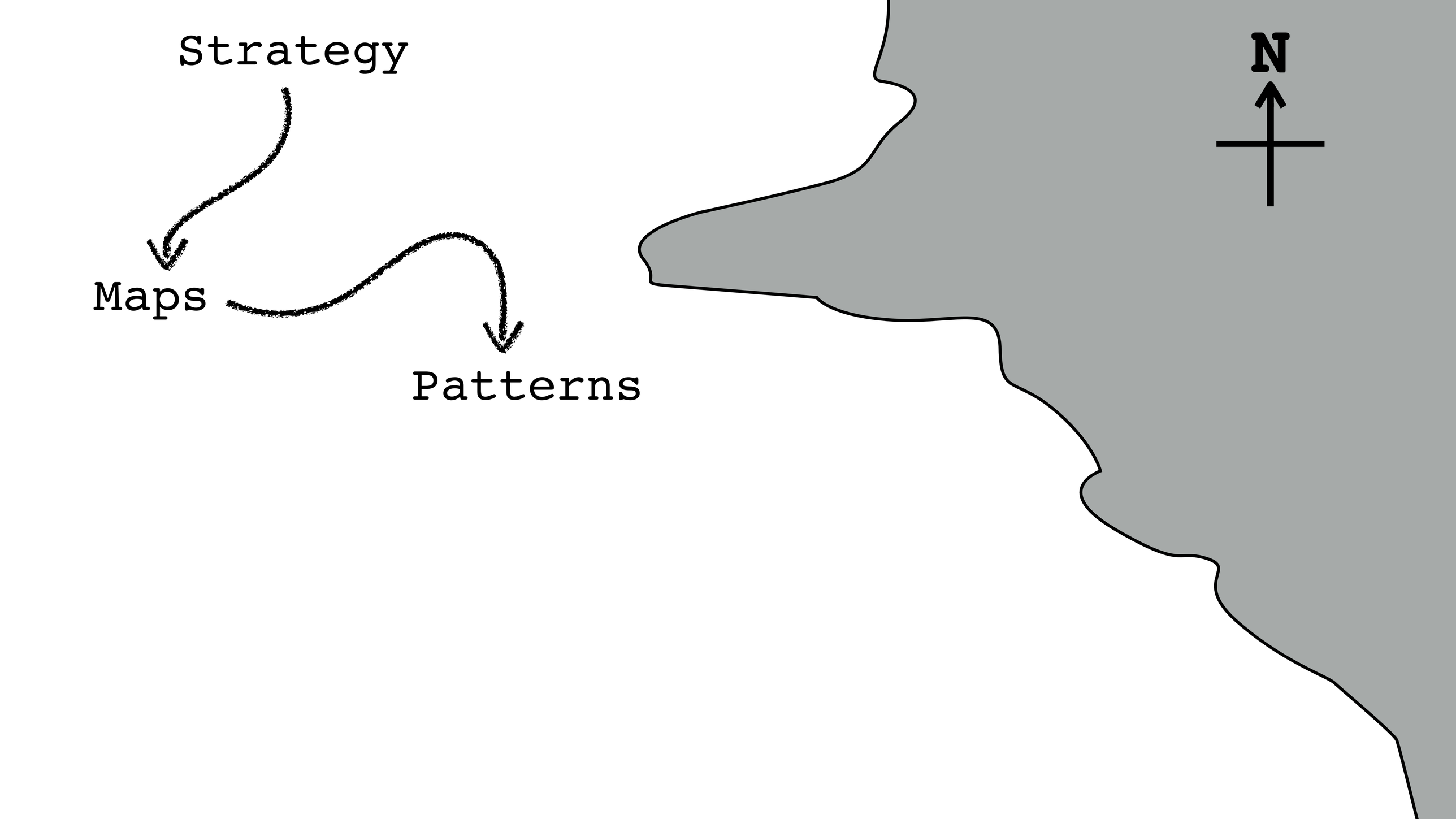


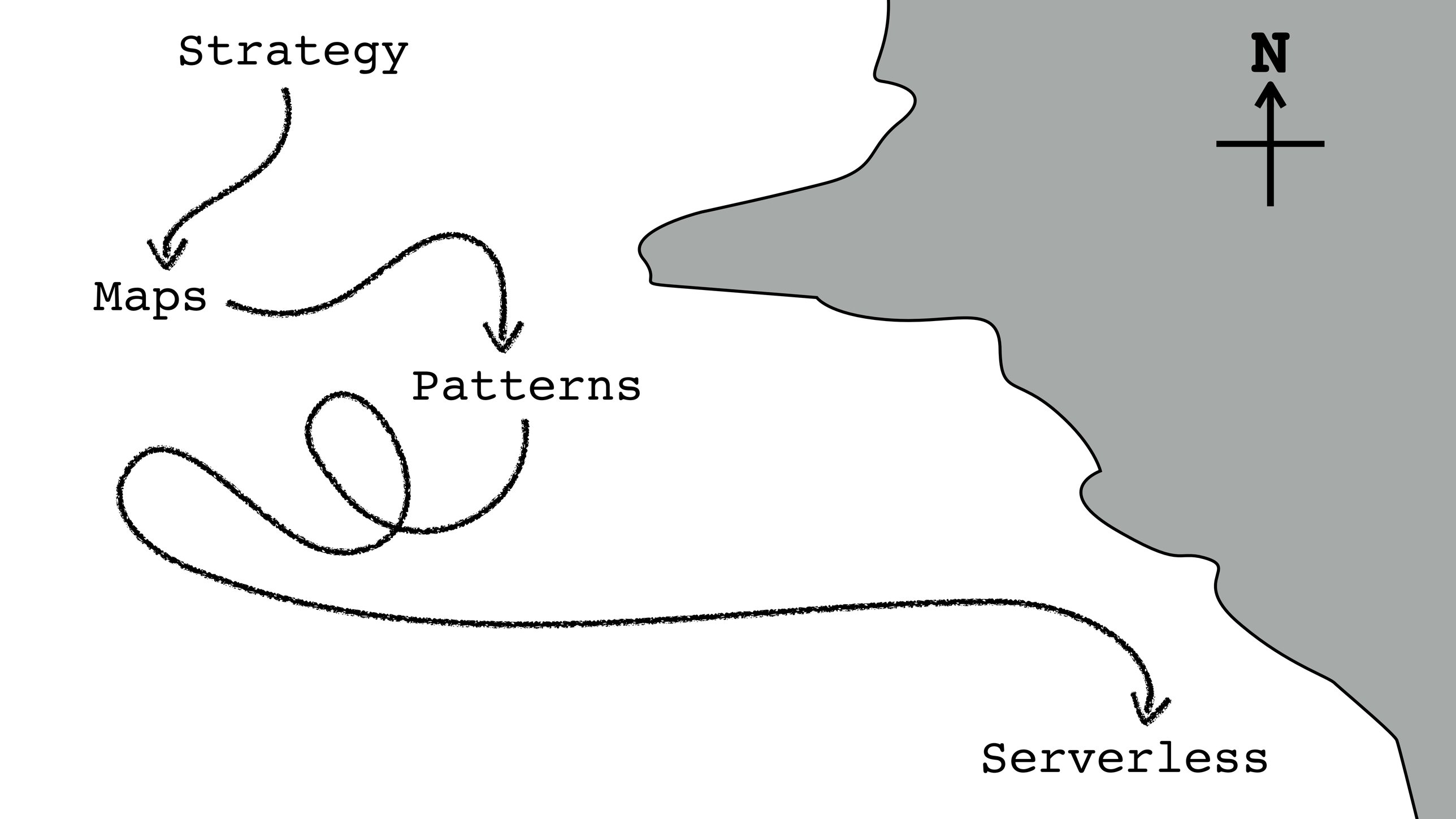
Strategy



Maps




Strategy
Maps
Patterns
N


Strategy
Maps
Patterns
Serverless
N

MAP MAPPING?

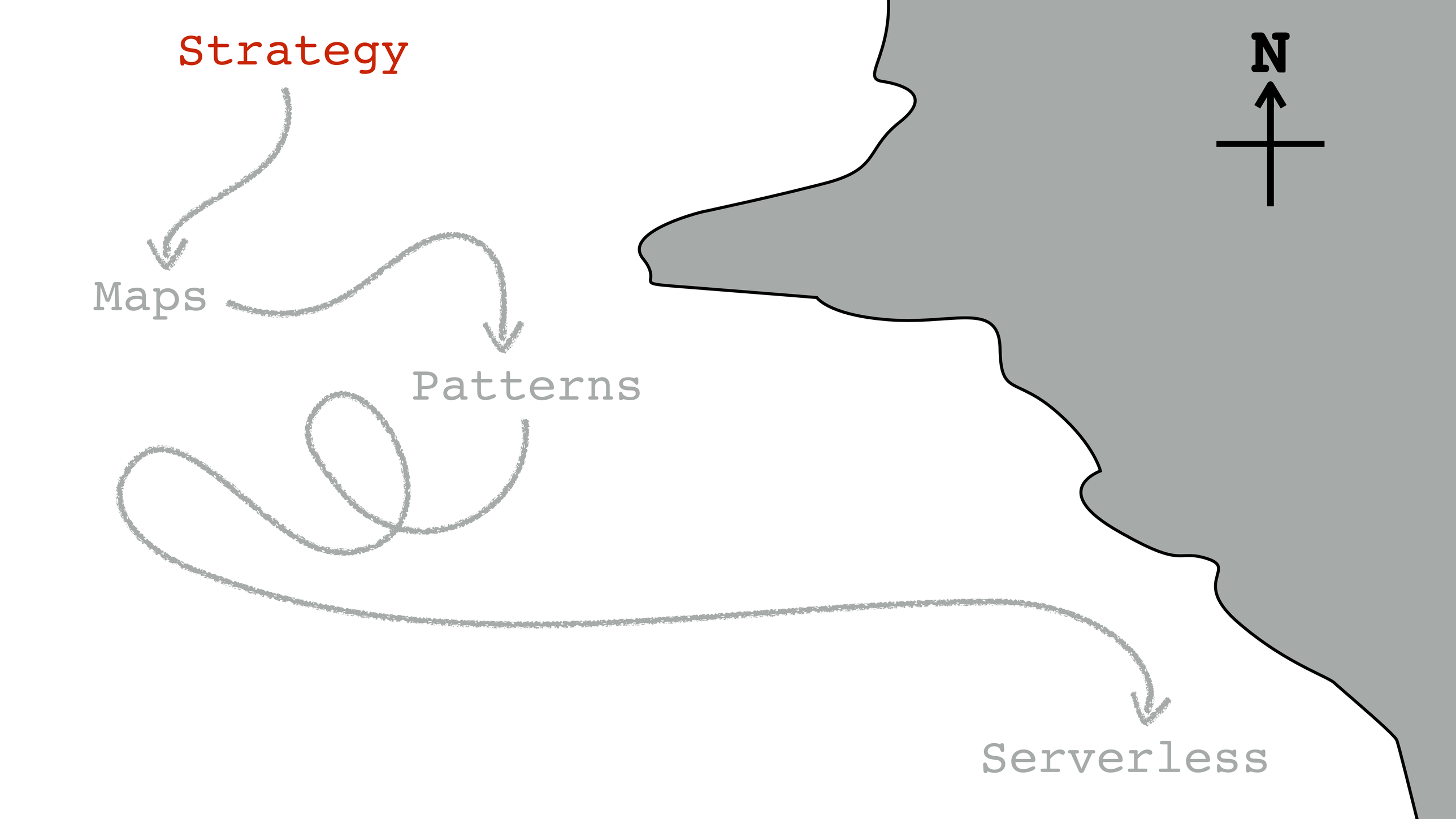
ORGANISATION

THE PROBLEM WITH DOCTRINE

WEAK SIGNALS

POLICY

BREXIT


Strategy
Maps
Patterns
Serverless
N

FOTANGO

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  Easy upload for digital pictures and film rolls
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password

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Take the Tour

Create an account

Gifts Gallery
Turn your photos into great gifts!



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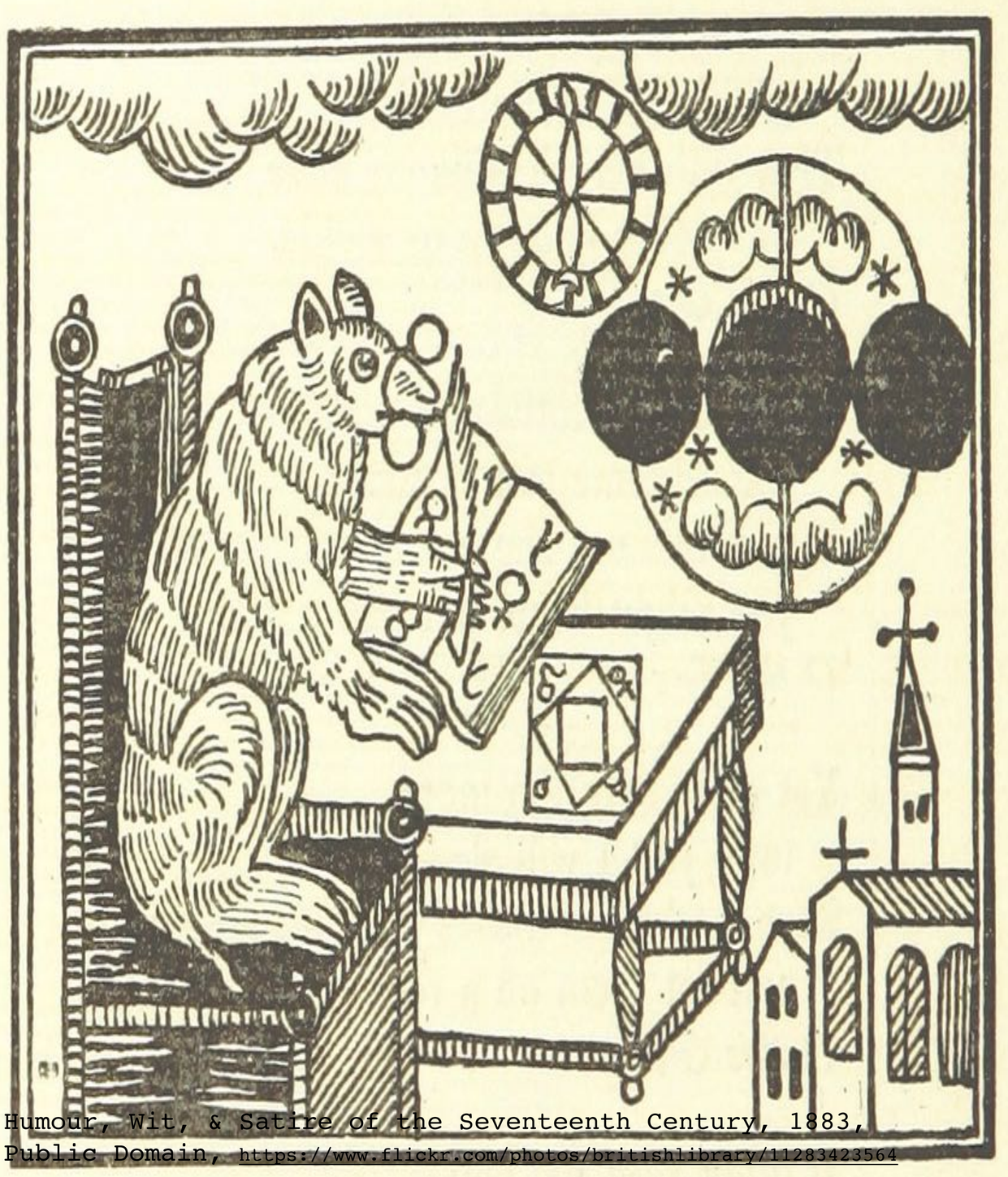
Fotango website, 2005, courtesy of CEO.




FAKE
CEO



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Humour, Wit, & Satire of the Seventeenth Century, 1883, Public Domain, https://www.flickr.com/photos/britishlibrary/11283423564

Fotango, 2003

Our strategy is **customer focused.** We will lead a **innovative** effort in the market through our use of **agile techniques** and **open source** to become a leading provider of open standard solutions to the digital world. To develop products of the highest standards we make our clients part of the team. Our final measure of success is the satisfaction of the team at the end of the project.

Business
Level
Abstractions of a
Healthy
Strategy

Common Blahs

digital business, big data, disruptive, innovative, collaborative, competitive advantage, ecosystem, open source, networked, efficiency, learning organisation, social media, revolution, cloud based, agile, secure, internet of things, growth, value, customer focused, open, digital first, data leaders, agile, insight from data, platform, sustainable, revolution, culture.

Blah Template

Our strategy is **[Blah].** We will lead a **[Blah]** effort of the market through our use of **[Blah]** and **[Blah]** to build a **[Blah].** By being both **[Blah]** and **[Blah]**, our **[Blah]** approach will drive **[Bah]** throughout the organisation. Synergies between our **[Blah]** and **[Blah]** will enable us to capture the upside by becoming **[Blah]** in a **[Blah]** world. These transformations combined with **[Blah]** due to our **[Blah]** will create a **[Blah]** through **[Blah]** and **[Blah].**

Blahs

+

Blah template

=

auto generate

64 strategies

Strategy 1 / 64

Our strategy is **customer focused.** We will lead a **disruptive** effort of the market through our use of **innovative social media** and **big data** to build a **collaborative cloud based ecosystem.** By being both **digital first** and **agile,** our **open** approach will drive **efficiency** throughout the organisation. Synergies between our **culture revolution** and **networked learning organisation** will enable us to capture the upside by becoming **data leaders** in a **digital business** world.

Strategy 2 / 64

Our strategy is **innovative digital business.** We will lead a **growth** effort of the market through our use of **customer focused competitive advantage** and **disruptive social media** to build a **collaborative revolution.** By being both **data leaders** and **cloud based**, our **ecosystem** approach will drive **insight from data** throughout the organisation. Synergies between our **platform** and **open culture** will enable us to capture the upside by becoming **digital first** in a **networked** world.

1. This is the exact wording from our business plan.

1. This is the exact wording from our business plan.

2. I’ve seen two of these used already.

1. This is the exact wording from our business plan.

2. I’ve seen two of these used already.

3. Are you for hire?

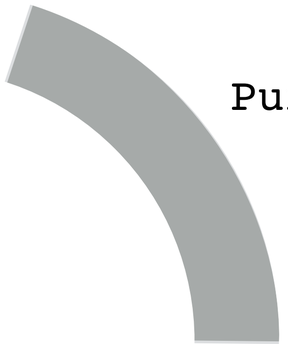
Fork me on GitHub

Our strategy is collaborative. We will lead an open effort of the market through our use of big data and social media to build a digital business. By being both disruptive and agile, our networked approach will drive internet of things throughout the organization. Synergies between our growth and insight from data will enable us to capture the upside by becoming sustainable in an innovative world. These transformations combined with learning organization due to our data leaders will create a platform through revolution and leaders.

http://strategy-madlibs.herokuapp.com/

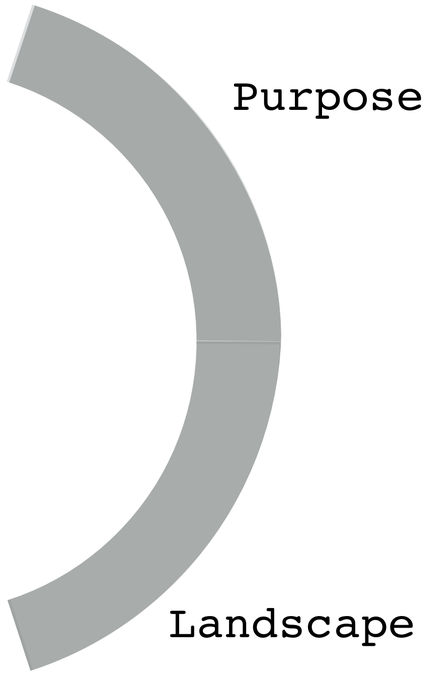


Julian Mason, APR 2011, CC by 2.0
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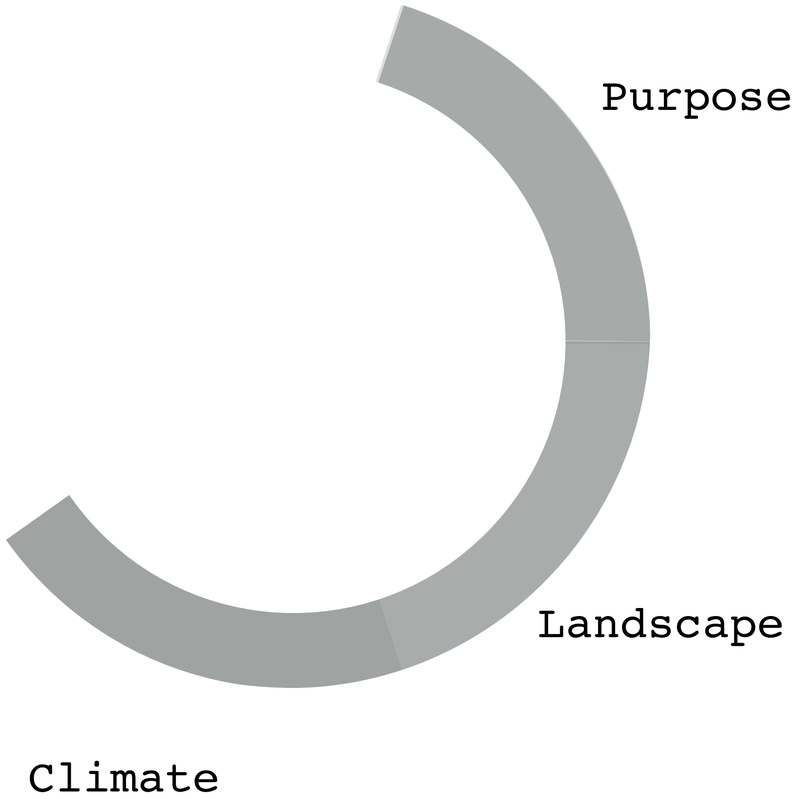
The Strategy Cycle

Sun Tzu's five factors



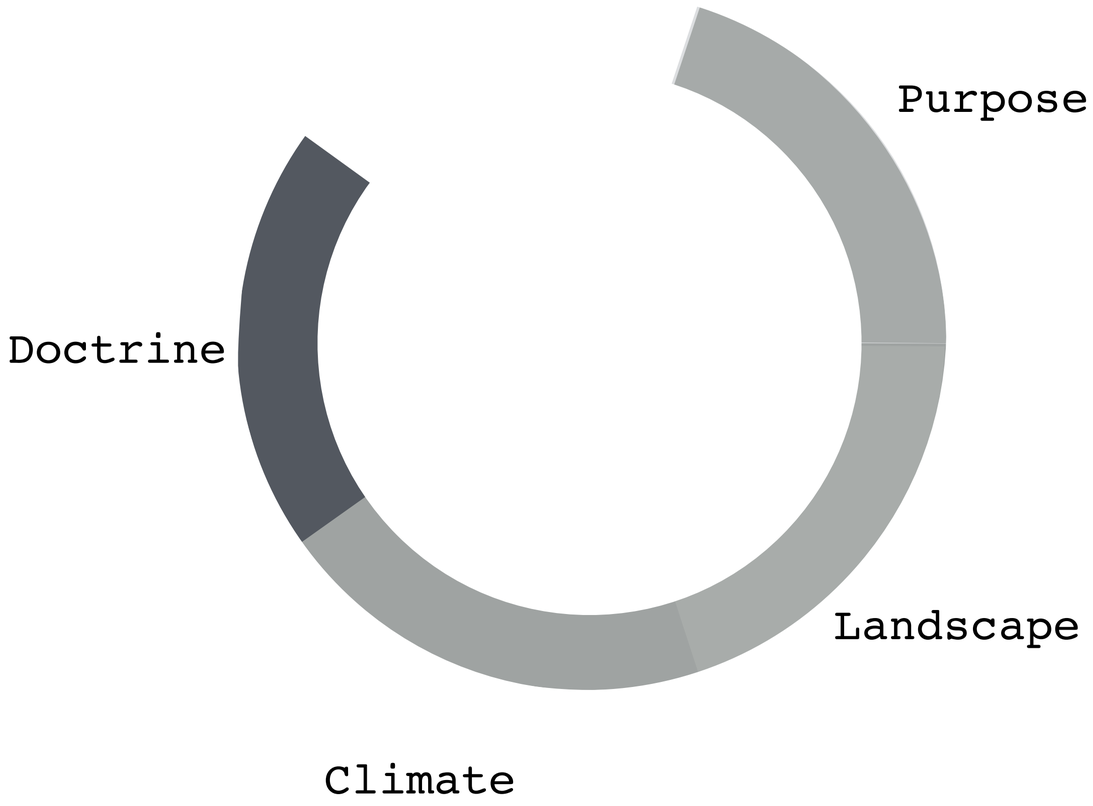
The Strategy Cycle

Sun Tzu's five factors



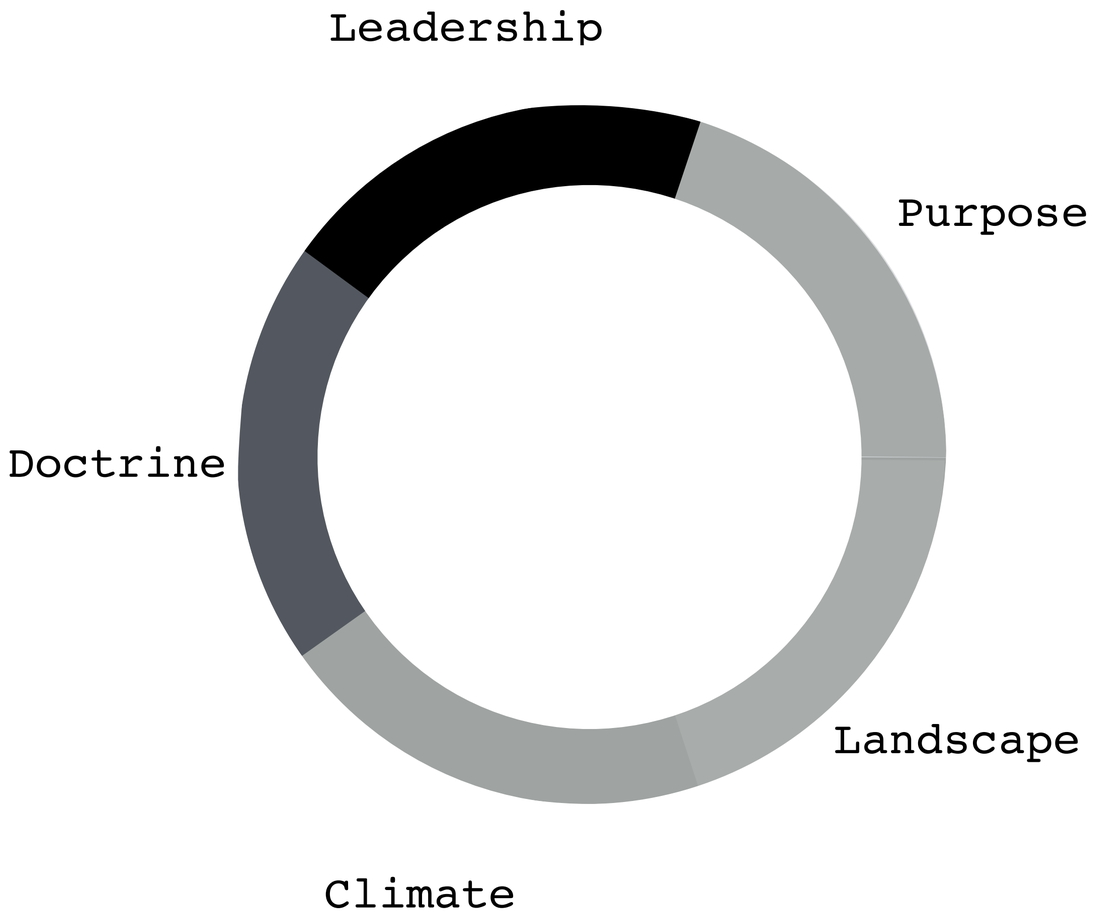
The Strategy Cycle

Sun Tzu's five factors



The Strategy Cycle

Sun Tzu's five factors



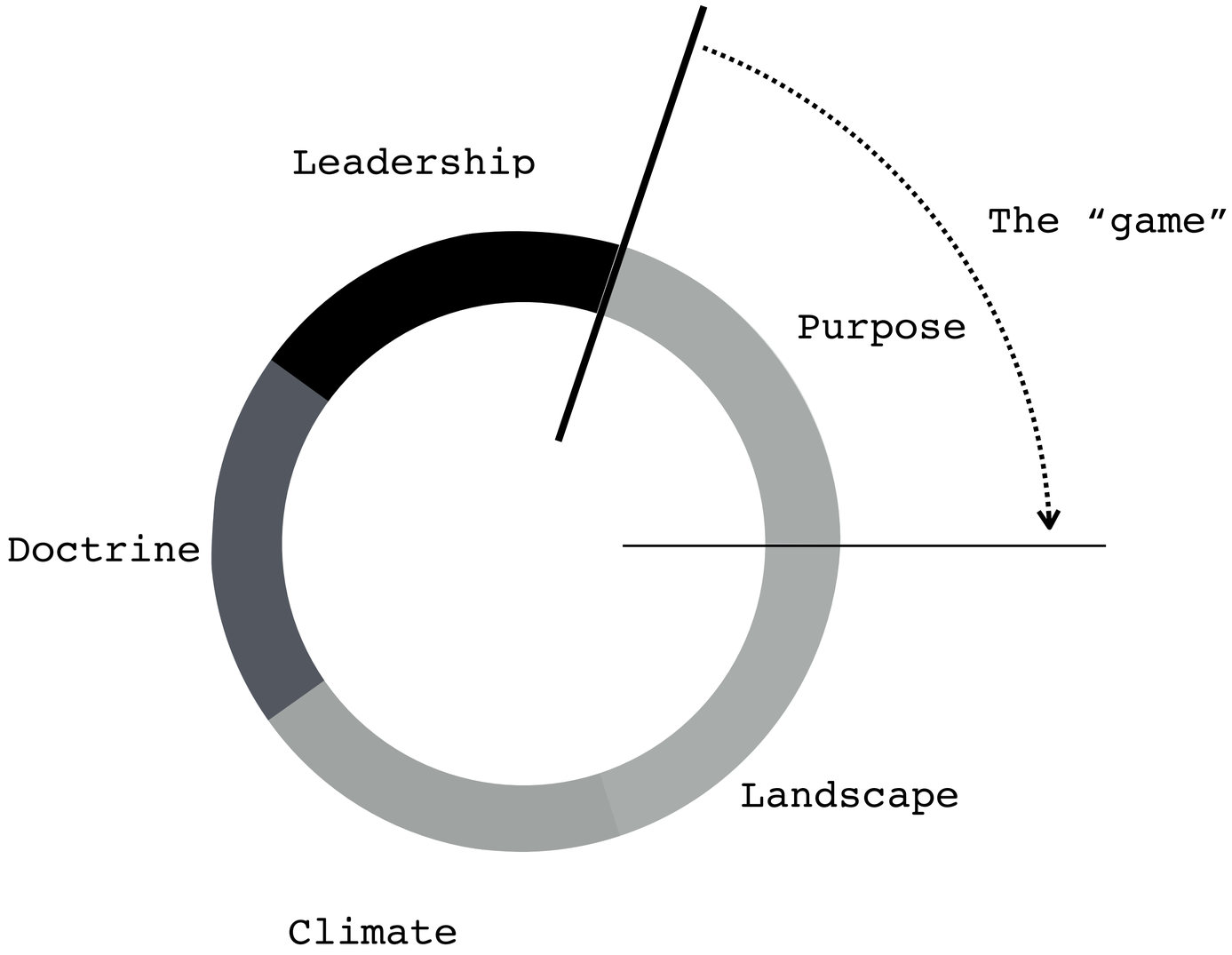
The Strategy Cycle

Sun Tzu's five factors

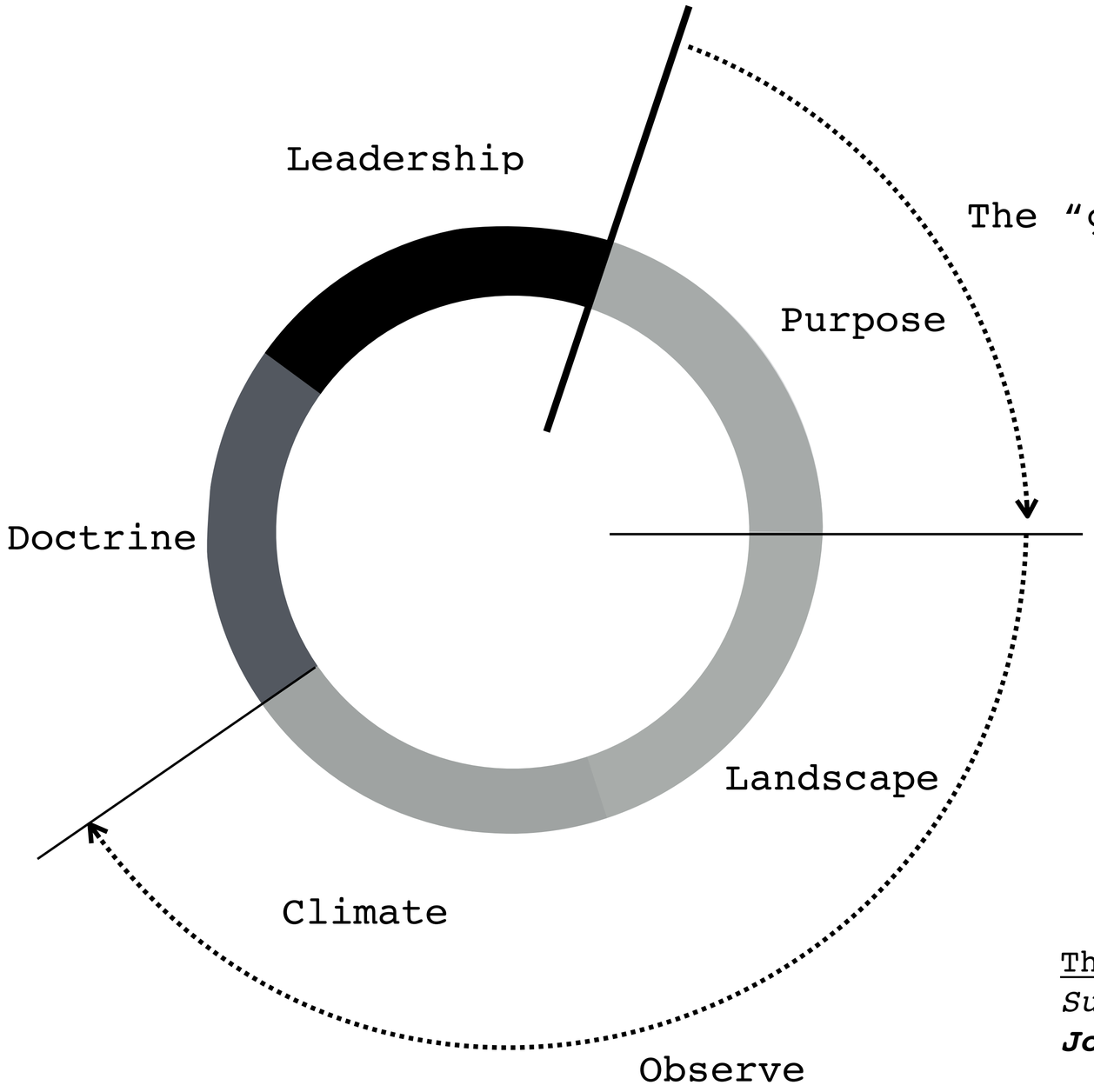


John Boyd, USAF

Public Domain, US Gov, 2012



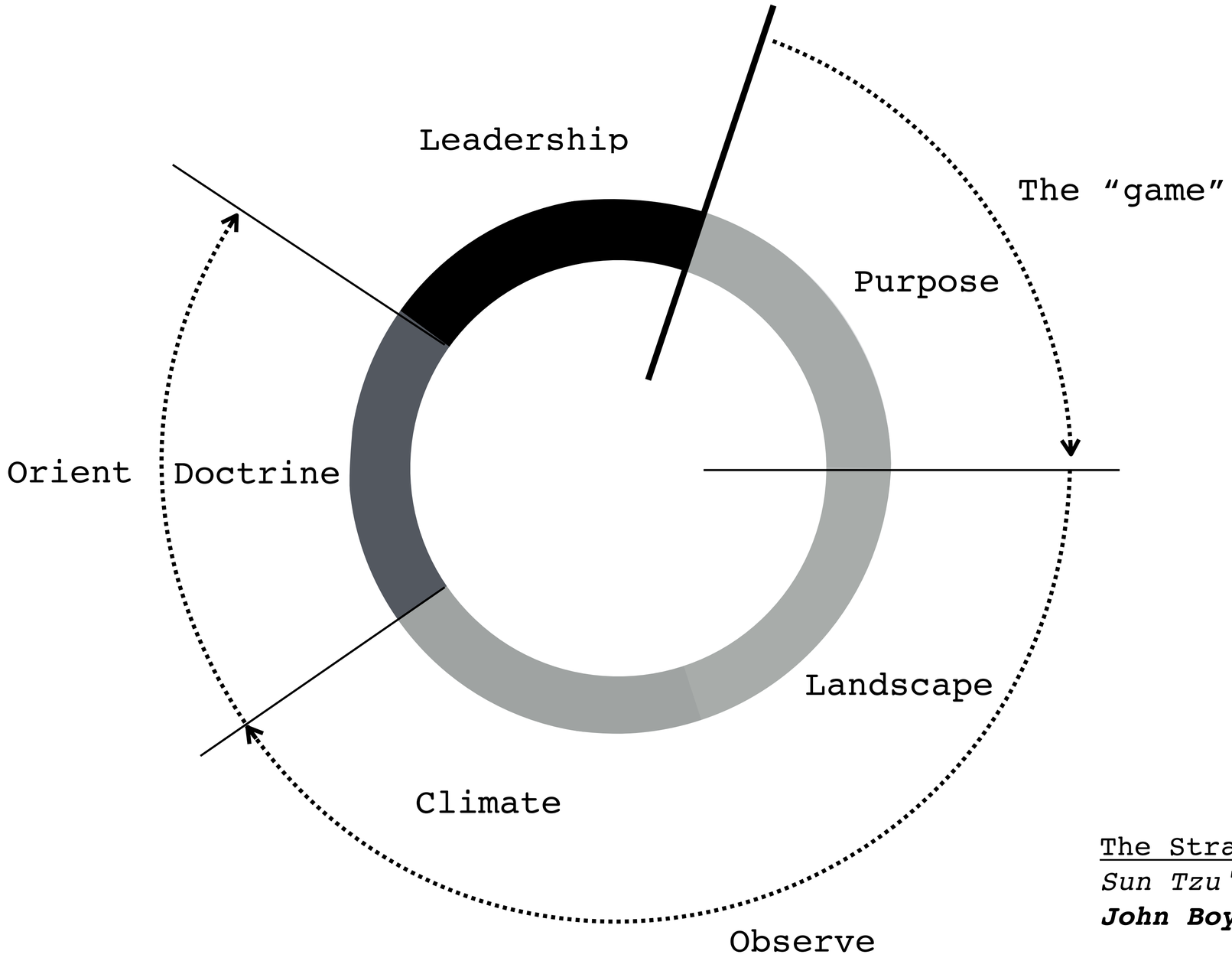
The Strategy Cycle
Sun Tzu's five factors
John Boyd's OODA loop



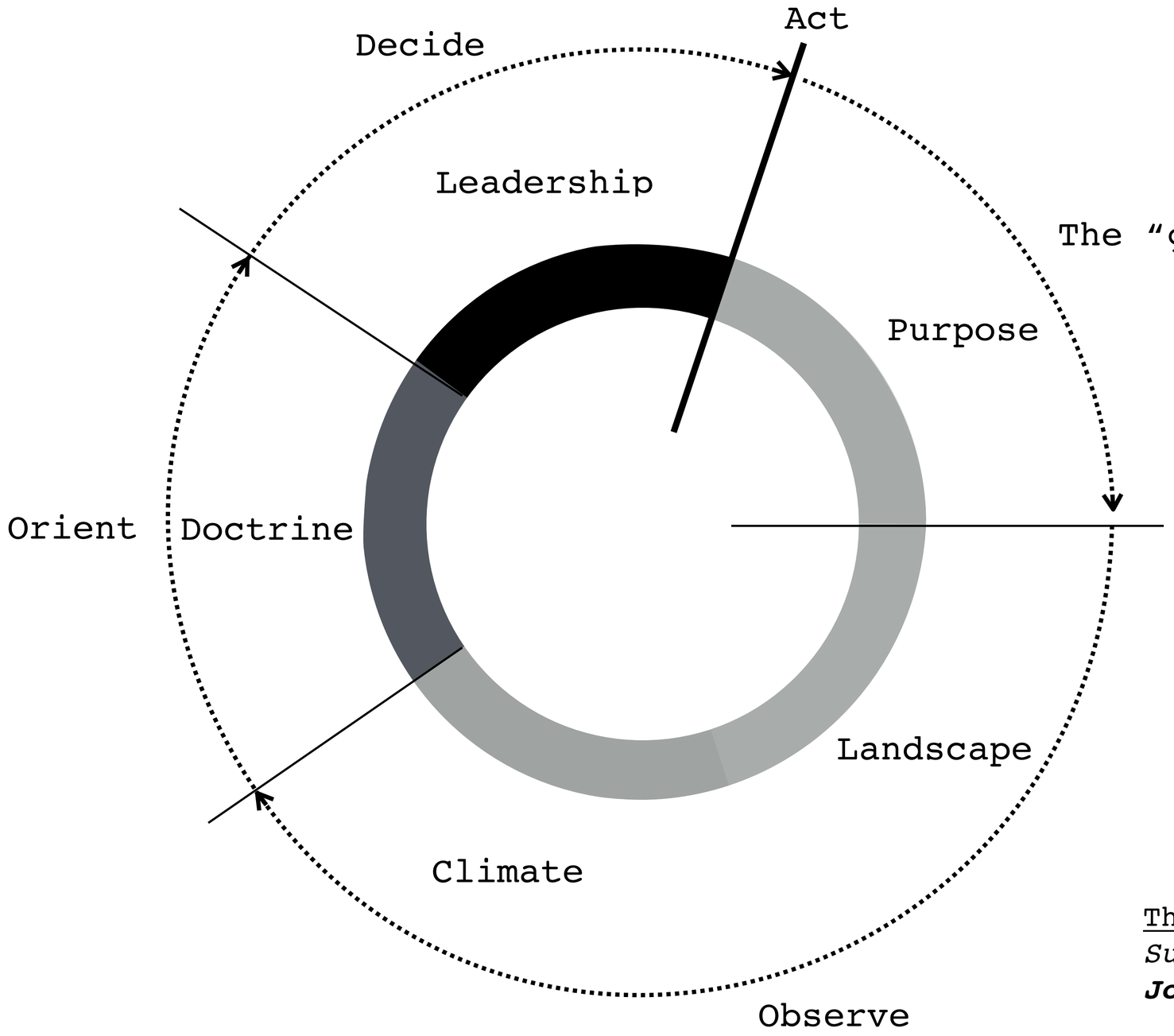
The Strategy Cycle

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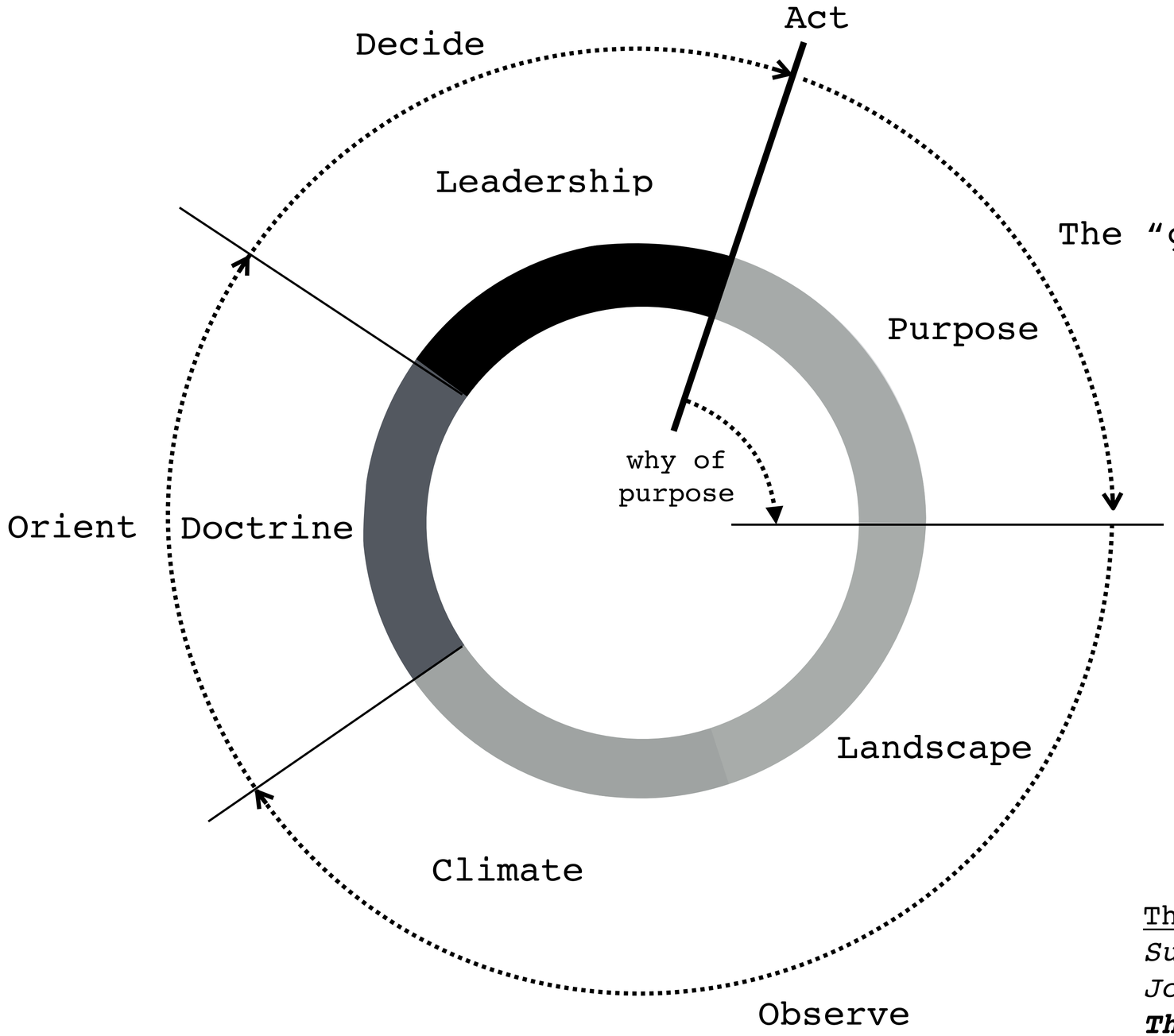


The Strategy Cycle
Sun Tzu's five factors
John Boyd's OODA loop

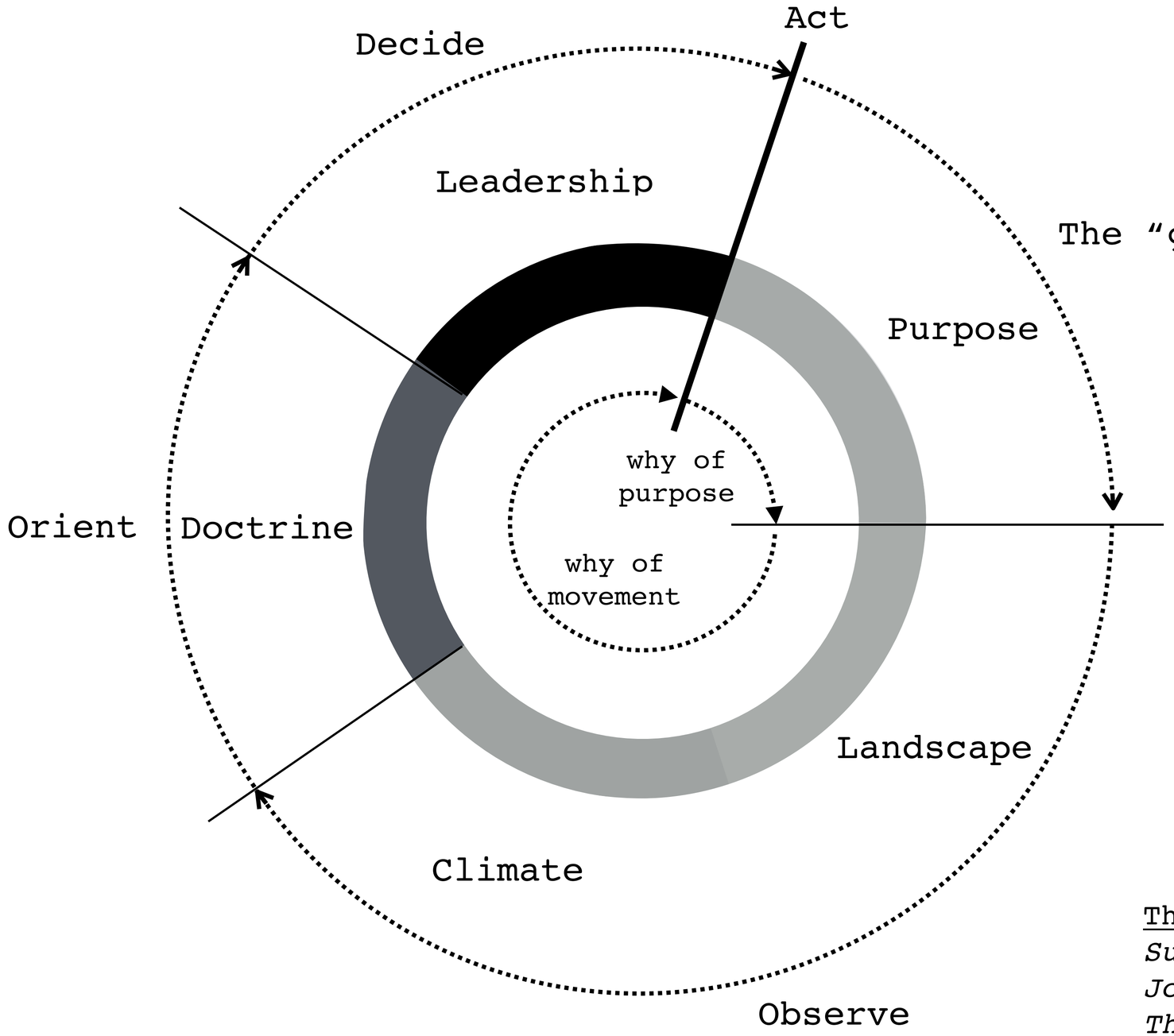


The Strategy Cycle
Sun Tzu's five factors
John Boyd's OODA loop

IMPORTANCE OF WHY?



The Strategy Cycle
Sun Tzu's five factors
John Boyd’s OODA loop
The two types of why

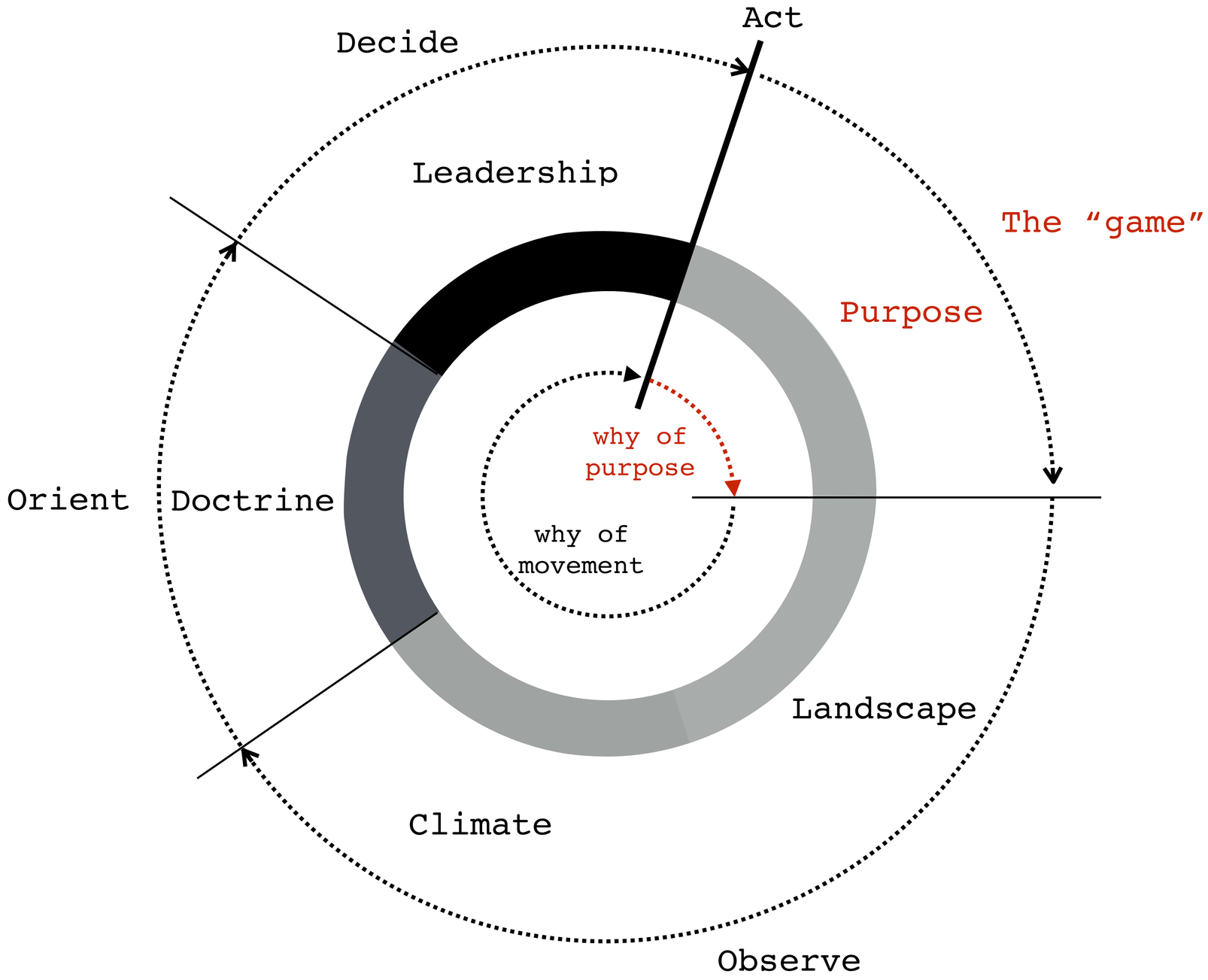


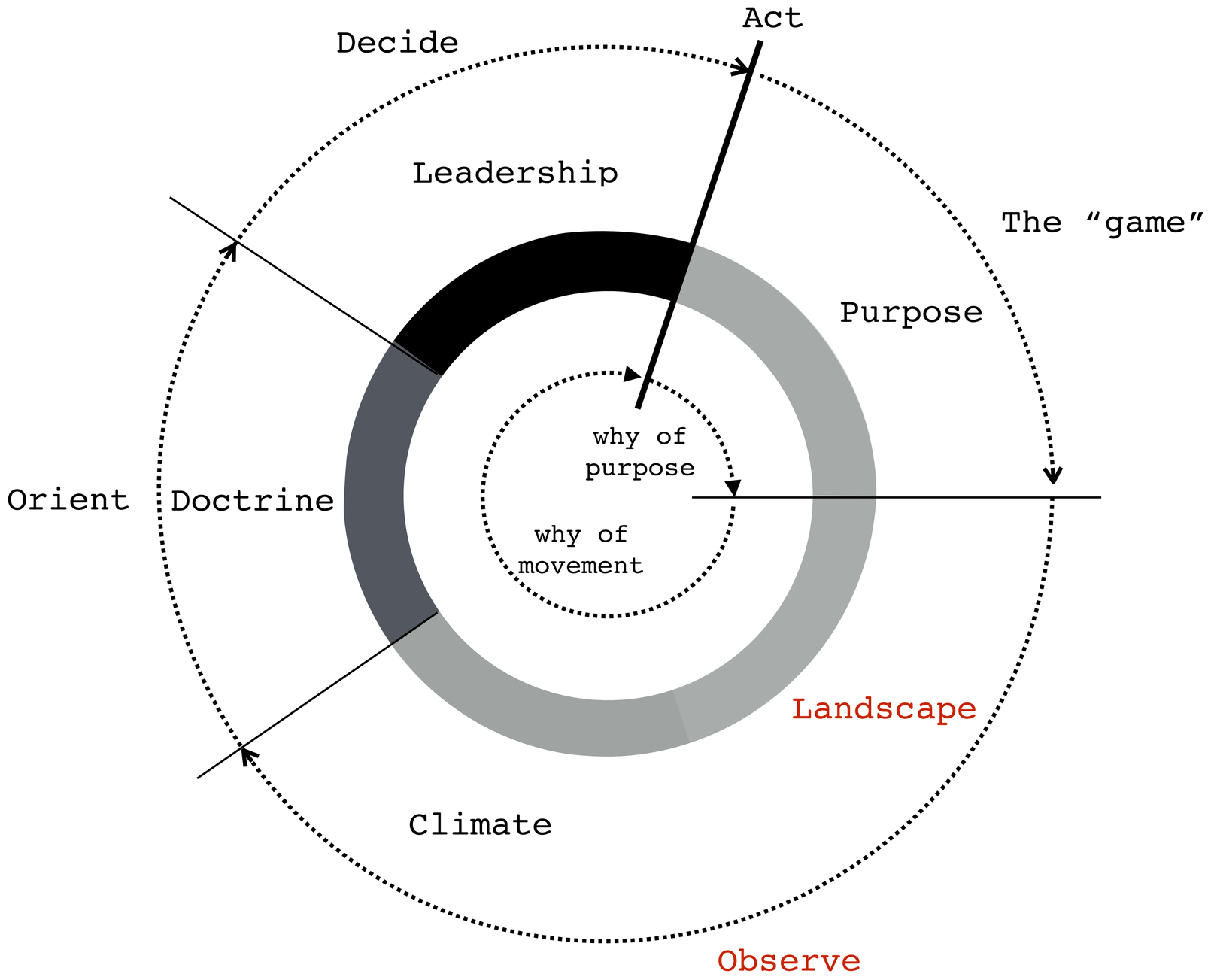
The Strategy Cycle

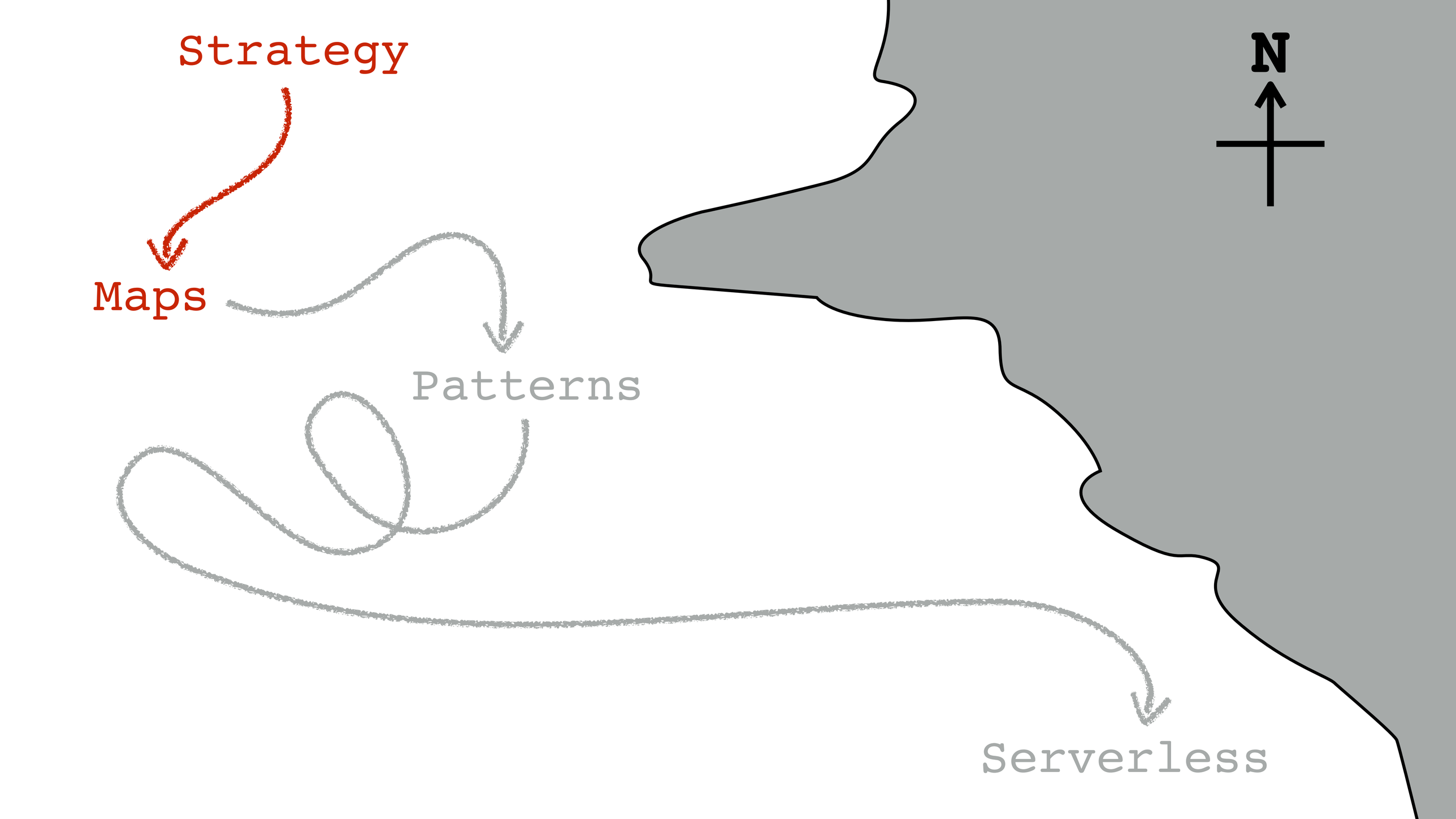
Sun Tzu's five factors

John Boyd’s OODA loop

The two types of why

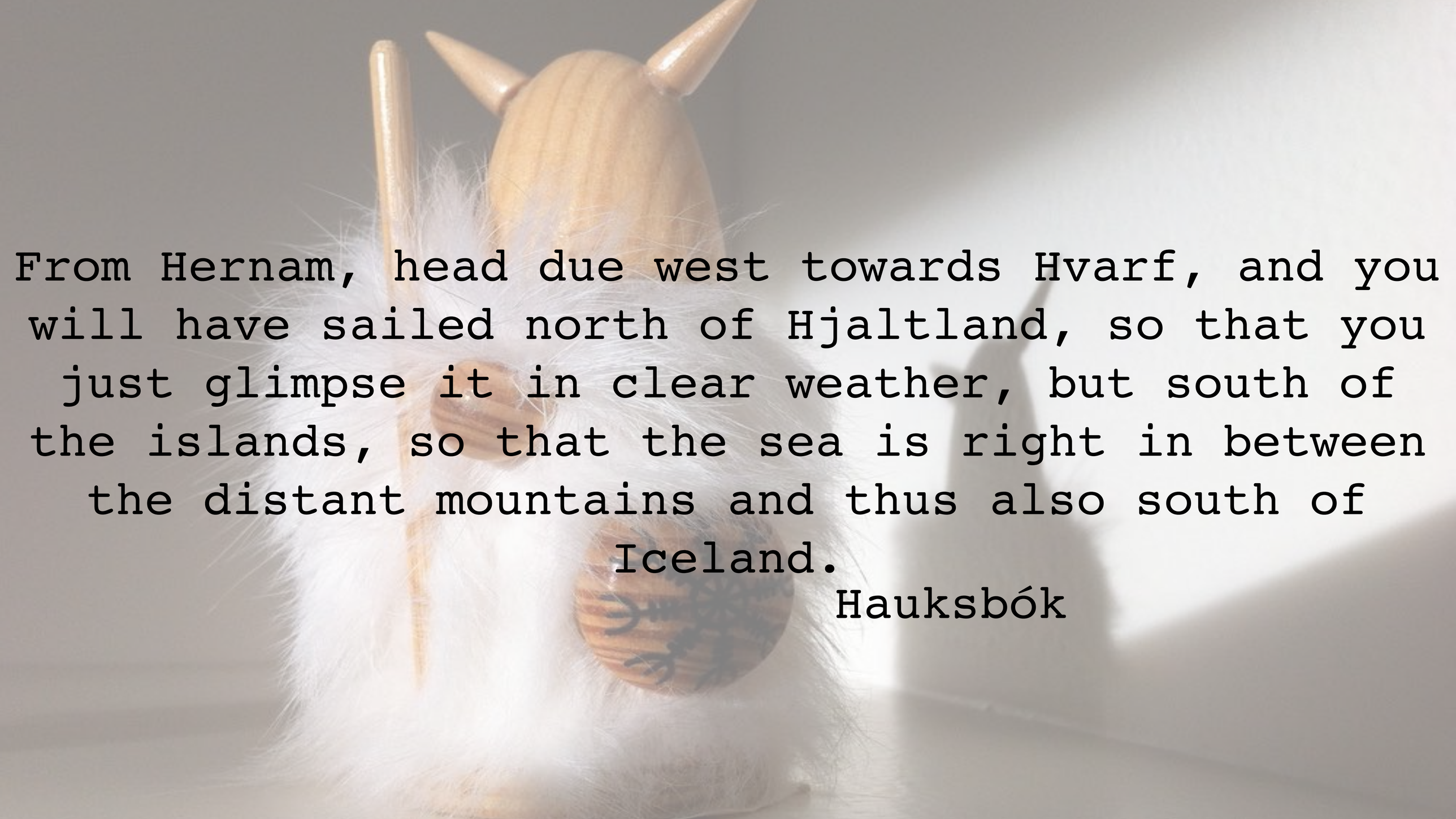

Act
Decide
Leadership
The “game”
Purpose
why of
purpose
why of
movement
Orient
Doctrine
Landscape
Climate
Observe


Act
Decide
Leadership
The “game”
Purpose
why of
purpose
why of
movement
Orient
Doctrine
Landscape
Climate
Observe


Strategy
Maps
Patterns
Serverless
N

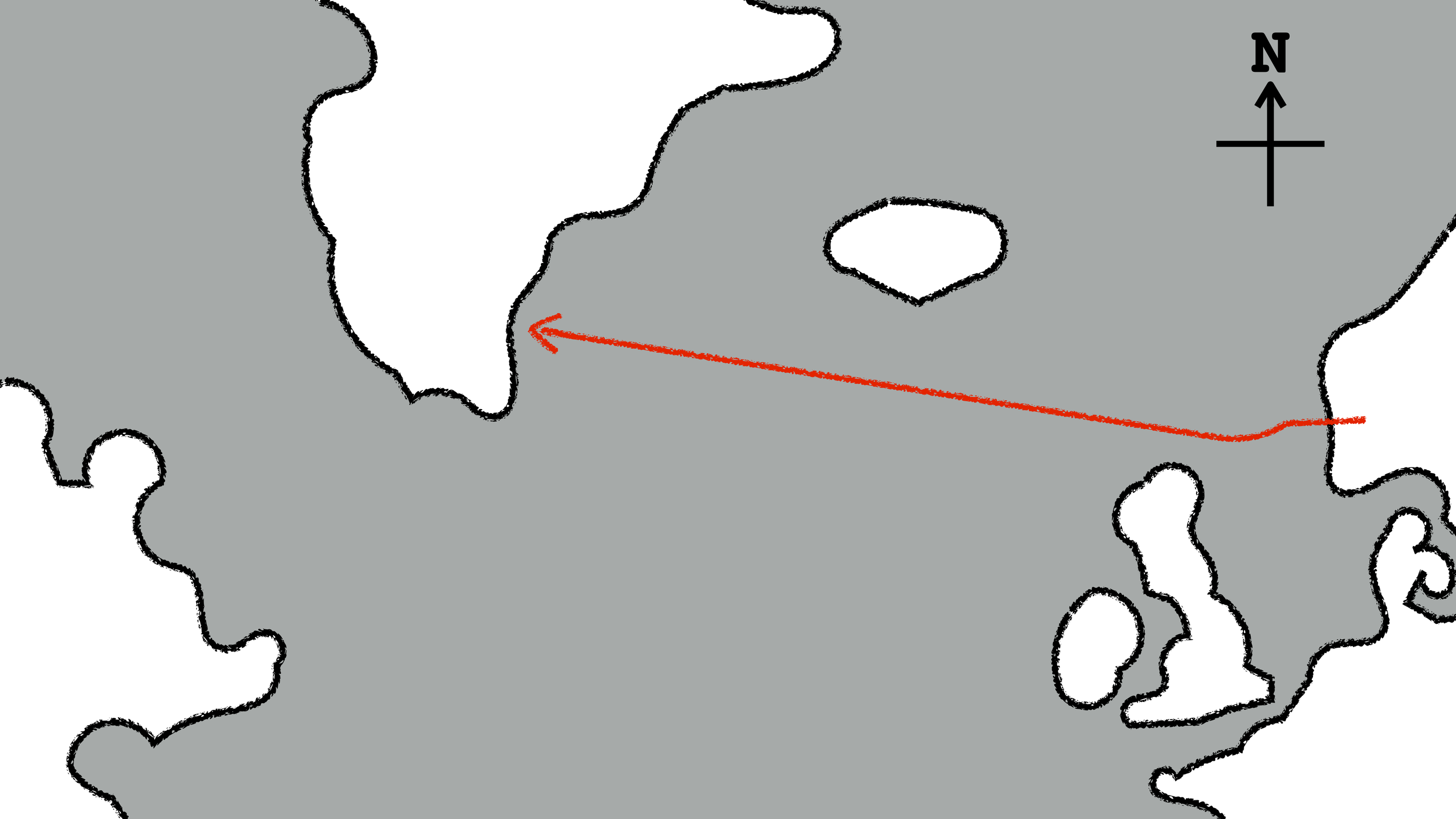


Tristan Ferne, Nov 2011, CC by 2.0
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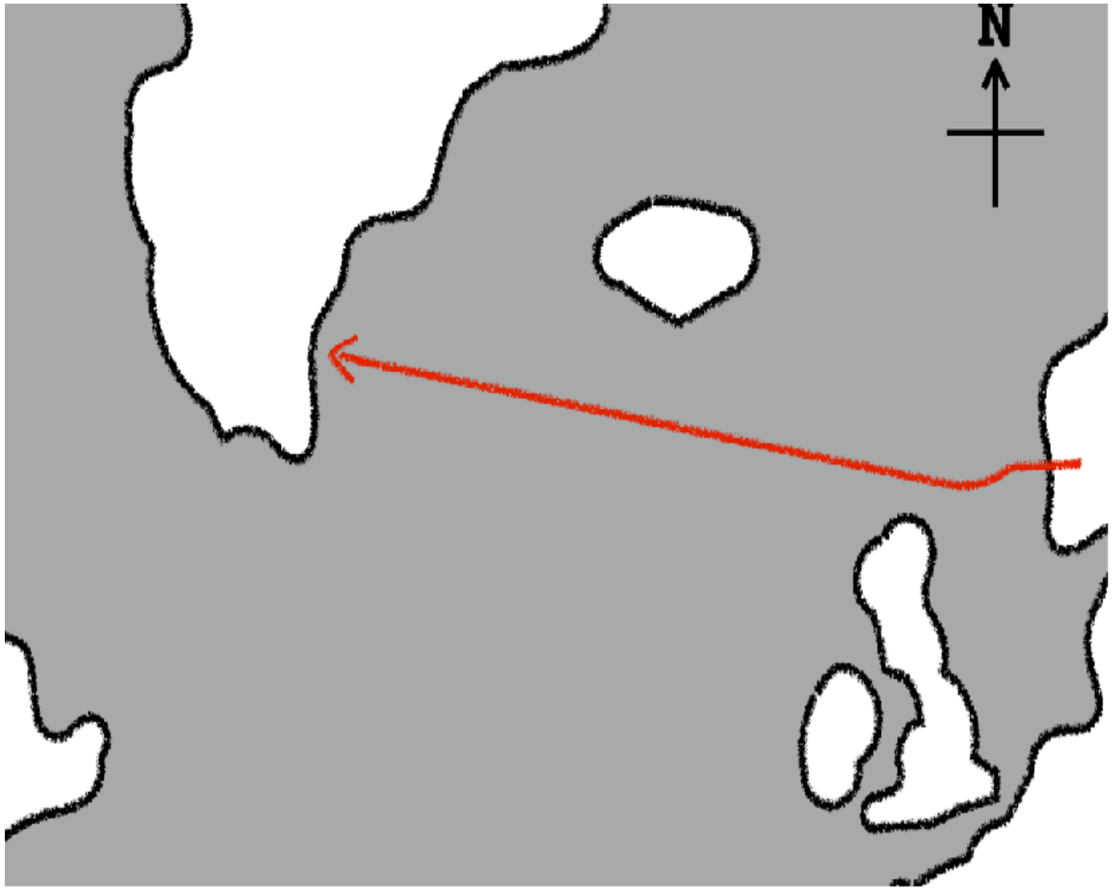


From Hernam, head due west towards Hvarf, and you will have sailed north of Hjaltland, so that you just glimpse it in clear weather, but south of the islands, so that the sea is right in between the distant mountains and thus also south of Iceland.

Hauksbók


N

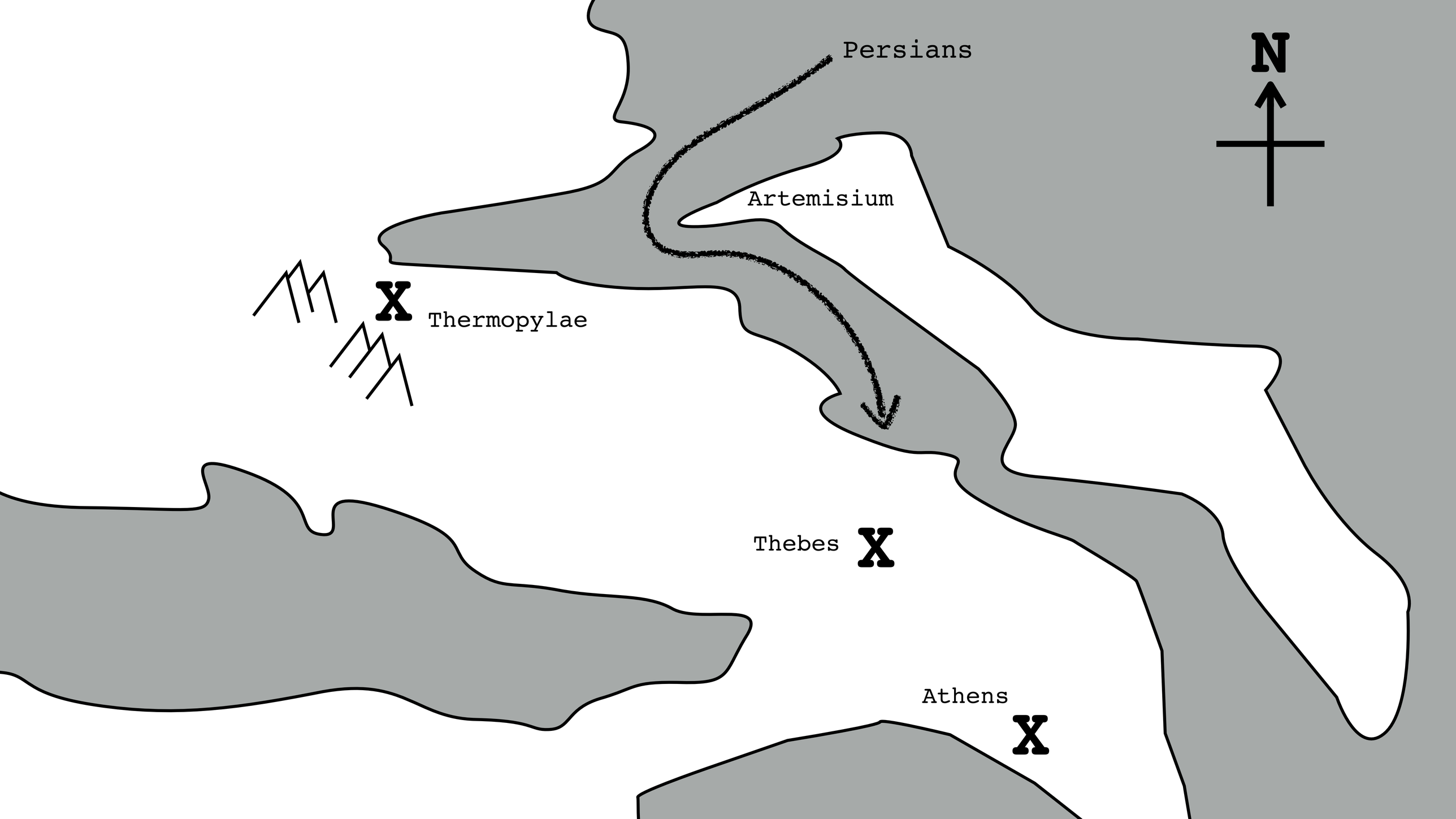
What would you use to navigate?

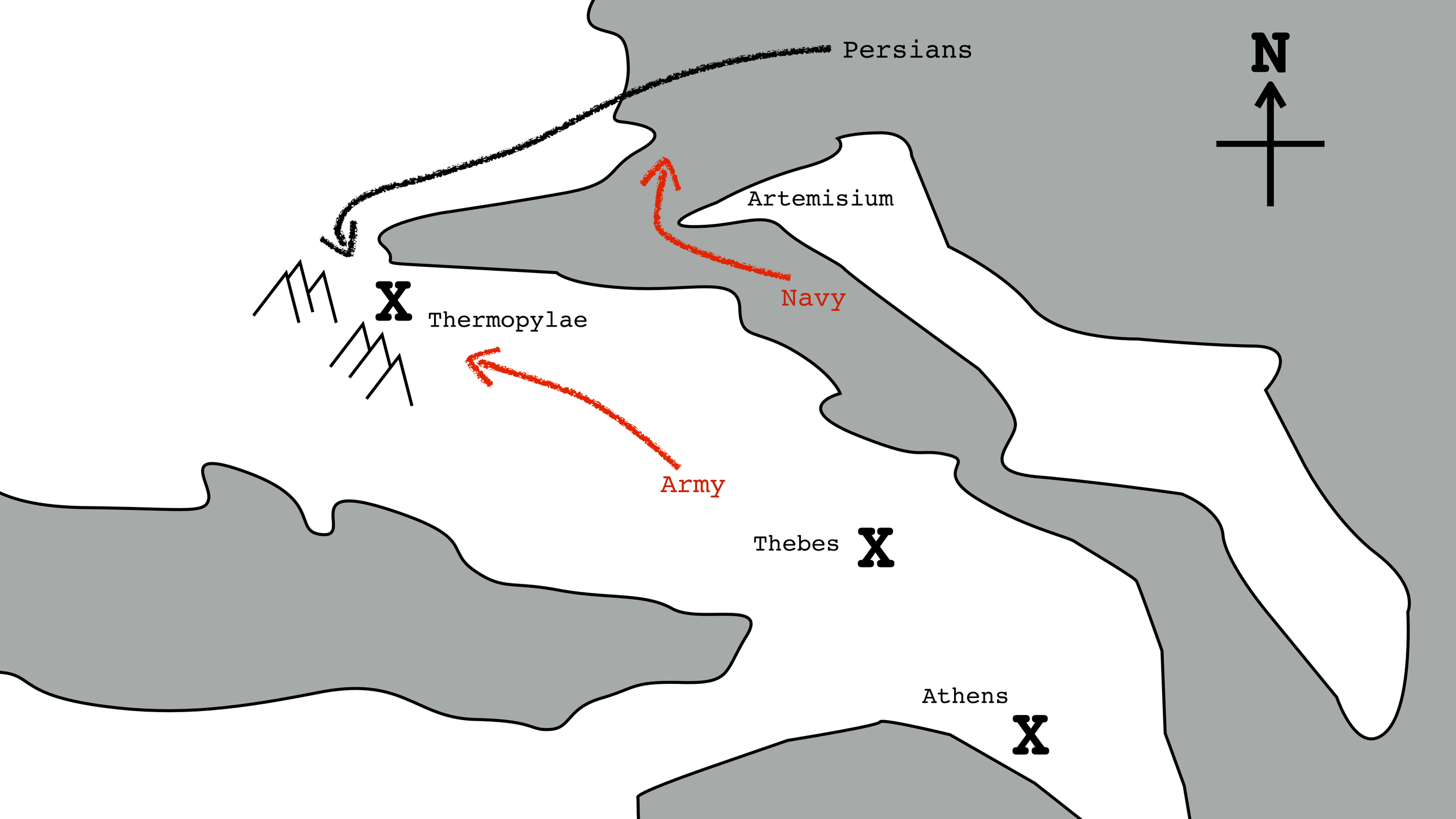


visual map

west towards Hvarf, and you will have sailed north of Hjaltland, so that you just glimpse it in clear weather, but south of the islands, so that the sea is right in between the distant mountains and thus also south of Iceland.

verbal story


Persians
N
Artemisium
Thermopylae
Thebes
Athens


Persians
N
Artemisium
Navy
Thermopylae
Army
Thebes
Athens

Strengths

A well trained Spartan army

A high level of motivation not to become a Persian slave

Weaknesses

The Ephors might stop the Spartans turning up

A lot of Persians ARE turning up



Opportunities

Get rid of the Persians

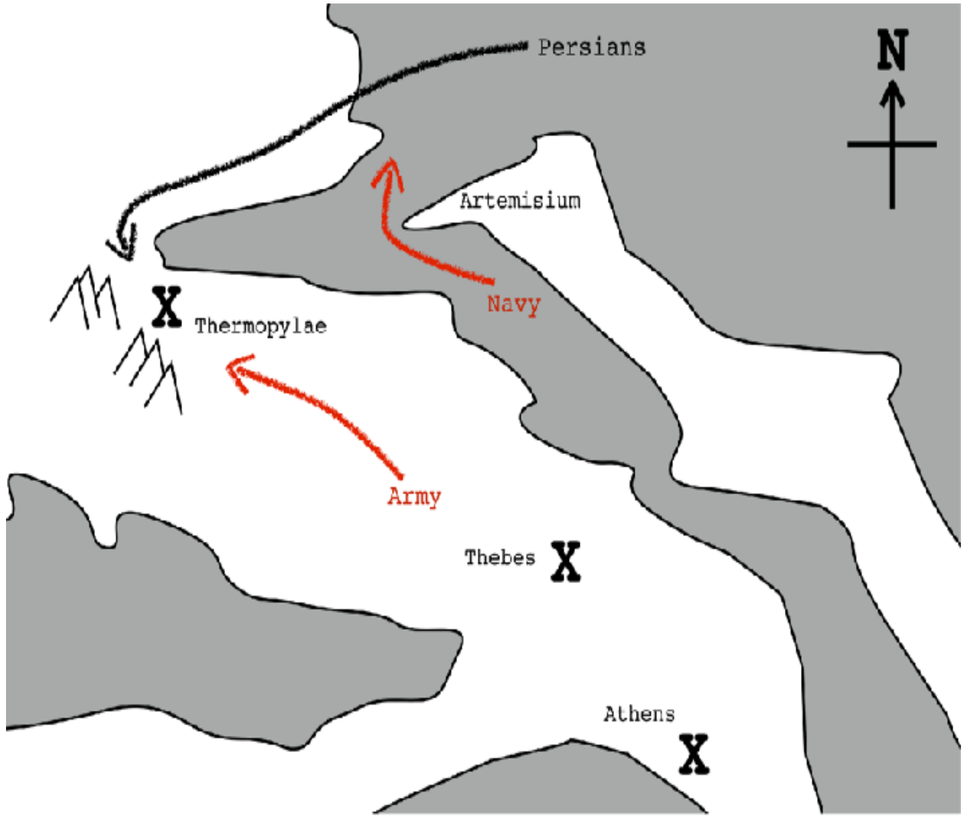
Get rid of the Spartans

Threats

Persians get rid of us

The Oracle says a really dodgy film might be produced over 2,000 years later

What would you use to communicate and determine strategy in battle?



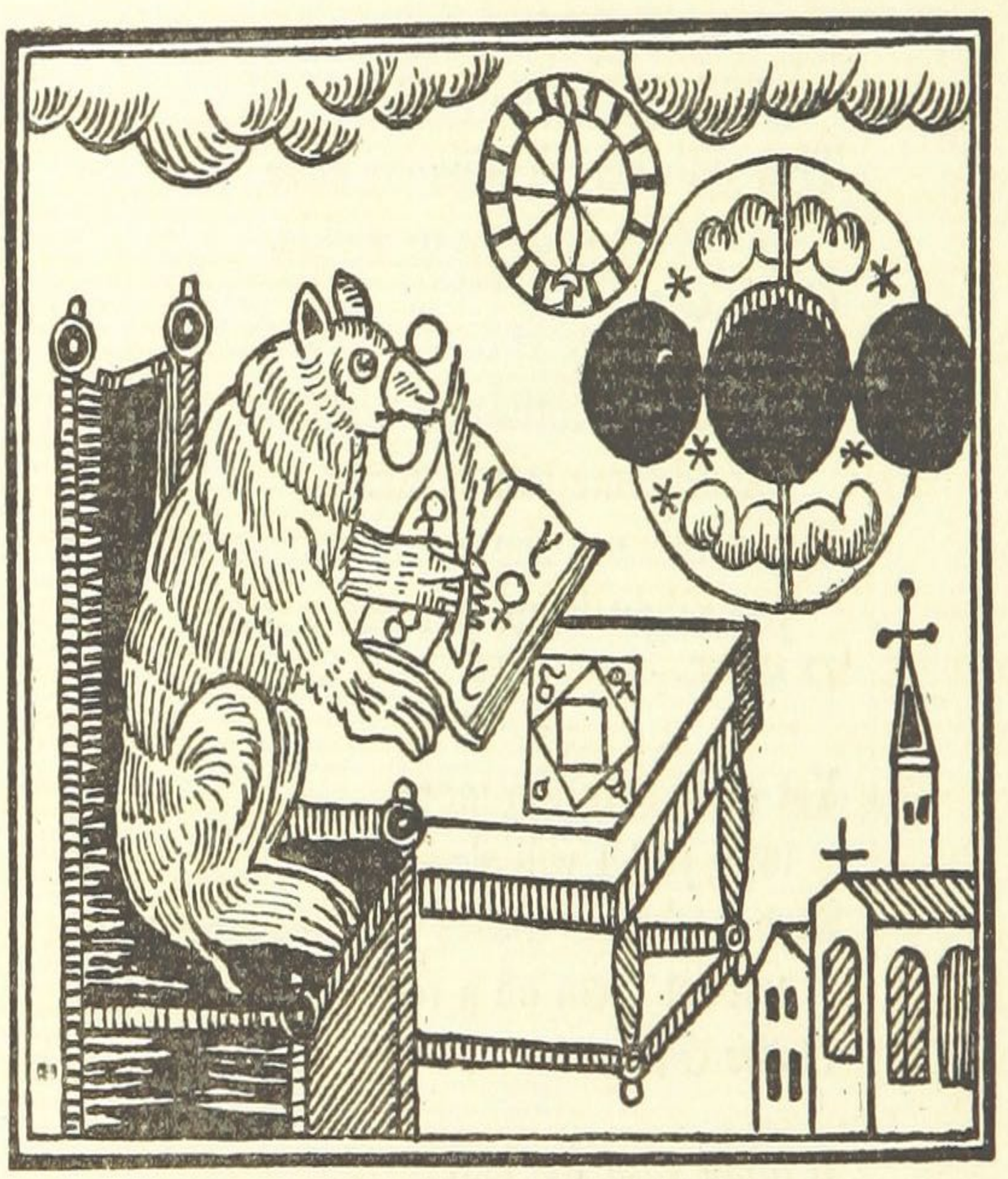
position and movement

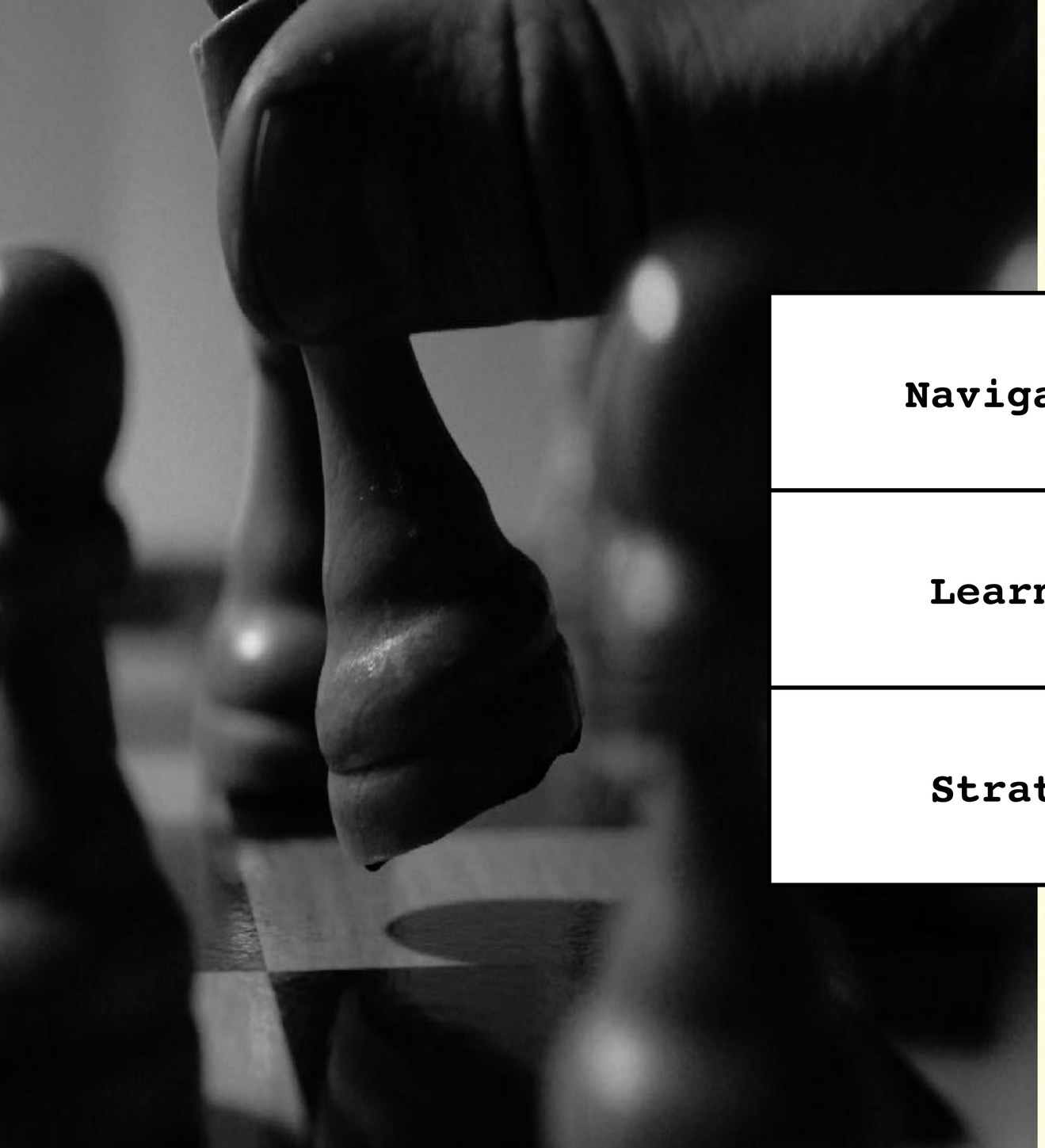
Strengths	Weaknesses
A well trained Spartan army A high level of motivation not to become a Persian slave	The Ephors might stop the Spartans turning up A lot of Persians ARE turning up
Opportunities	**Threats**
Get rid of the Persians Get rid of the Spartans	Persians get rid of us The Oracle says a really dodgy film might be produced over 2,000 years later



magic framework



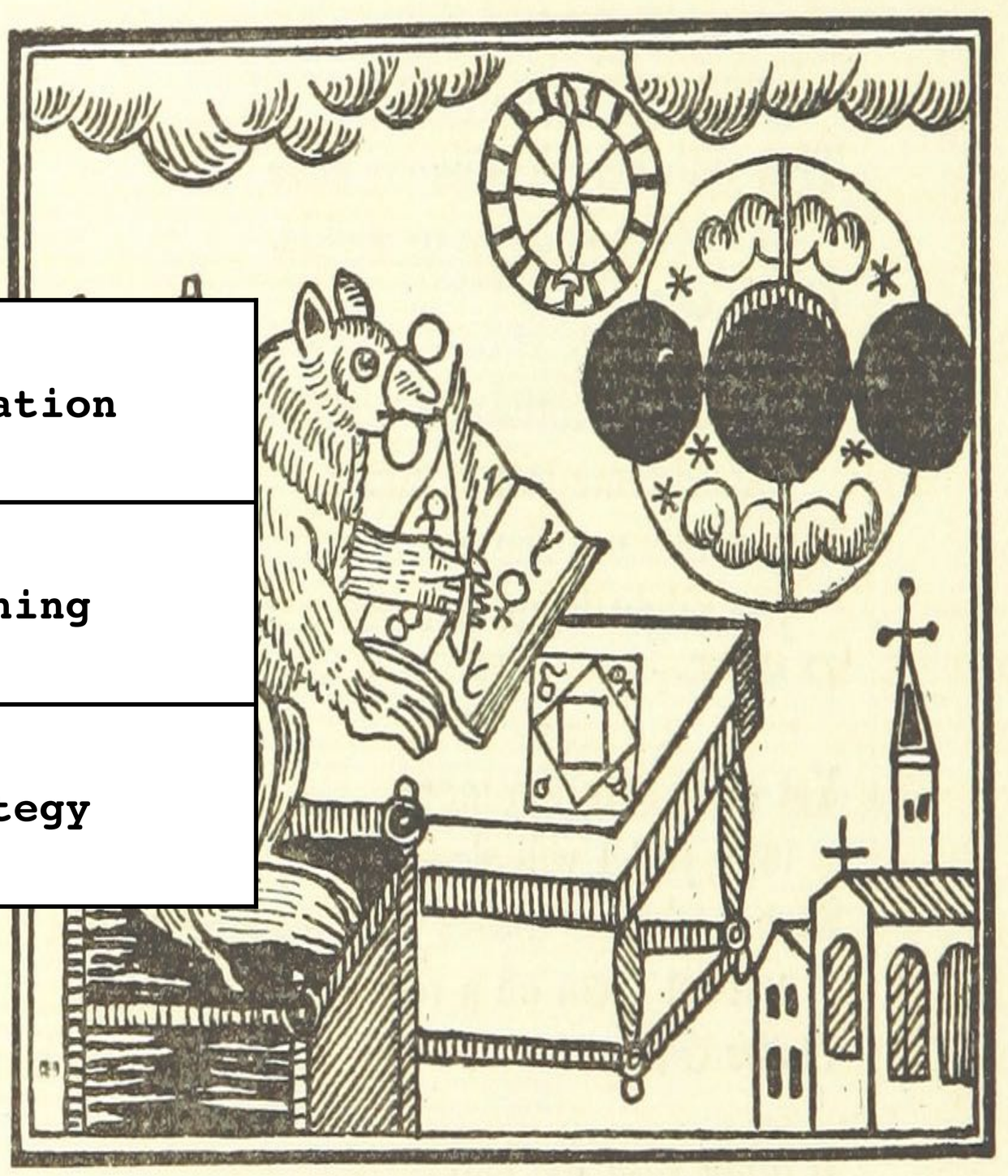




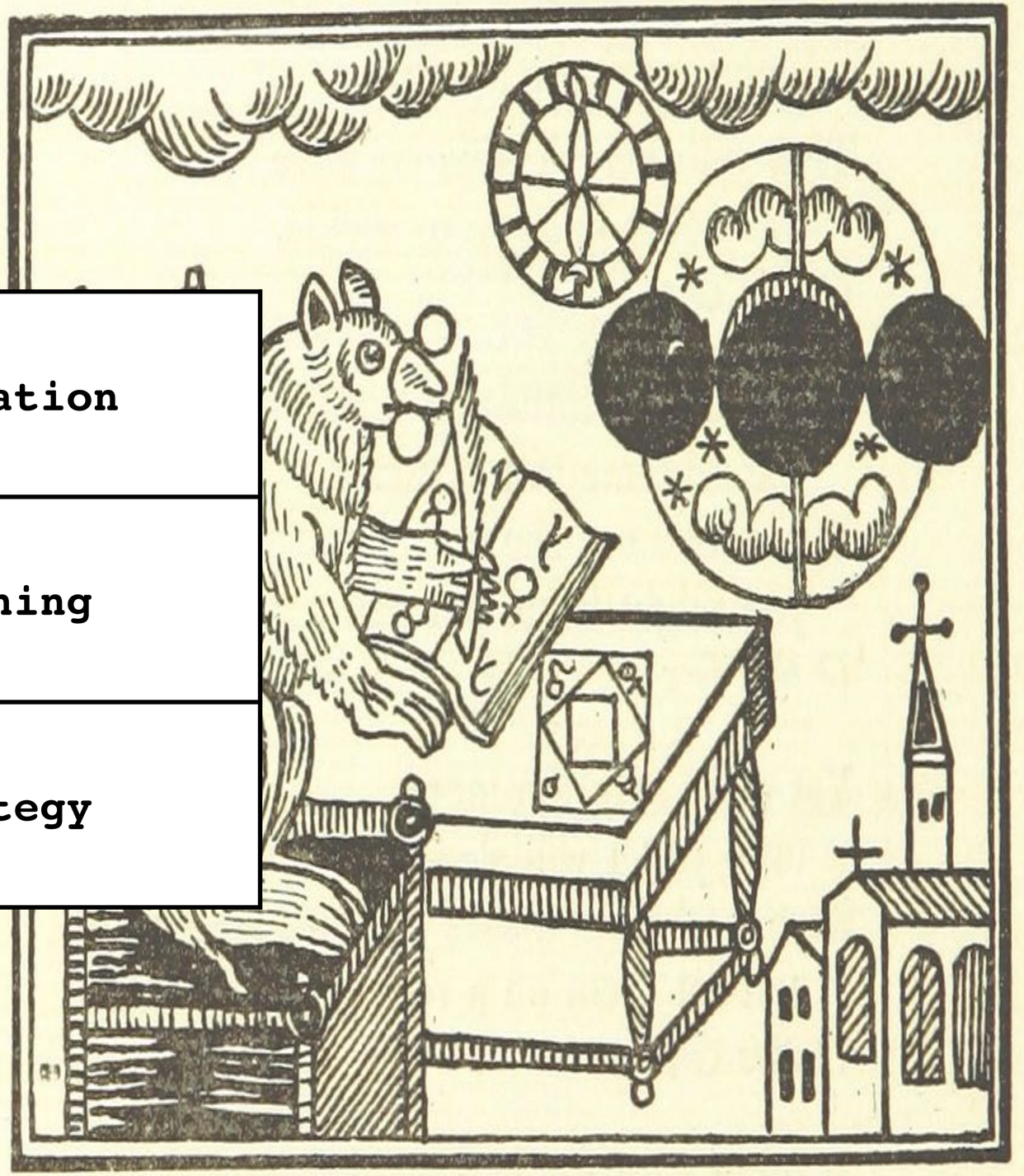
Navigation

Learning

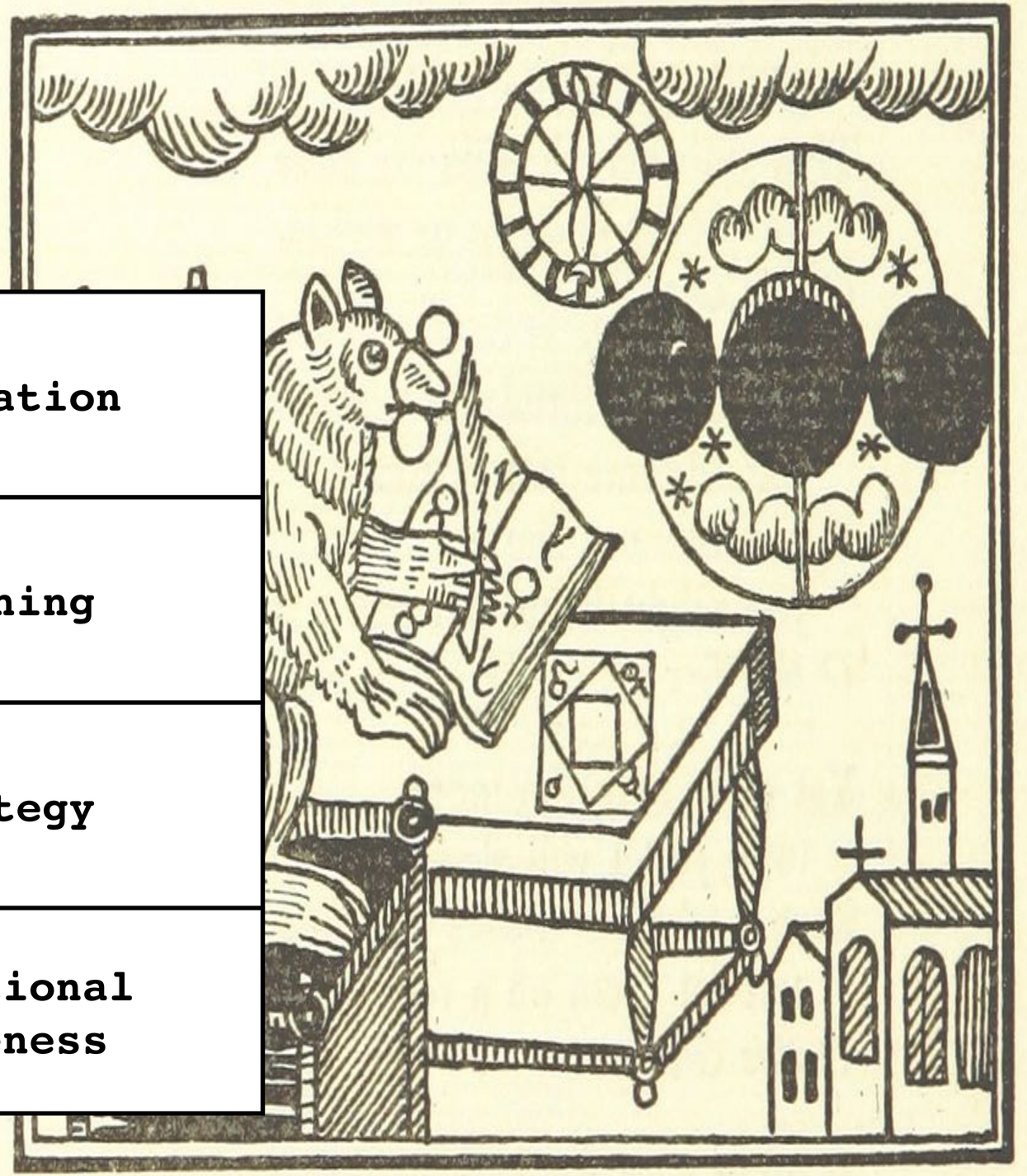
Strategy



Chess	
Visual	**Navigation**
Context specific	**Learning**
Position and movement	**Strategy**

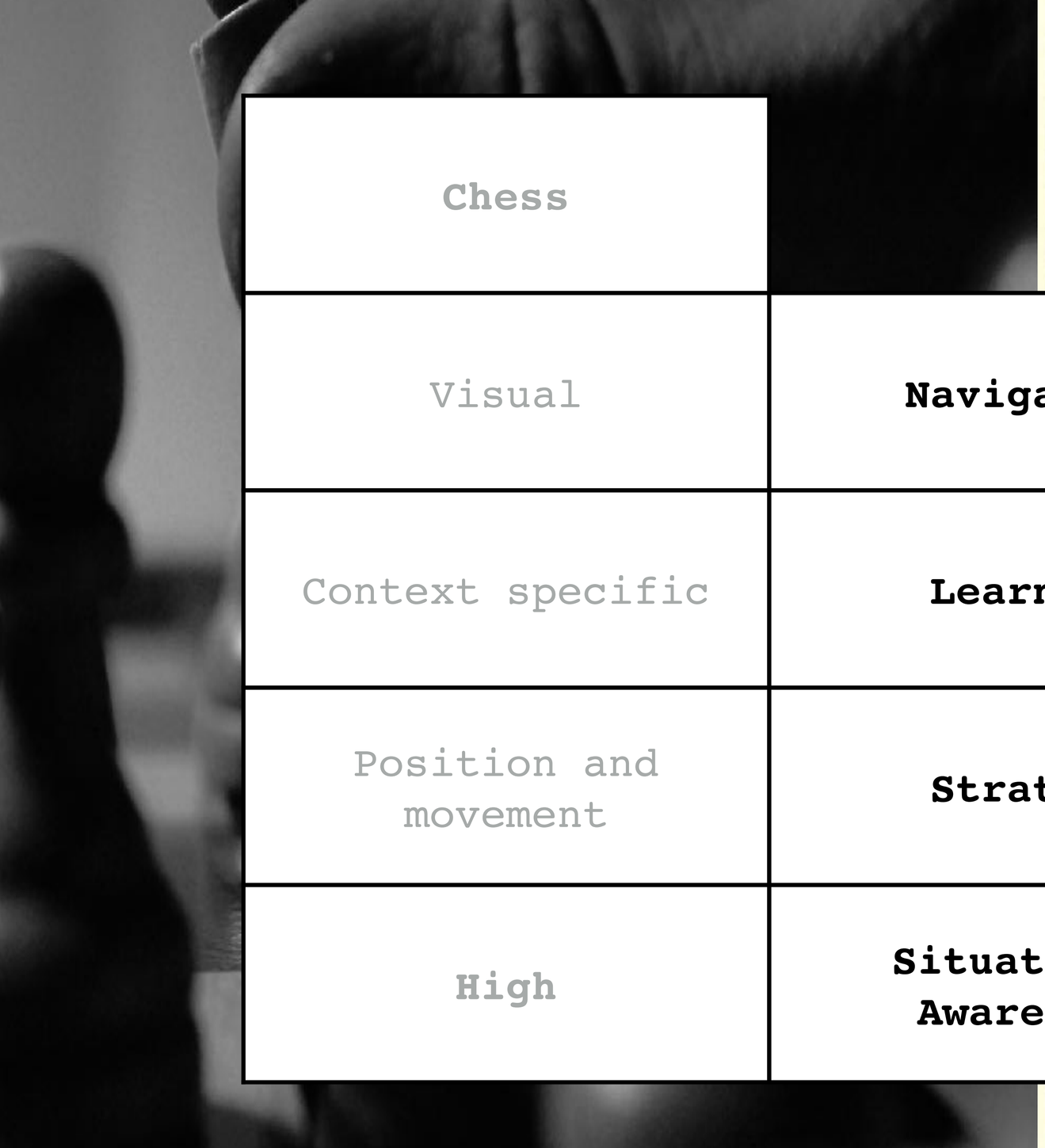


Chess	
Visual	**Navigation**
Context specific	**Learning**
Position and movement	**Strategy**
High	**Situational Awareness**



Why did you bomb that hill?





Chess		Alchemy
Visual	**Navigation**	Story telling
Context specific	**Learning**	Secrets of success
Position and movement	**Strategy**	Magic frameworks
High	**Situational Awareness**	**Low**

Harvard Business Review

LEADERSHIP

How Earlobes Can Signify Leadership Potential

by Carl Senior, Robin Martin, Michael West, and Rowena M. Yeats

FROM THE NOVEMBER 2011 ISSUE

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Evolutionary biologists have learned that people with greater "genetic fitness," as manifested by a high degree of left-right body symmetry, are not just considered better looking but also tend to be healthier, more intelligent, and more dominant than others. They're the classic alphas who rise to the top of rigidly hierarchical organizations such as the military.

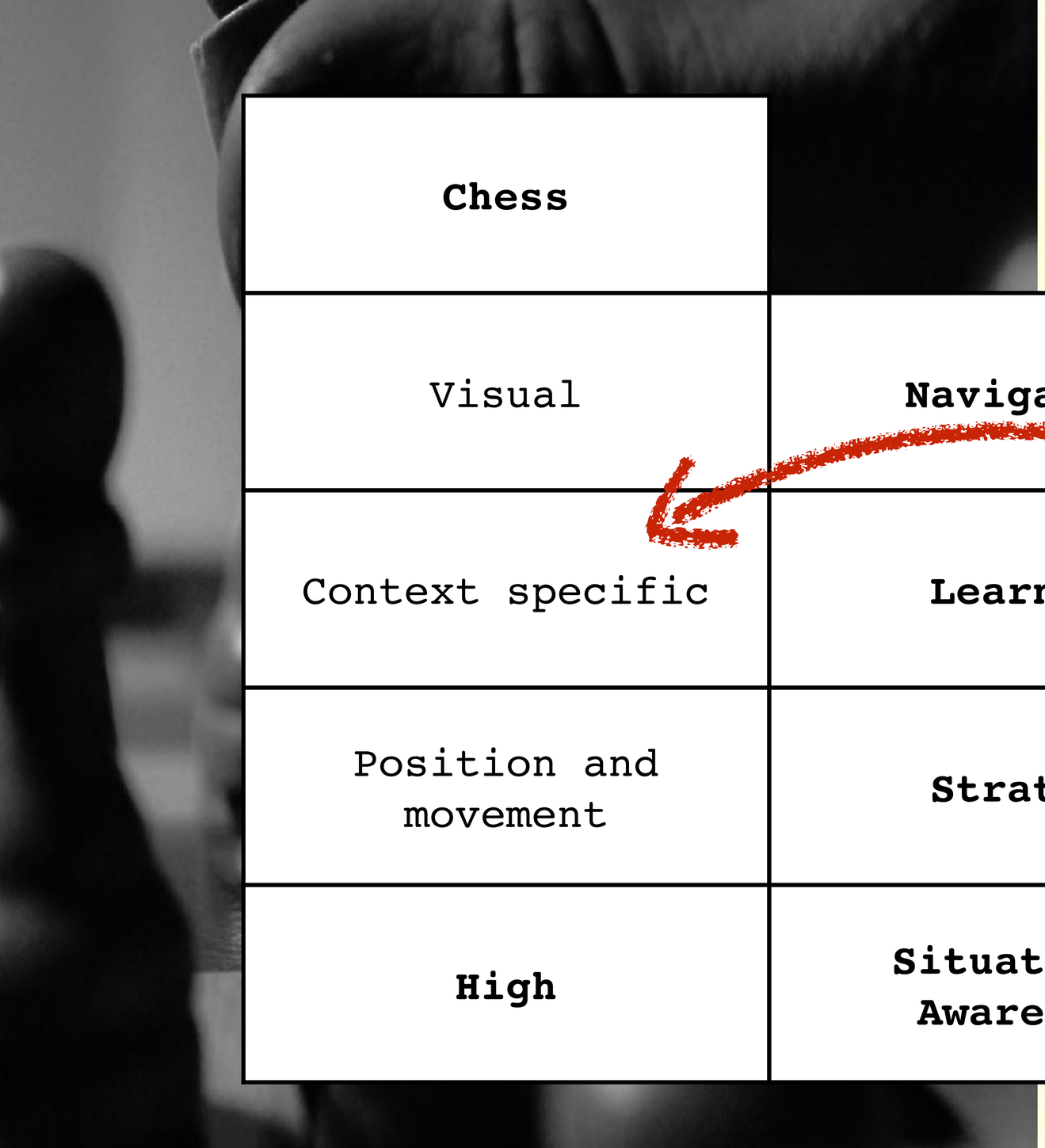
But our research shows that people with subtle asymmetries—for example, imbalances in ear or finger length—are often better "transformational" leaders, able to inspire followers to put self-interest aside for the good of the group. Furthermore, teams they lead outperform teams whose leaders have more-symmetrical bodies.

Strategic Management Journal
Strat. Mgmt. J. (2013)
Published online EarlyView in Wiley Online Library (wileyonlinelibrary.com) DOI: 10.1002/smj.2192
Received 21 July 2012 ; Final revision received 30 August 2013

THE USE OF VARIANCE DECOMPOSITION IN THE INVESTIGATION OF CEO EFFECTS: HOW LARGE MUST THE CEO EFFECT BE TO RULE OUT CHANCE?

MARKUS A. FITZA*
Department of Management, Mays Business School, Texas A&M University, College Station, Texas, U.S.A.
Faculty of Business and Law, The University of Newcastle, Callaghan, New South Wales, Australia

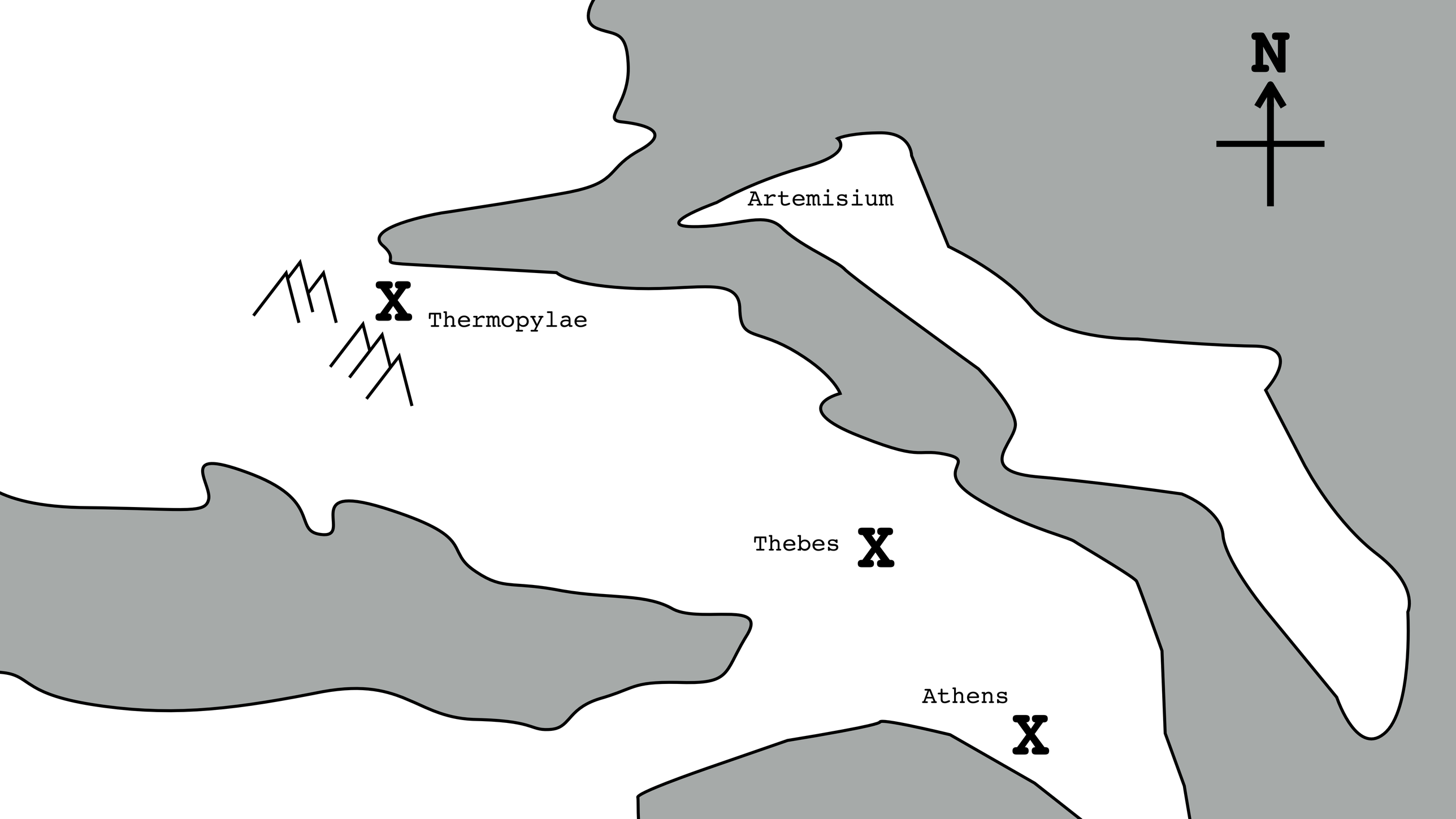
Variance decomposition analysis is often used to examine the degree to which CEOs influence their companies' performance (the so-called CEO effect). Such studies play an important role in a body of literature that investigates the effect of leadership on organizations. In this paper, I argue that these previous studies have an important underlying flaw. Empirically, these studies wrongly attribute the performance effect of randomness—of chance—to the CEO. I demonstrate

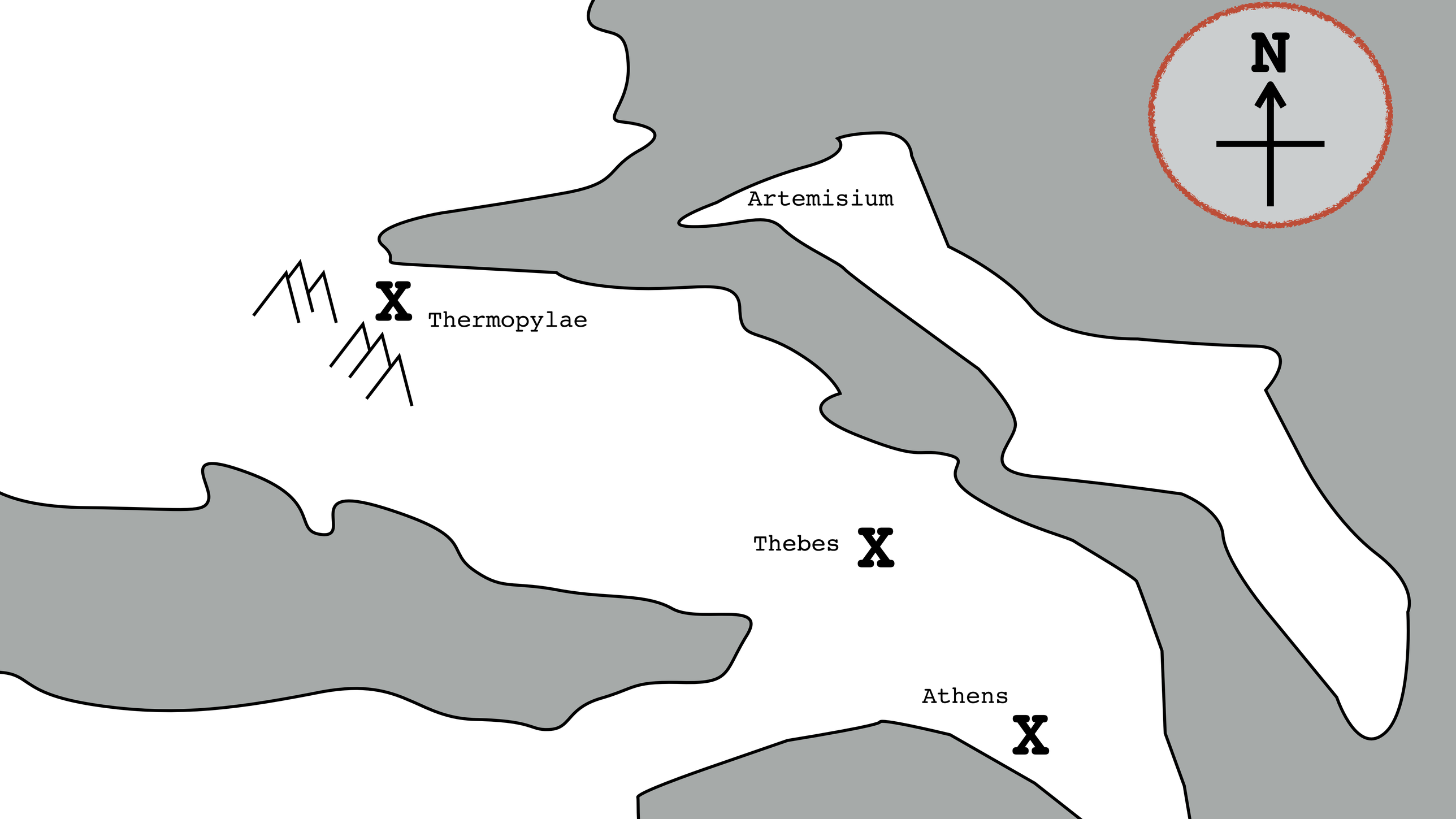


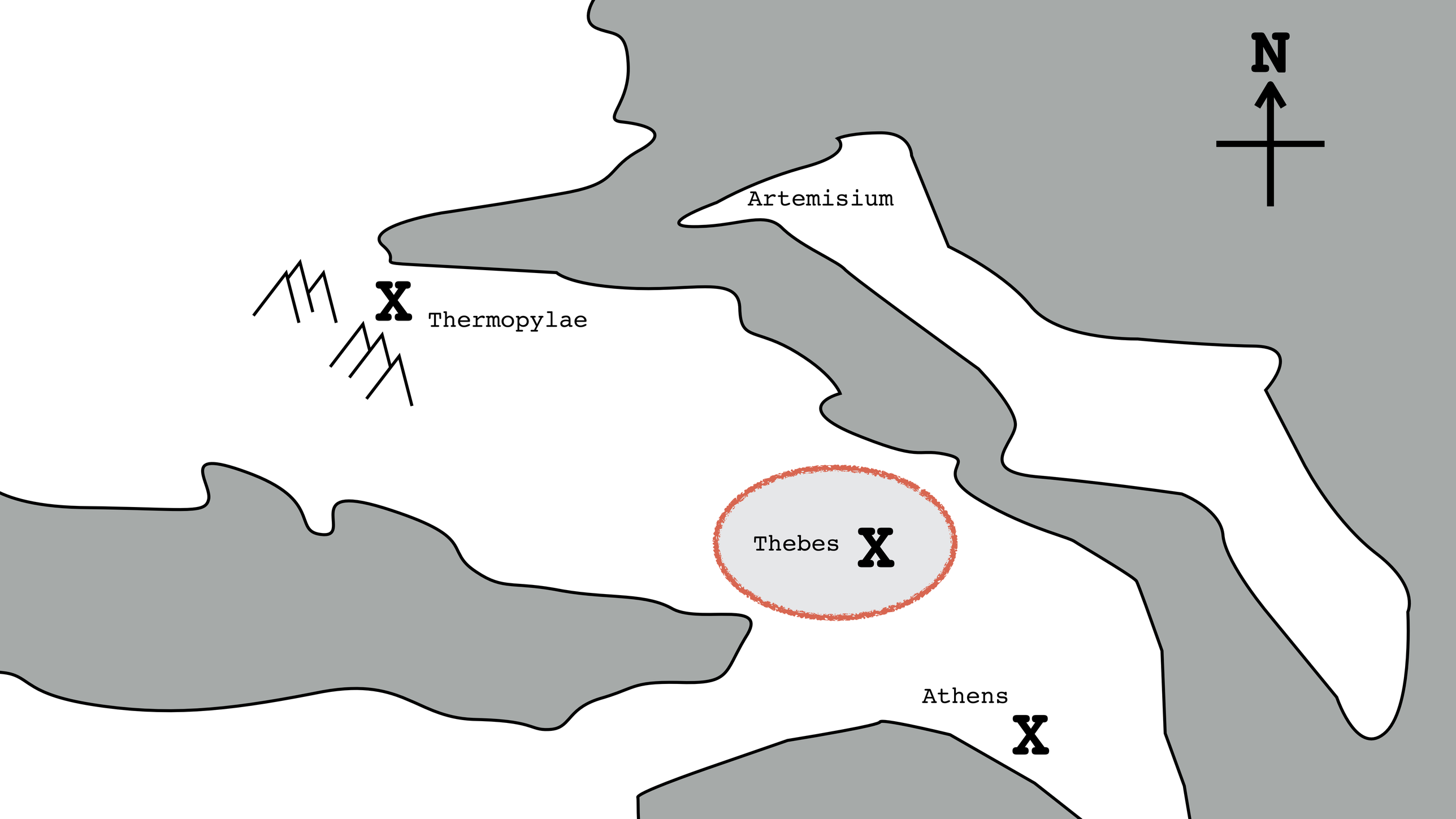
Chess		Alchemy
Visual	**Navigation**	Story telling
Context specific	**Learning**	Secrets of success
Position and movement	**Strategy**	Magic frameworks
High	**Situational Awareness**	**Low**

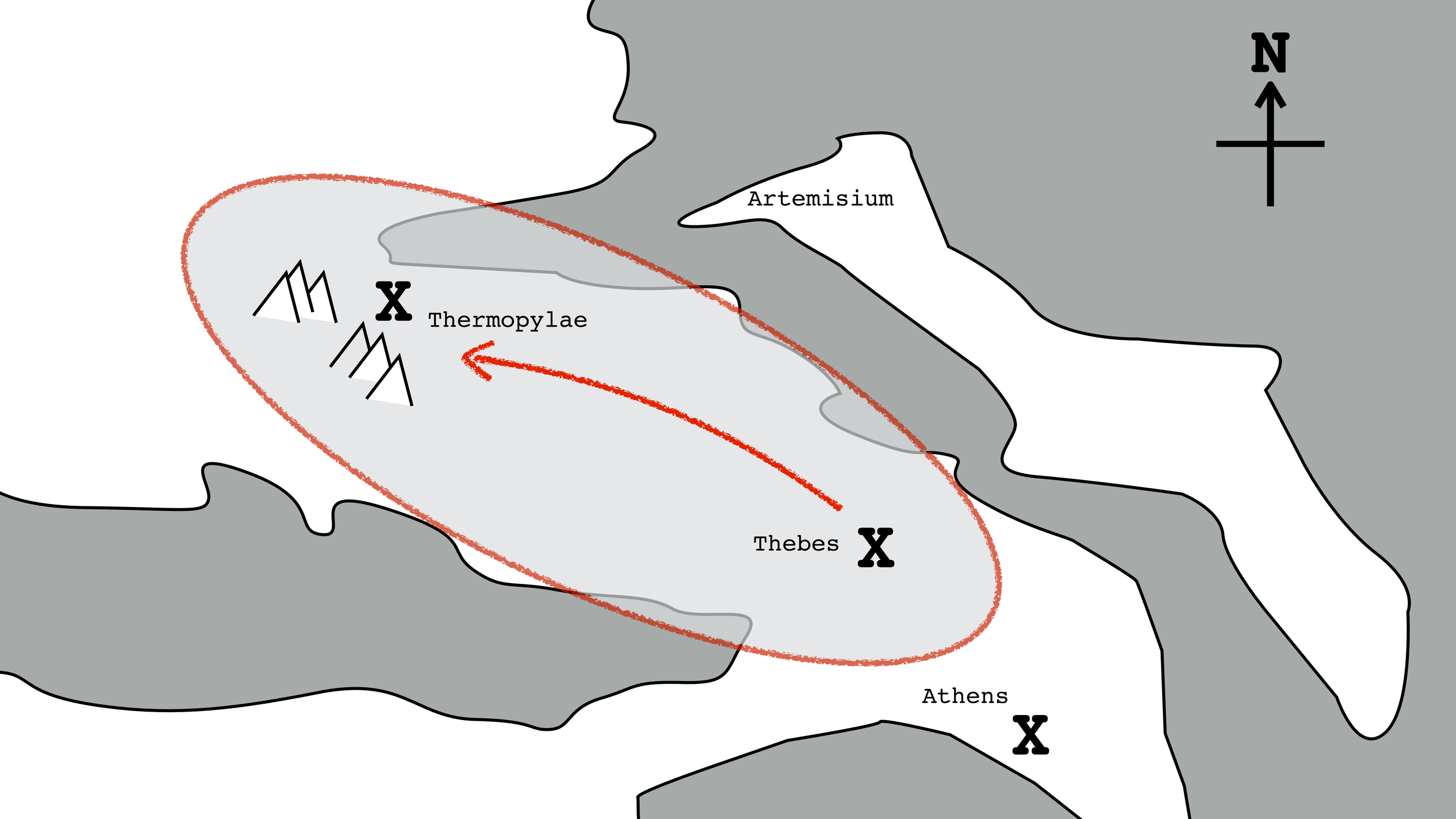
FAKE CEO

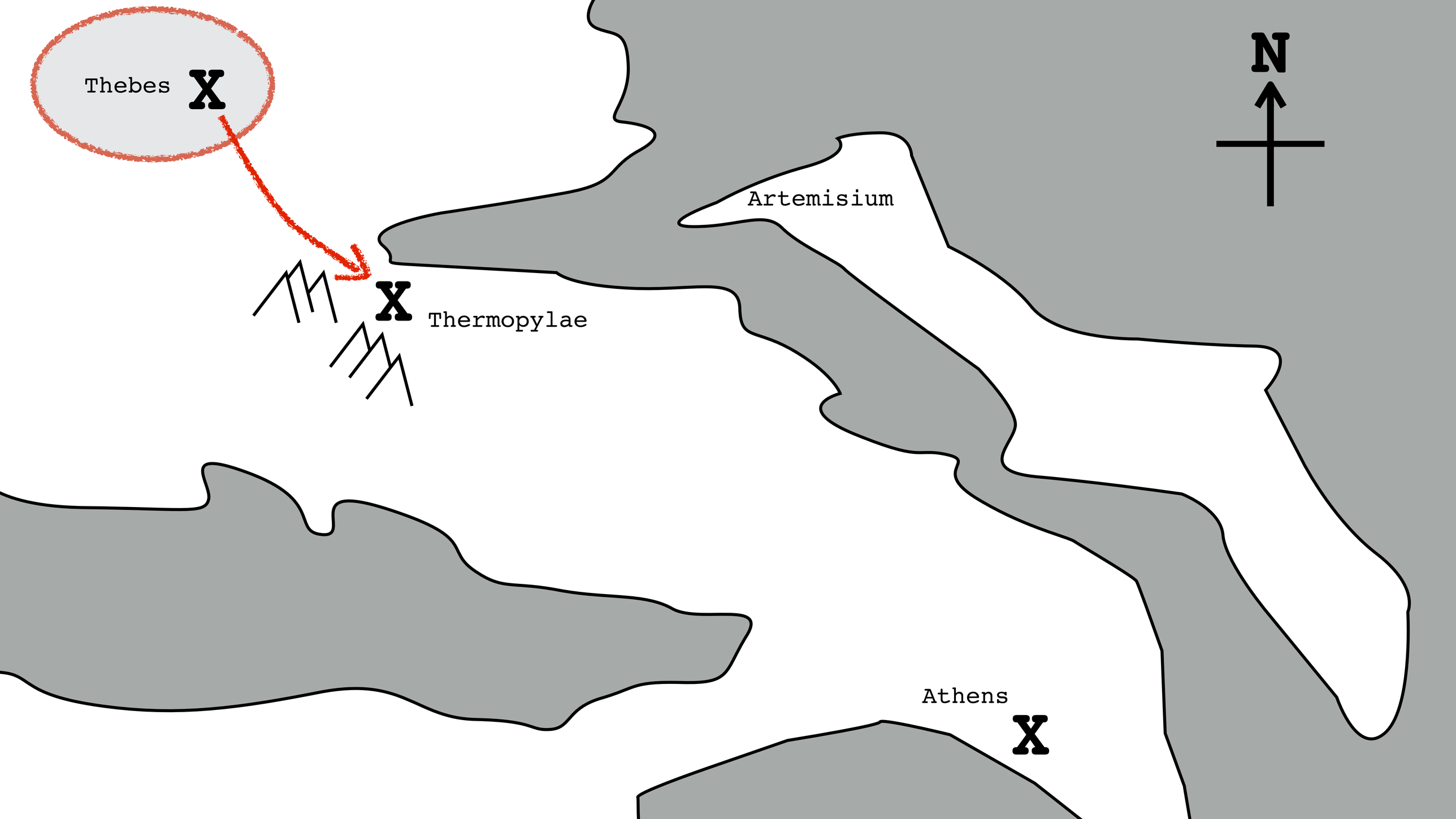
WHAT IS A MAP?

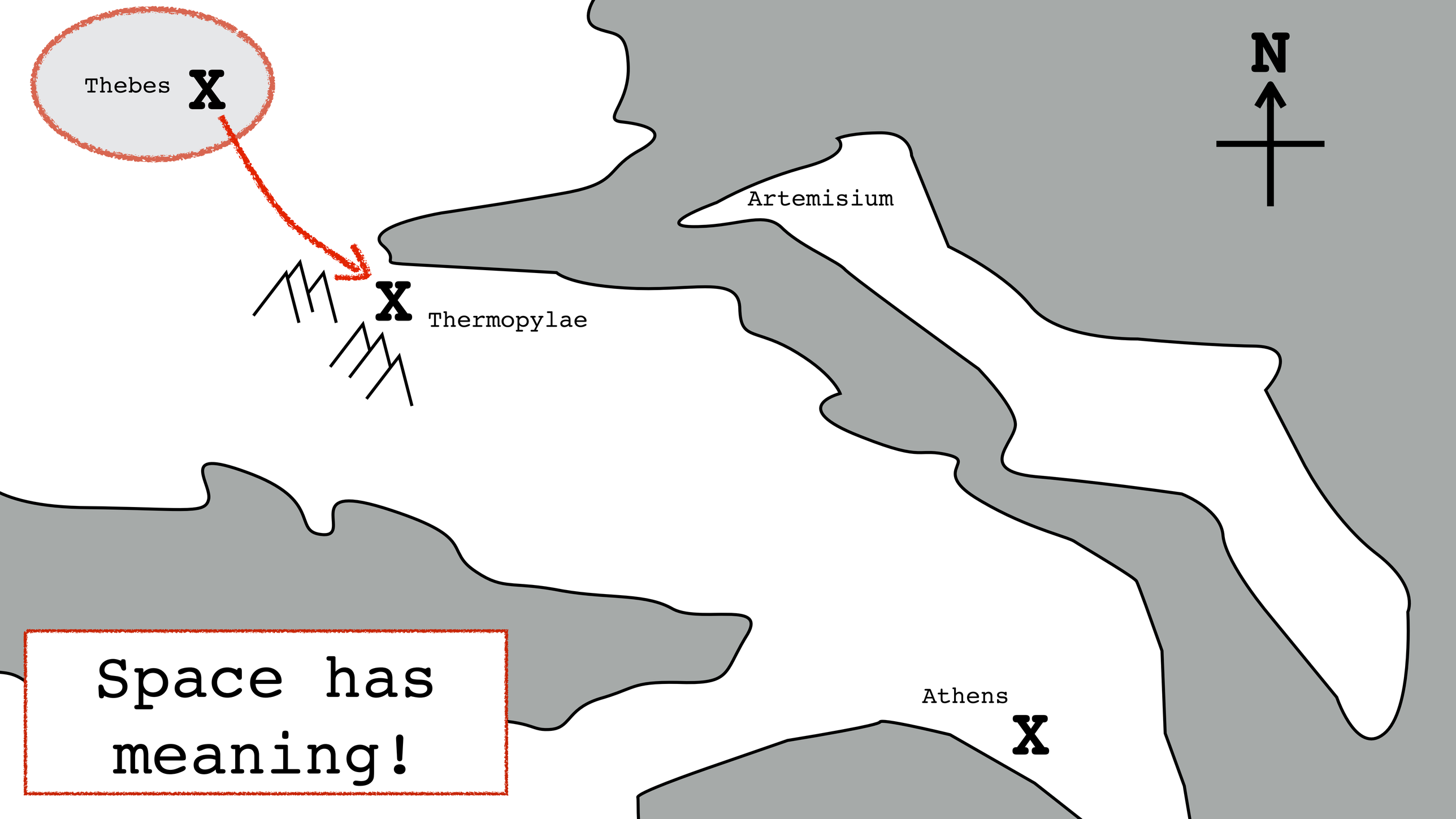

N
Artemisium
Thermopylae
Thebes
Athens


N
Artemisium
Thermopylae
Thebes
Athens

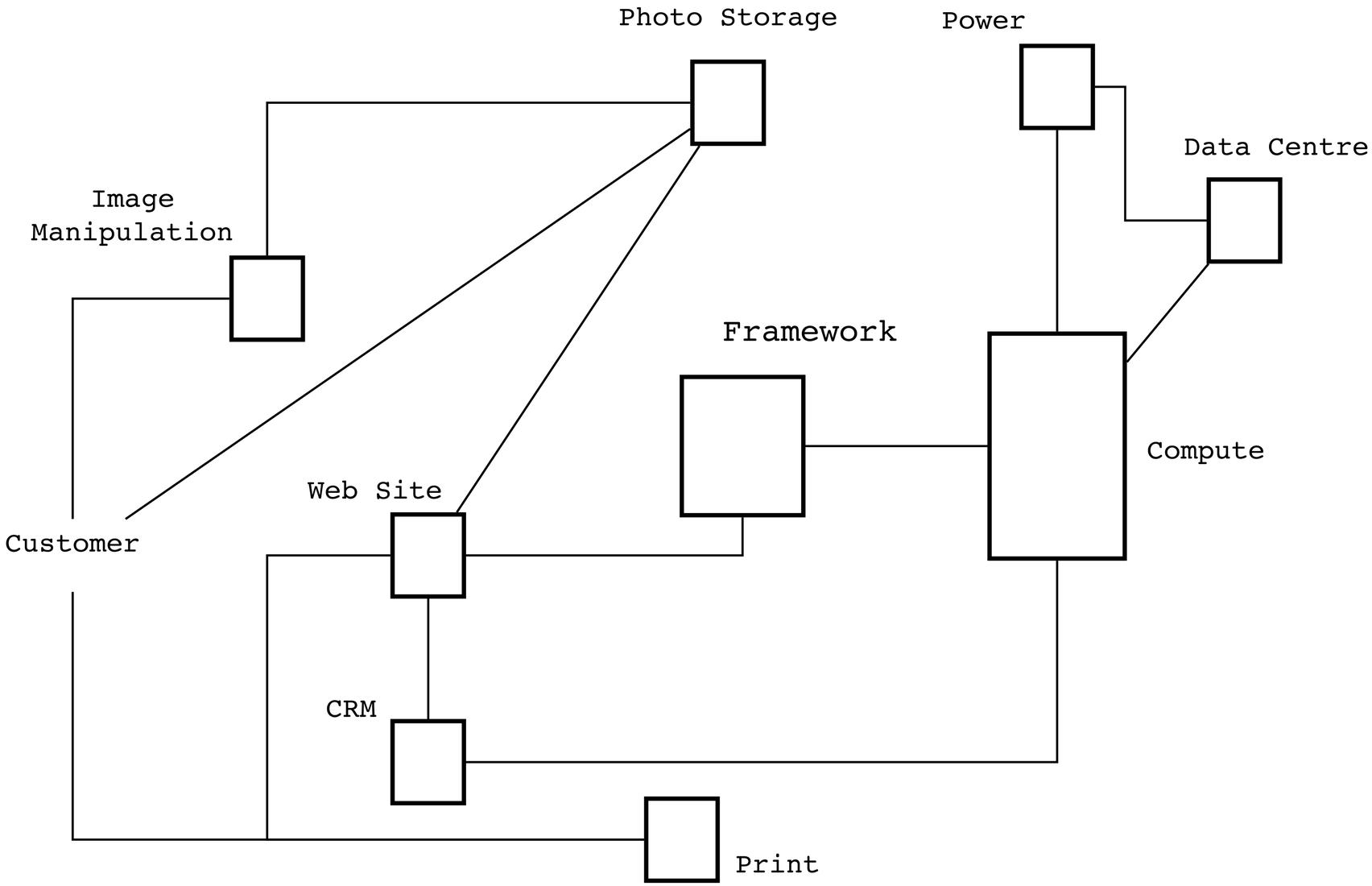

N
Artemisium
Thermopylae
Thebes
Athens


N
Artemisium
Thermopylae
Thebes
Athens

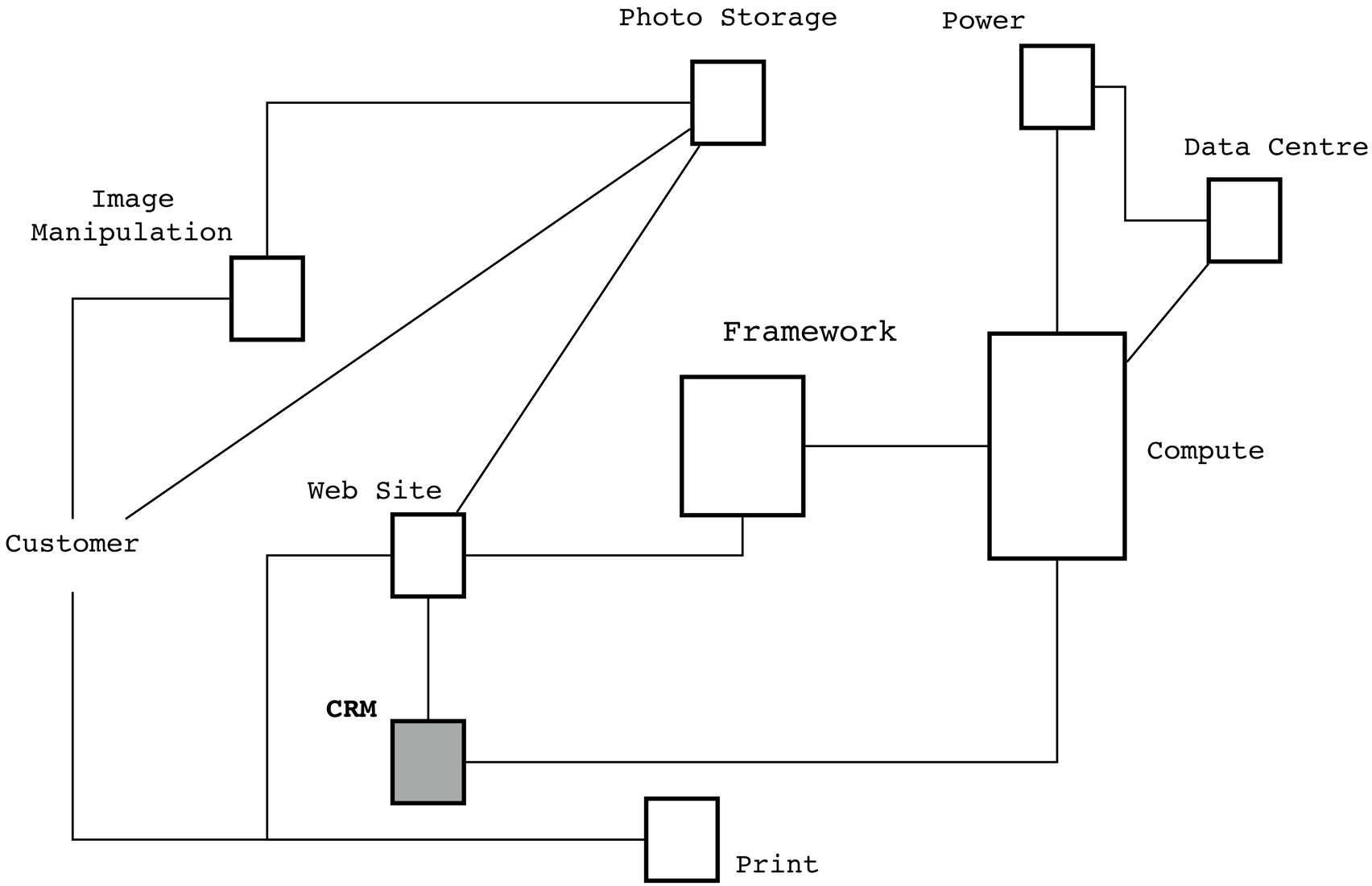

Thebes
Thermopylae
Artemisium
Athens
N


Thebes
X
N
Artemisium
X
Thermopylae
Athens
X
Space has meaning!

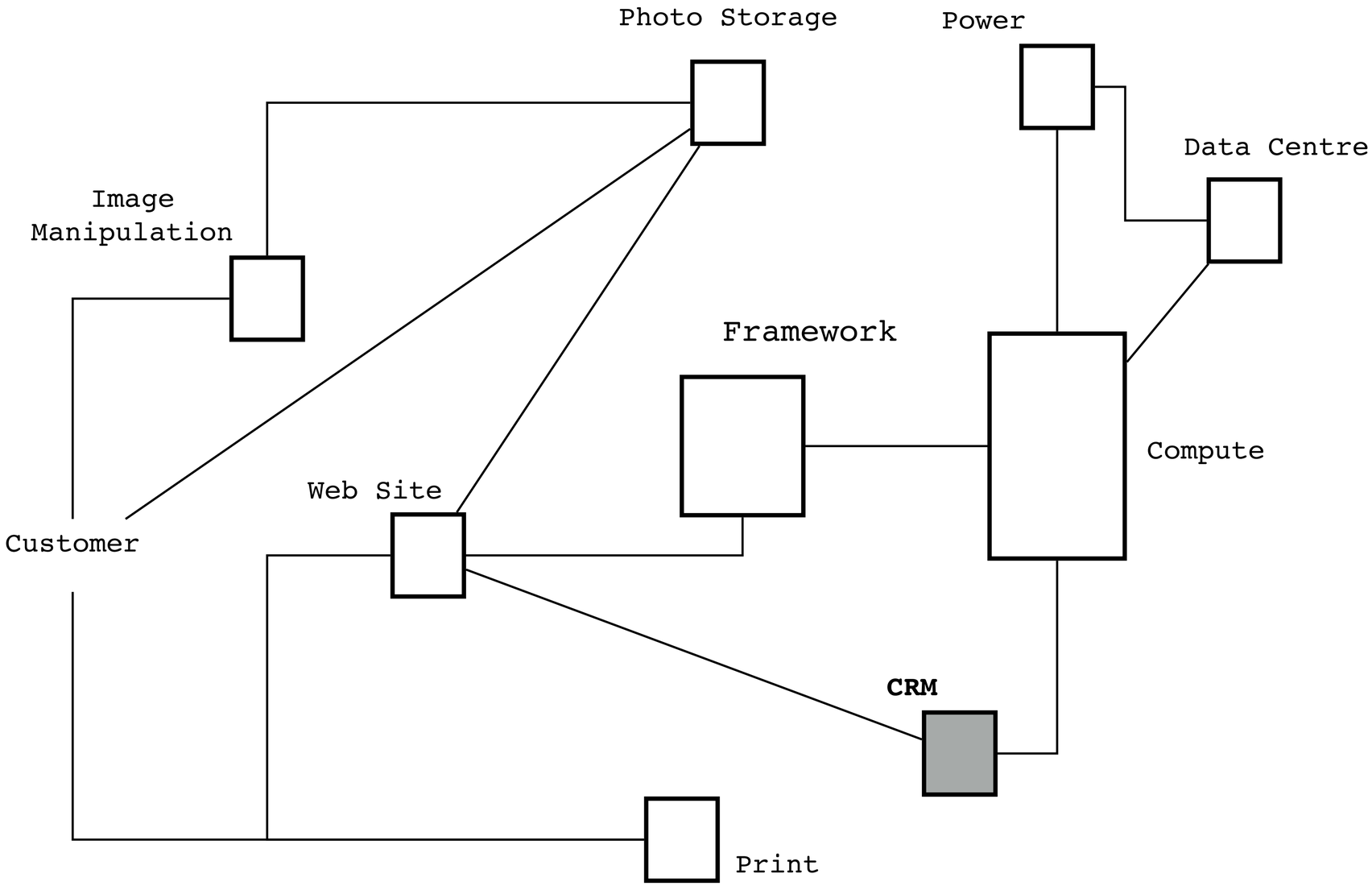
Systems Map


Photo Storage
Power
Data Centre
Image Manipulation
Framework
Compute
Web Site
Customer
CRM
Print

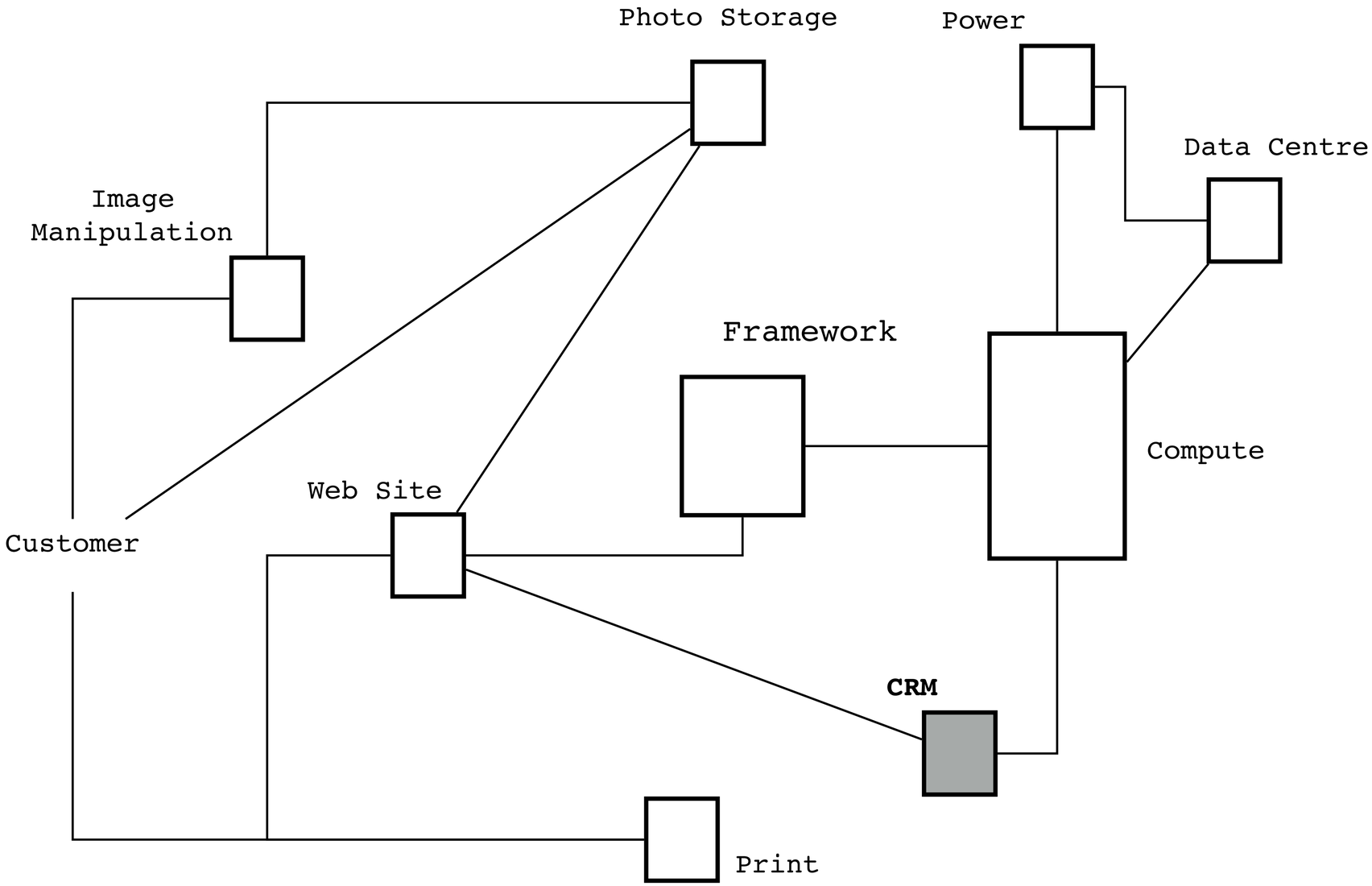
Systems Map

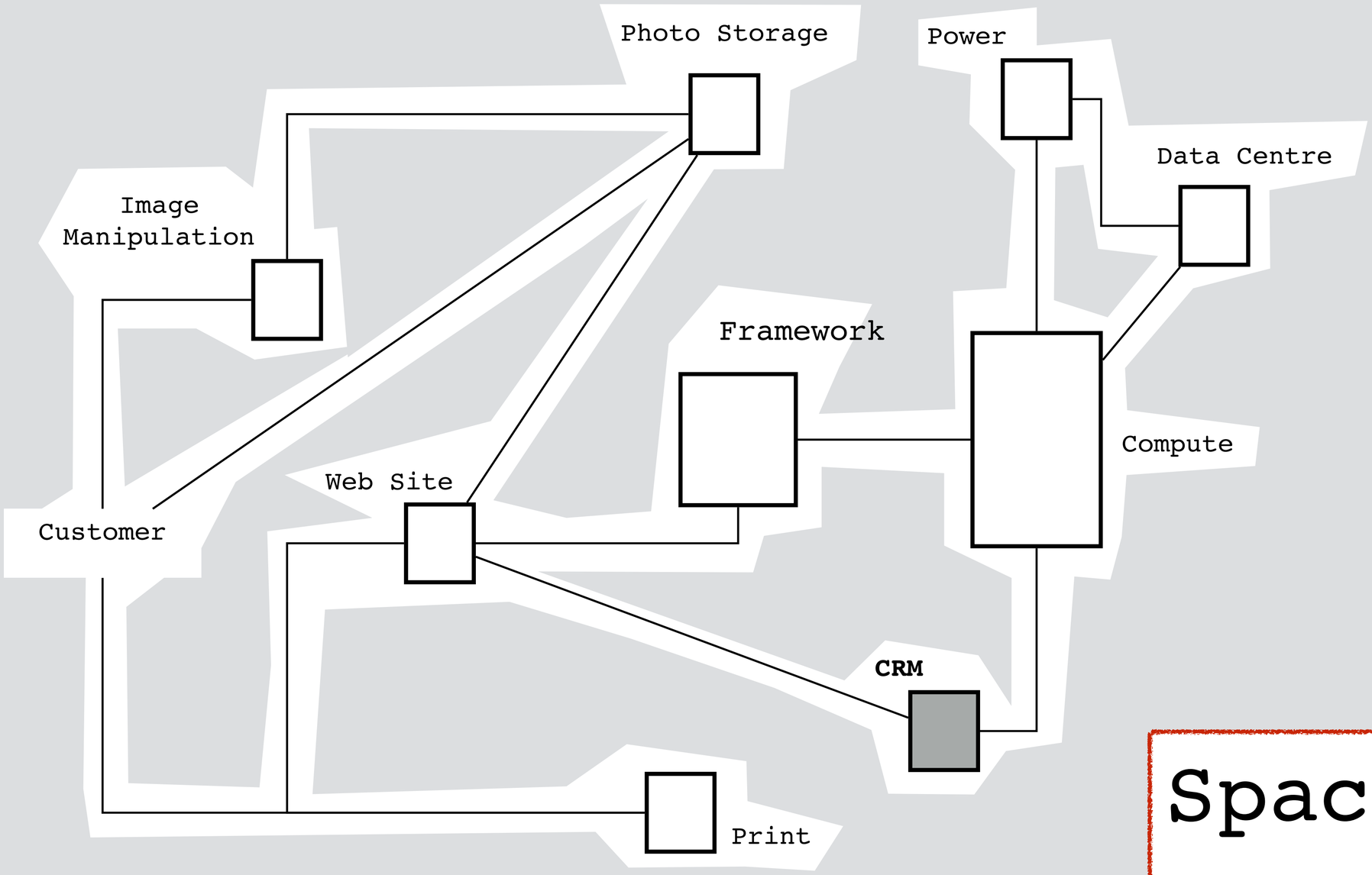

Photo Storage
Power
Data Centre
Image Manipulation
Framework
Compute
Web Site
Customer
CRM
Print

Systems Map


Photo Storage
Power
Data Centre
Image Manipulation
Framework
Compute
Web Site
Customer
CRM
Print

Systems Map

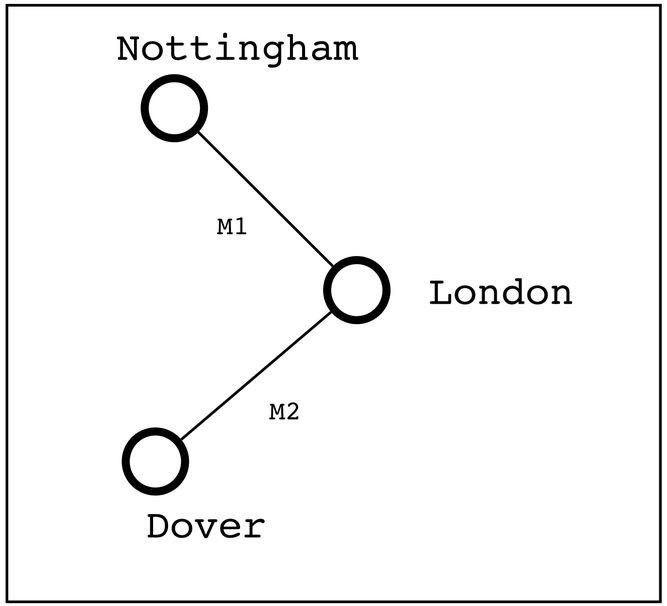

Photo Storage
Power
Data Centre
Image Manipulation
Framework
Compute
Web Site
Customer
CRM
Print

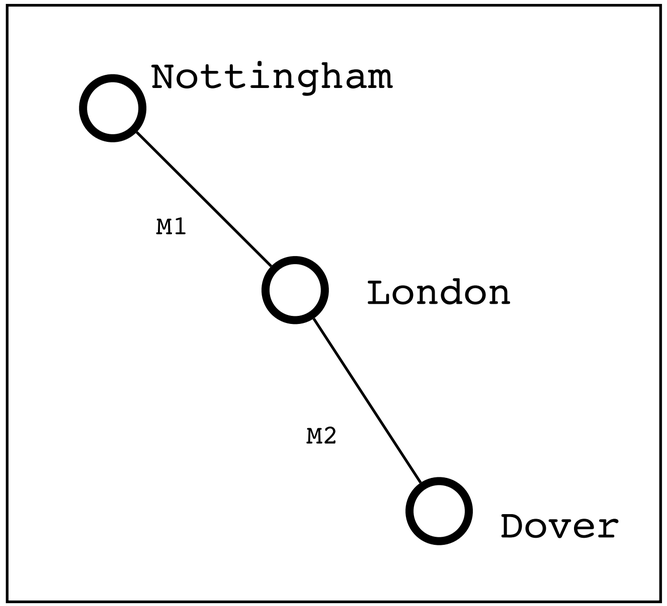


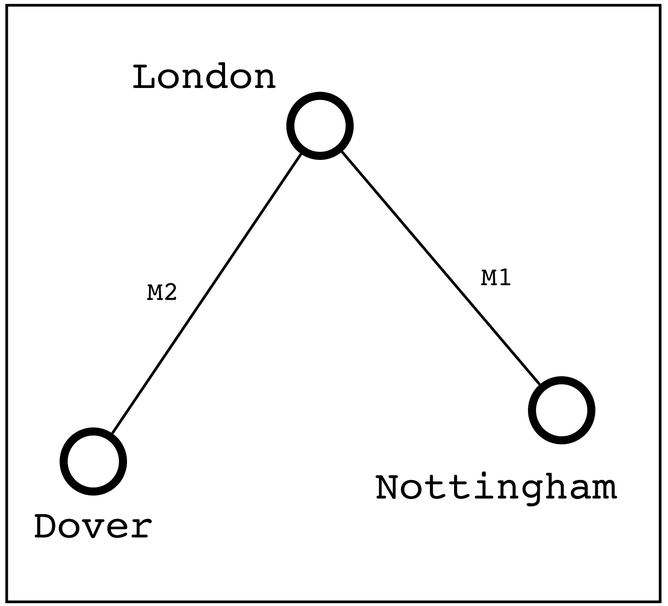
Space has no meaning!



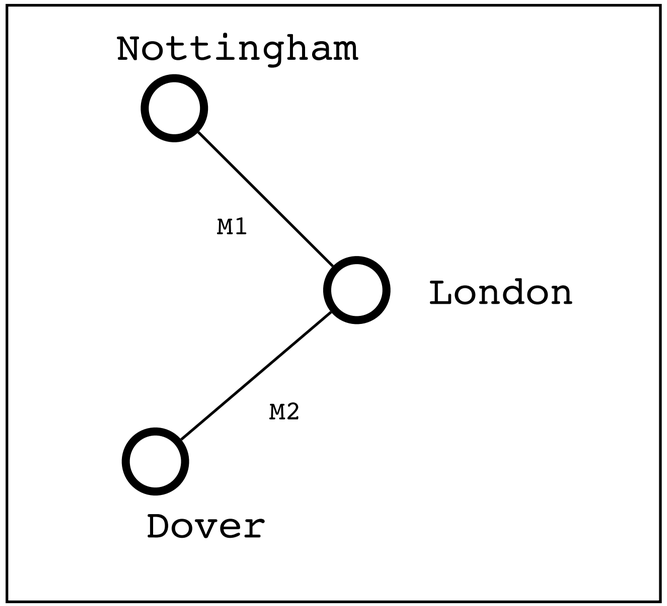
These three graphs are the same

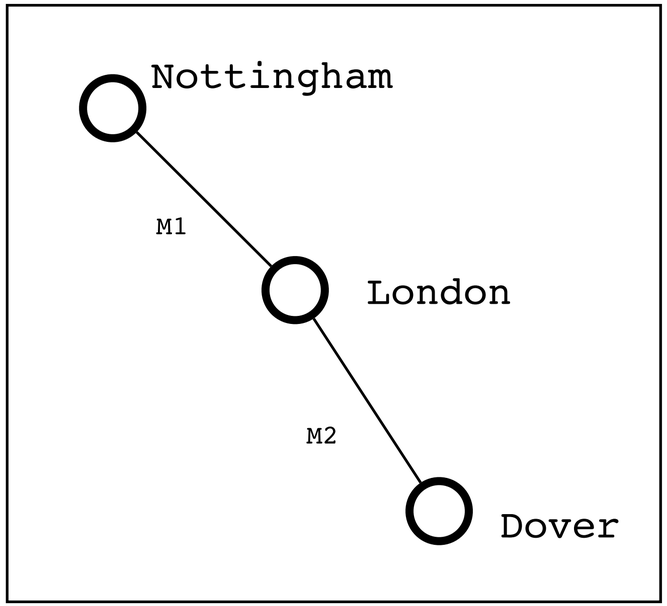


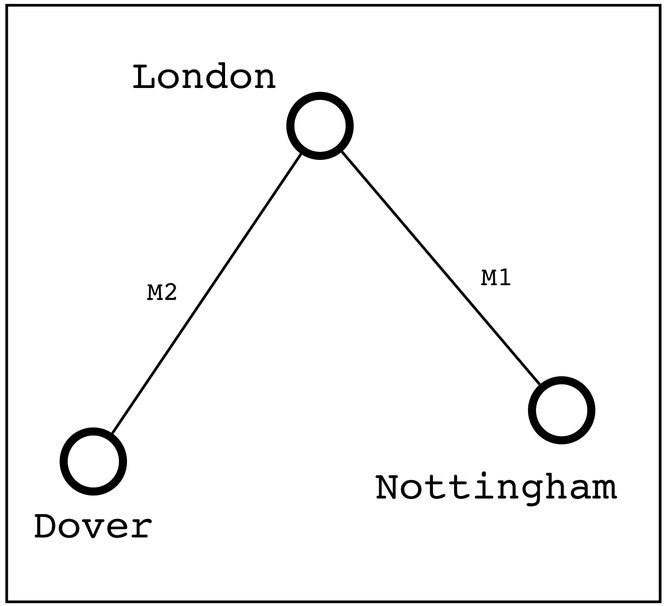




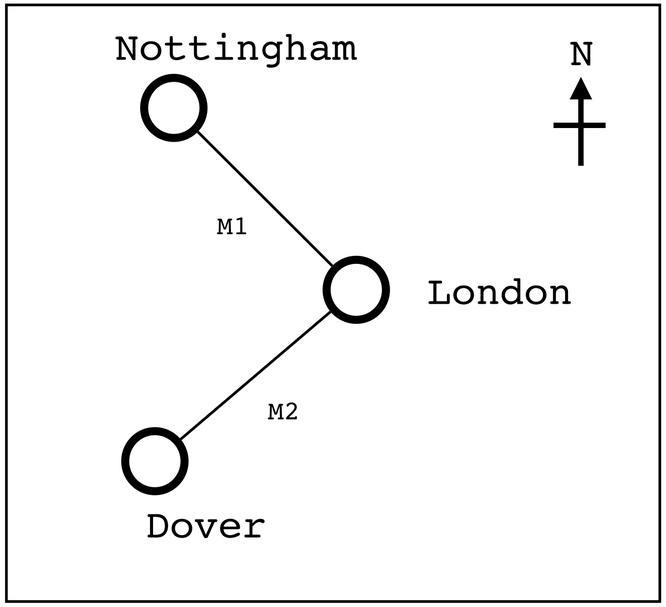
These three graphs are the same

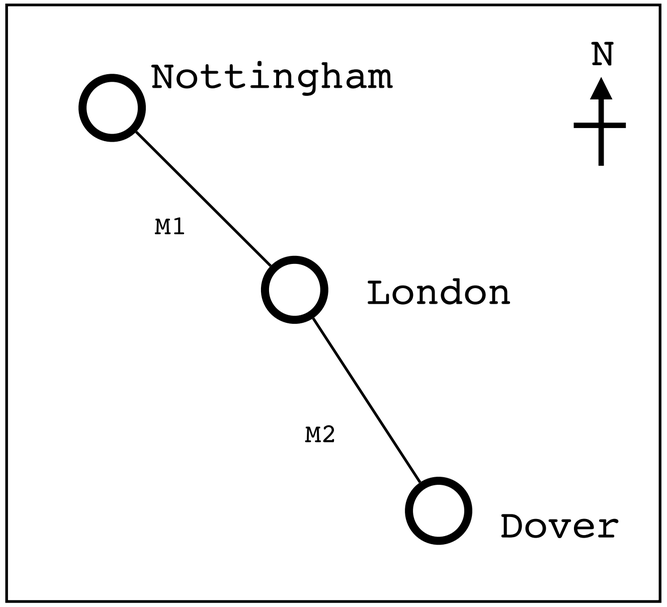


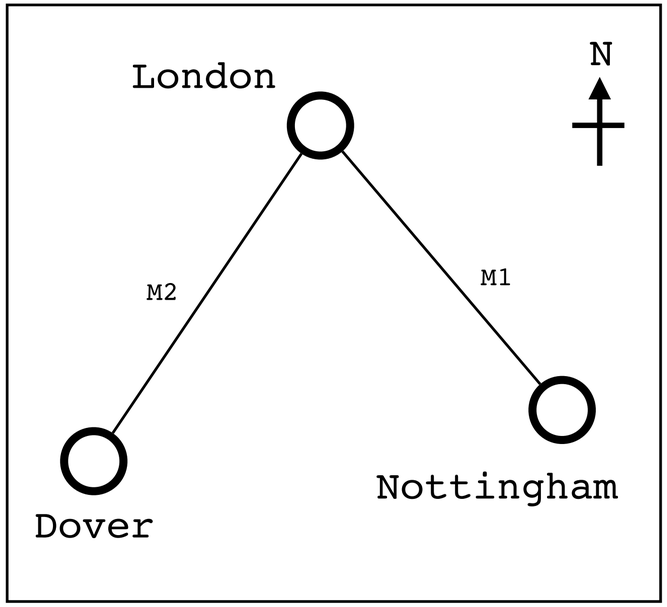




These three maps are different

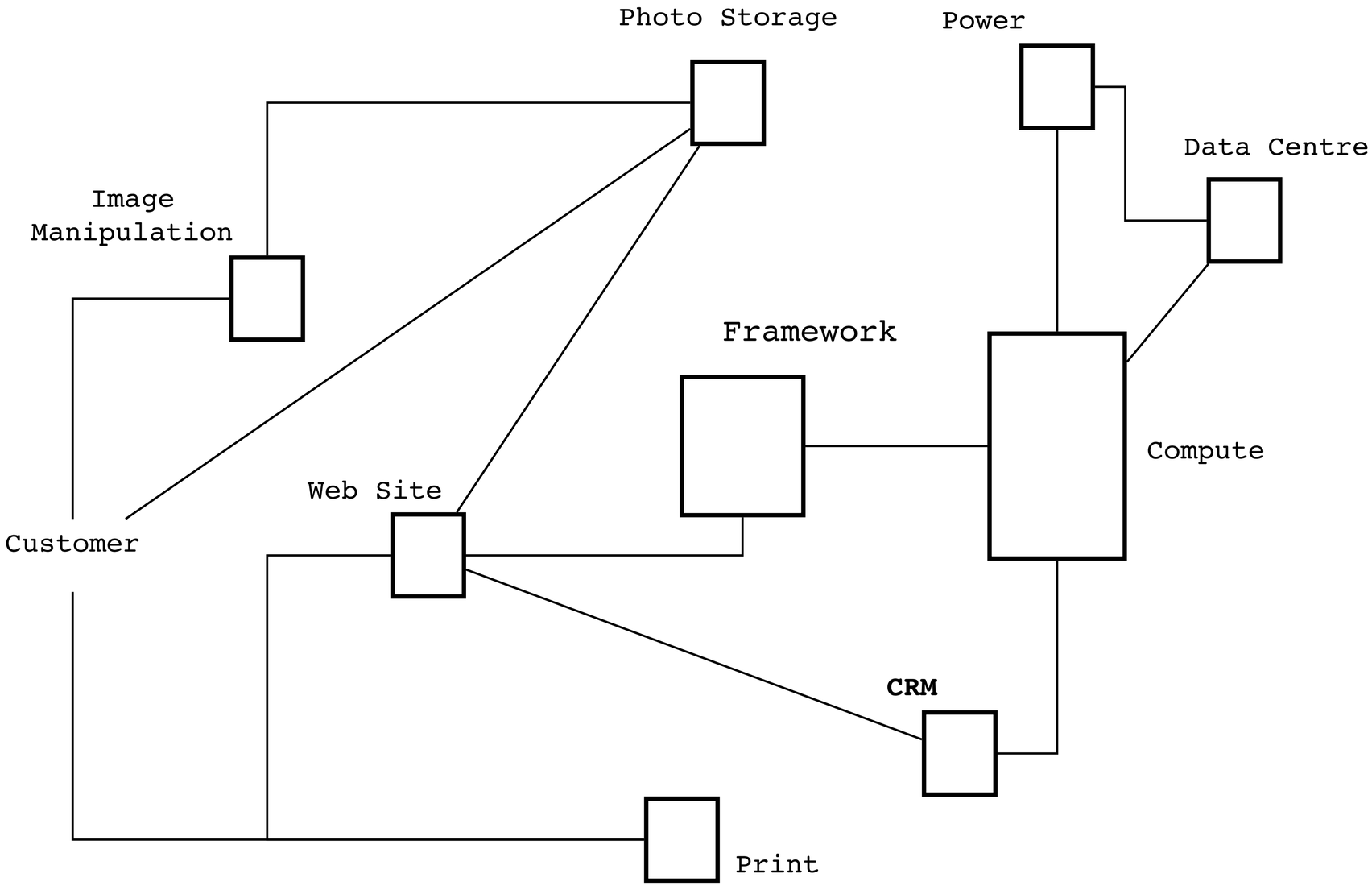


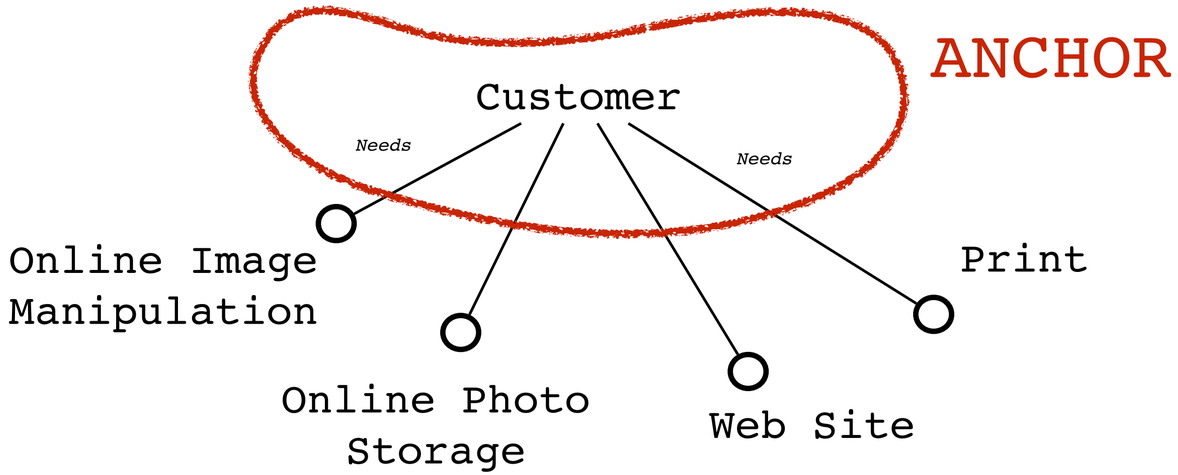


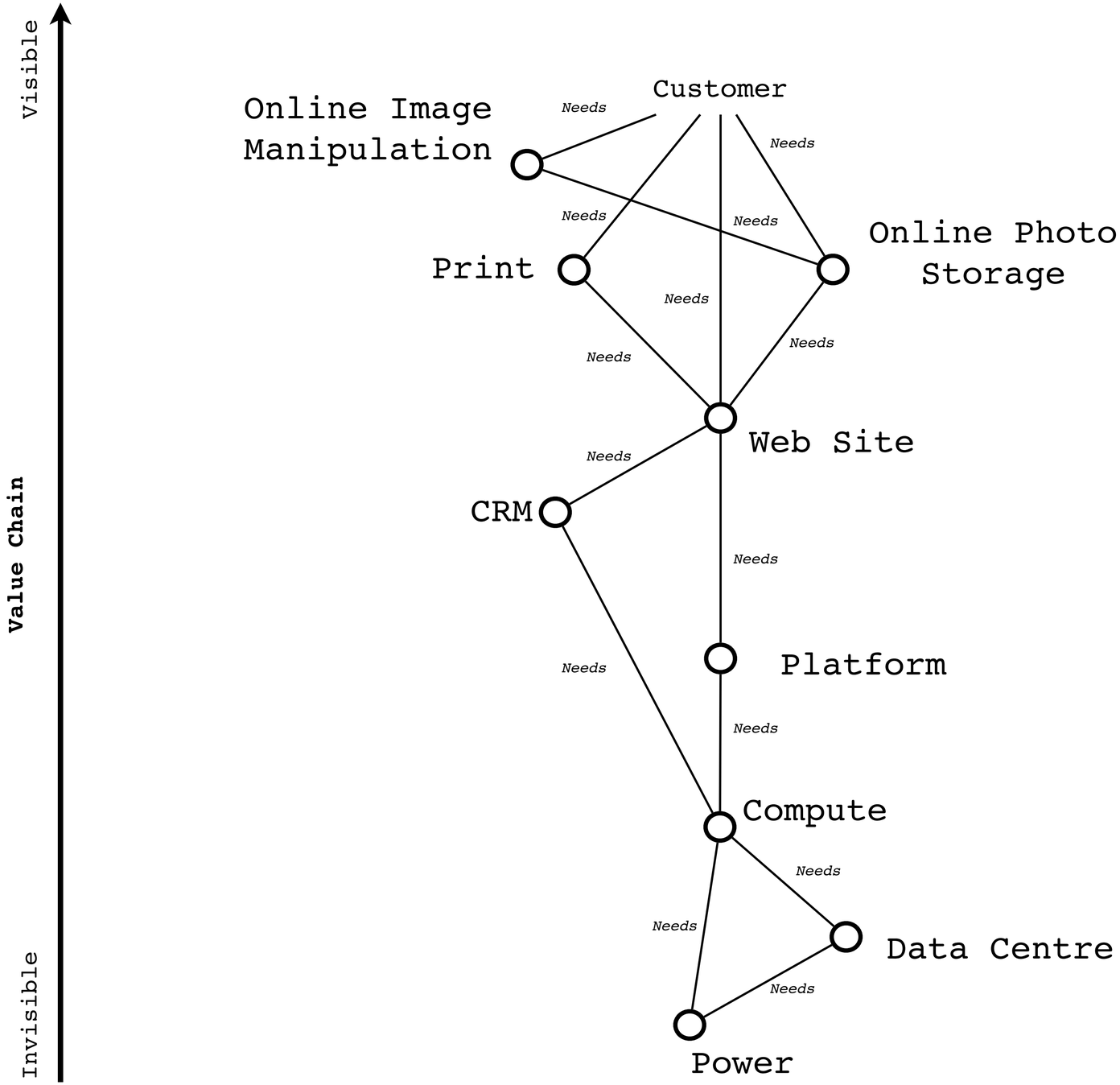


HOW TO MAP?

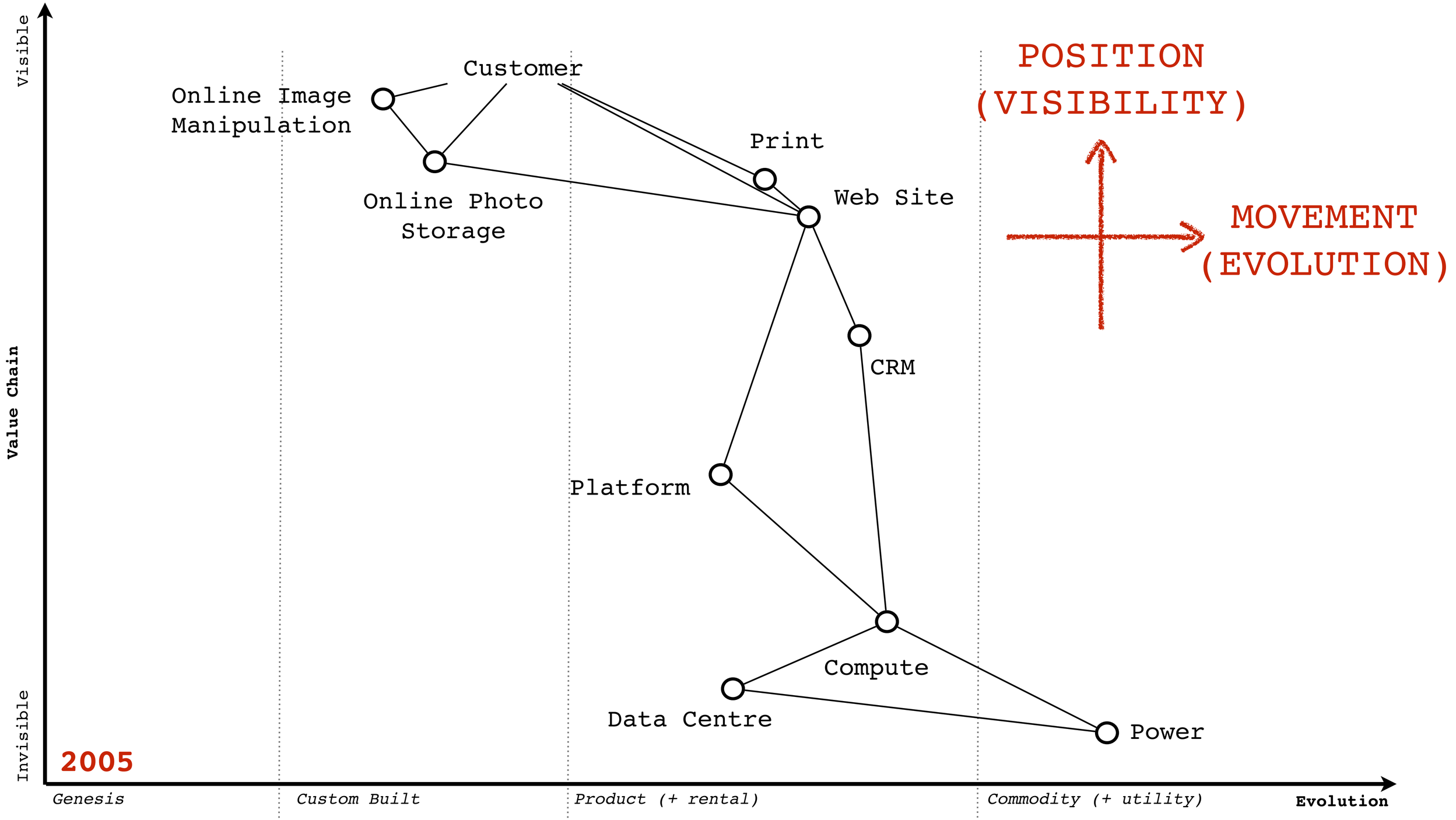
Systems Diagram




ANCHOR
Customer
Needs
Needs
Online Image Manipulation
Online Photo Storage
Web Site
Print



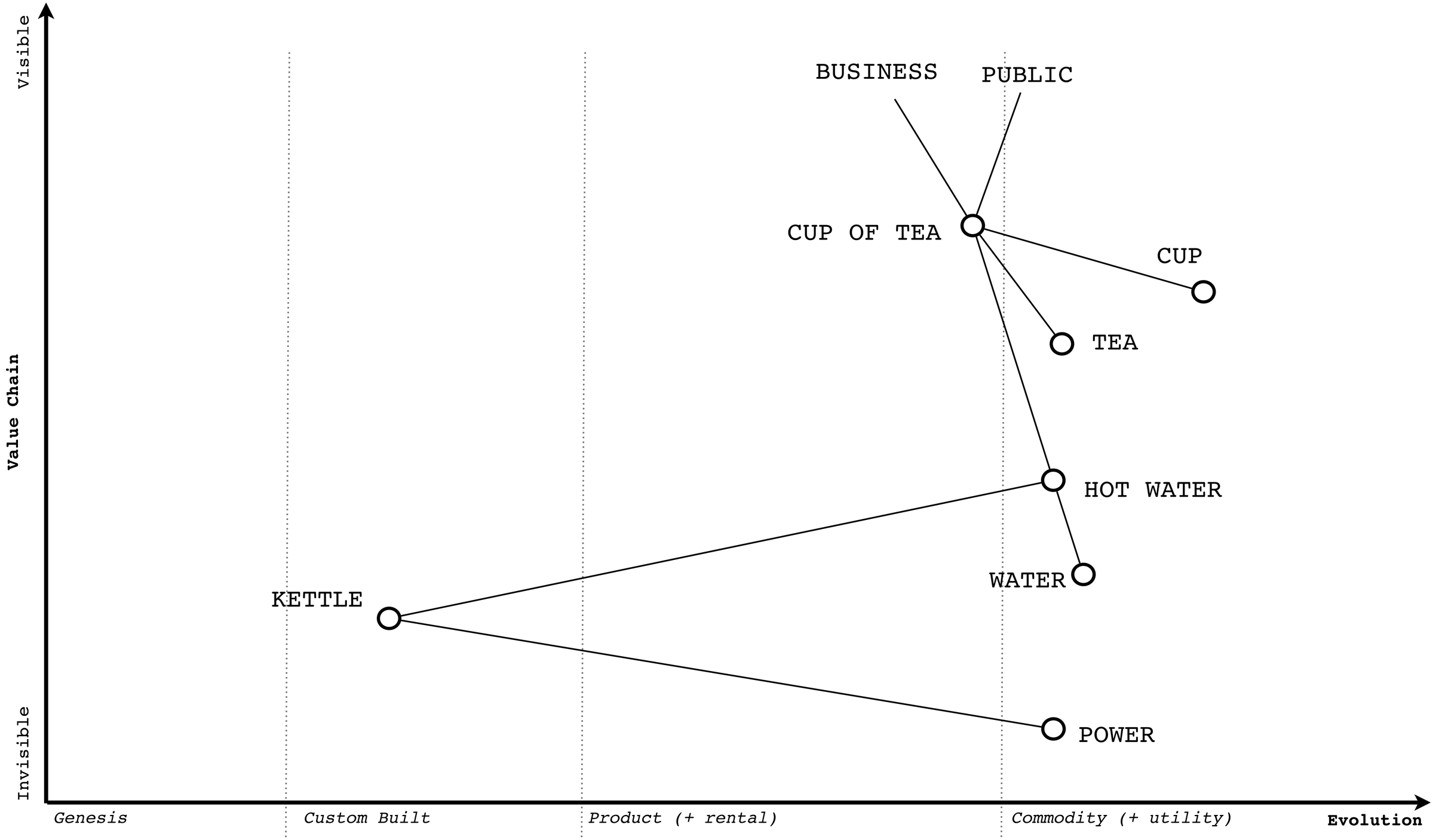
POSITION (VISIBILITY)

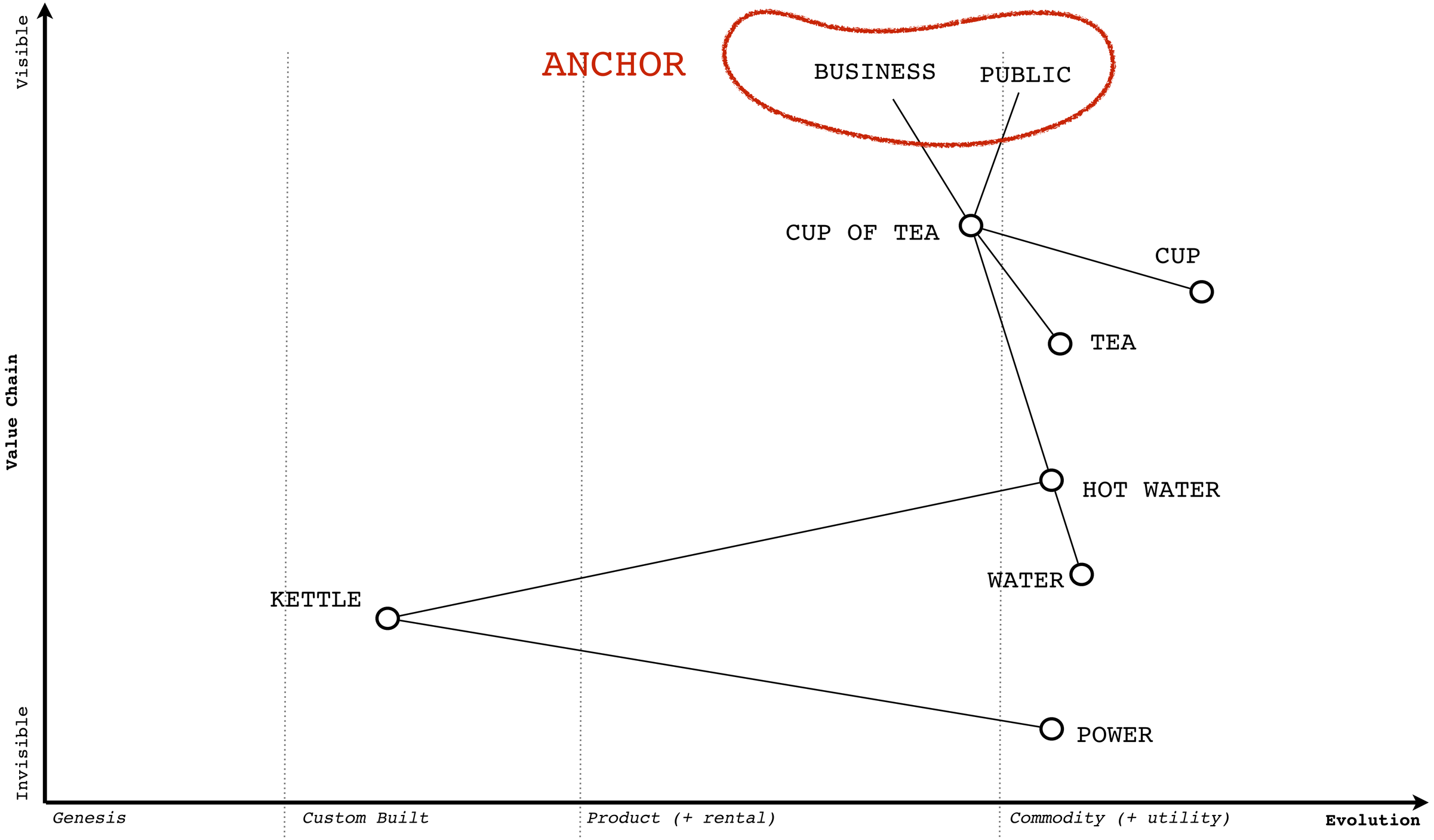

Visible
Invisible
Value Chain
Customer
Online Image Manipulation
Online Photo Storage
Print
Web Site
CRM
Platform
Compute
Data Centre
Power
2005
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution
POSITION (VISIBILITY)
MOVEMENT (EVOLUTION)

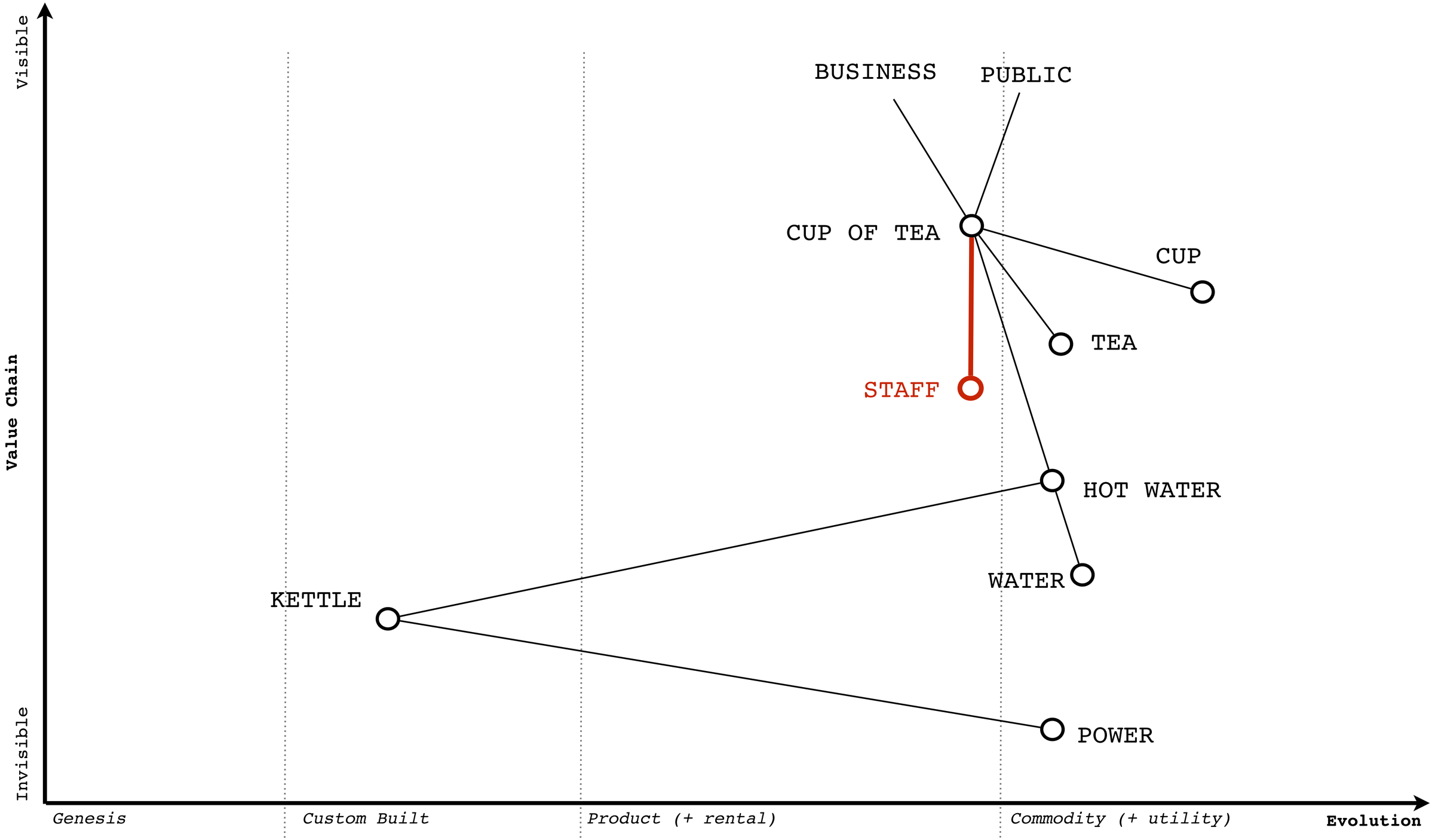
SO WHAT?

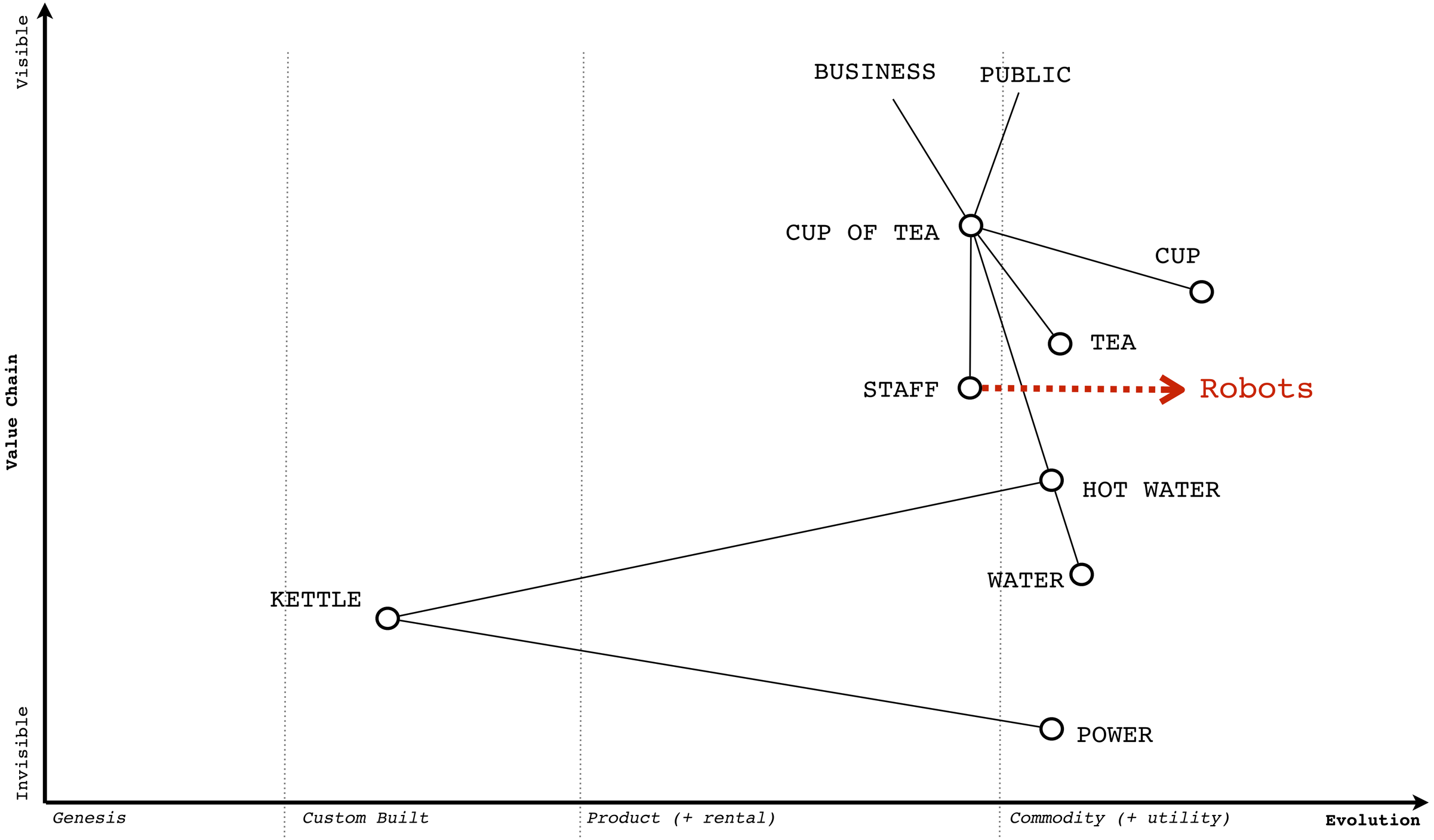
COMMUNICATION

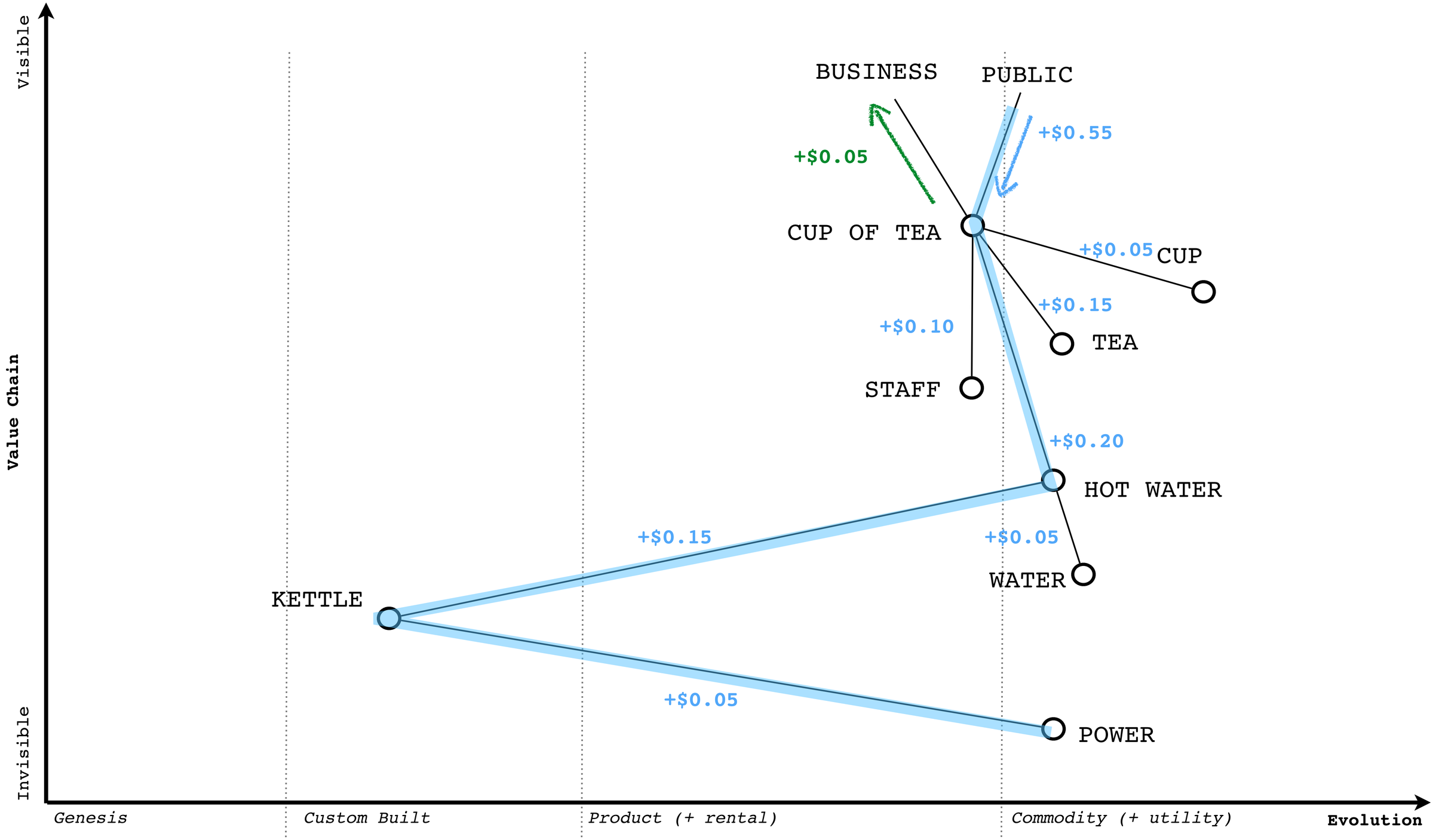


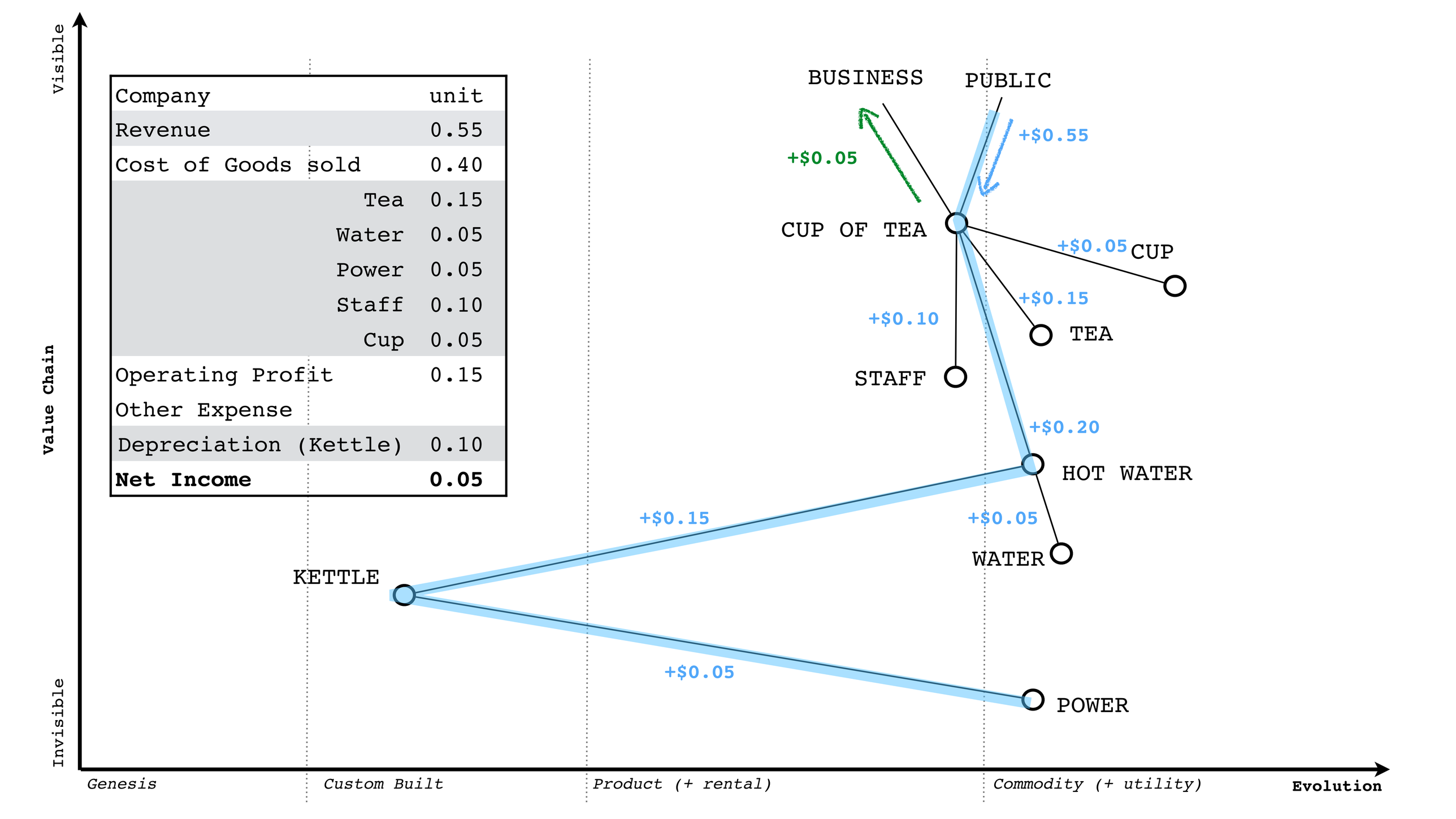

Visible
Value Chain
Invisible
BUSINESS
PUBLIC
CUP OF TEA
CUP
TEA
HOT WATER
WATER
KETTLE
POWER
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


ANCHOR
BUSINESS
PUBLIC
CUP OF TEA
CUP
TEA
HOT WATER
WATER
KETTLE
POWER
Visible
Value Chain
Invisible
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

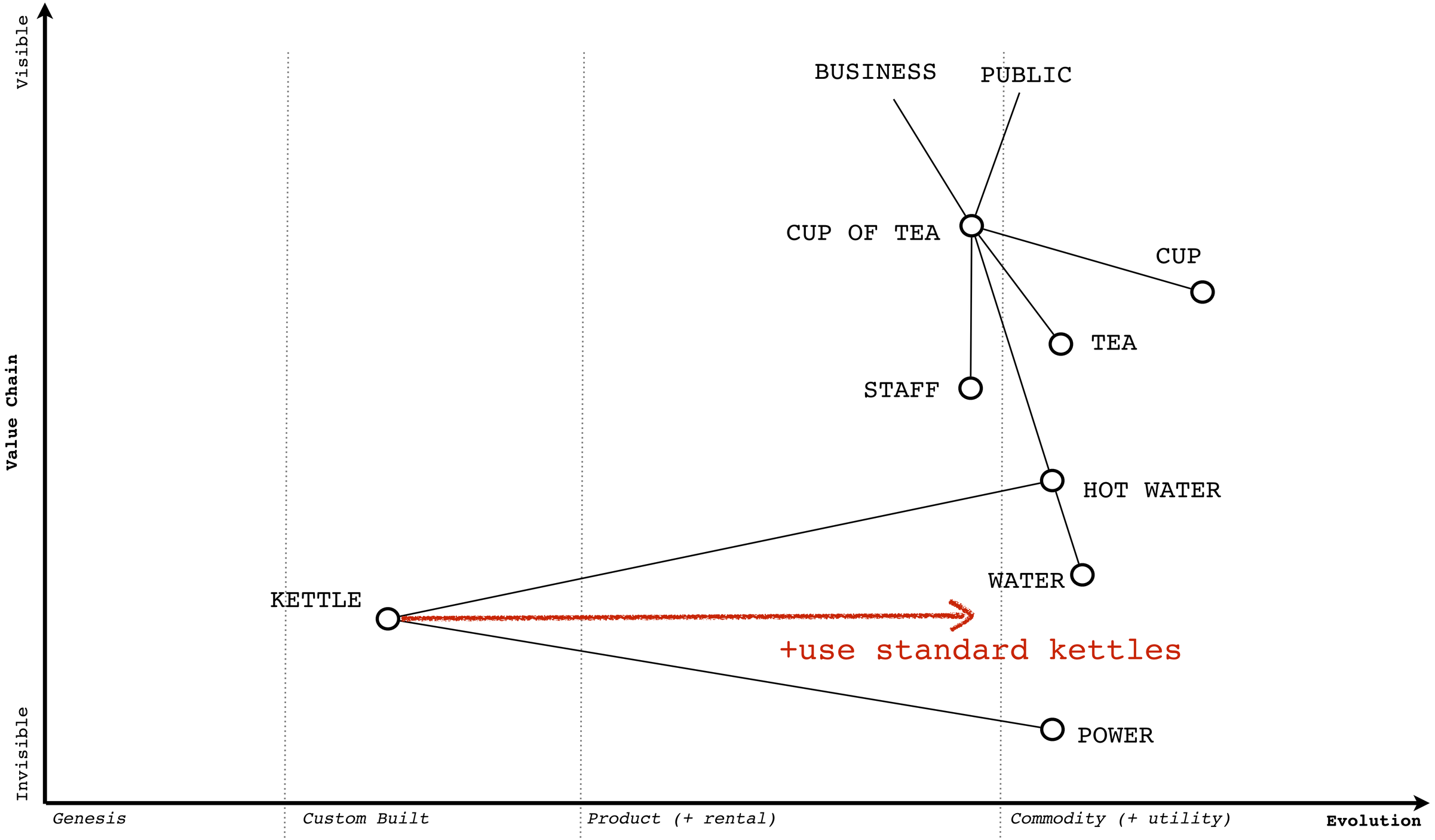

Visible
Value Chain
Invisible
BUSINESS
PUBLIC
CUP OF TEA
CUP
TEA
STAFF
HOT WATER
WATER
KETTLE
POWER
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

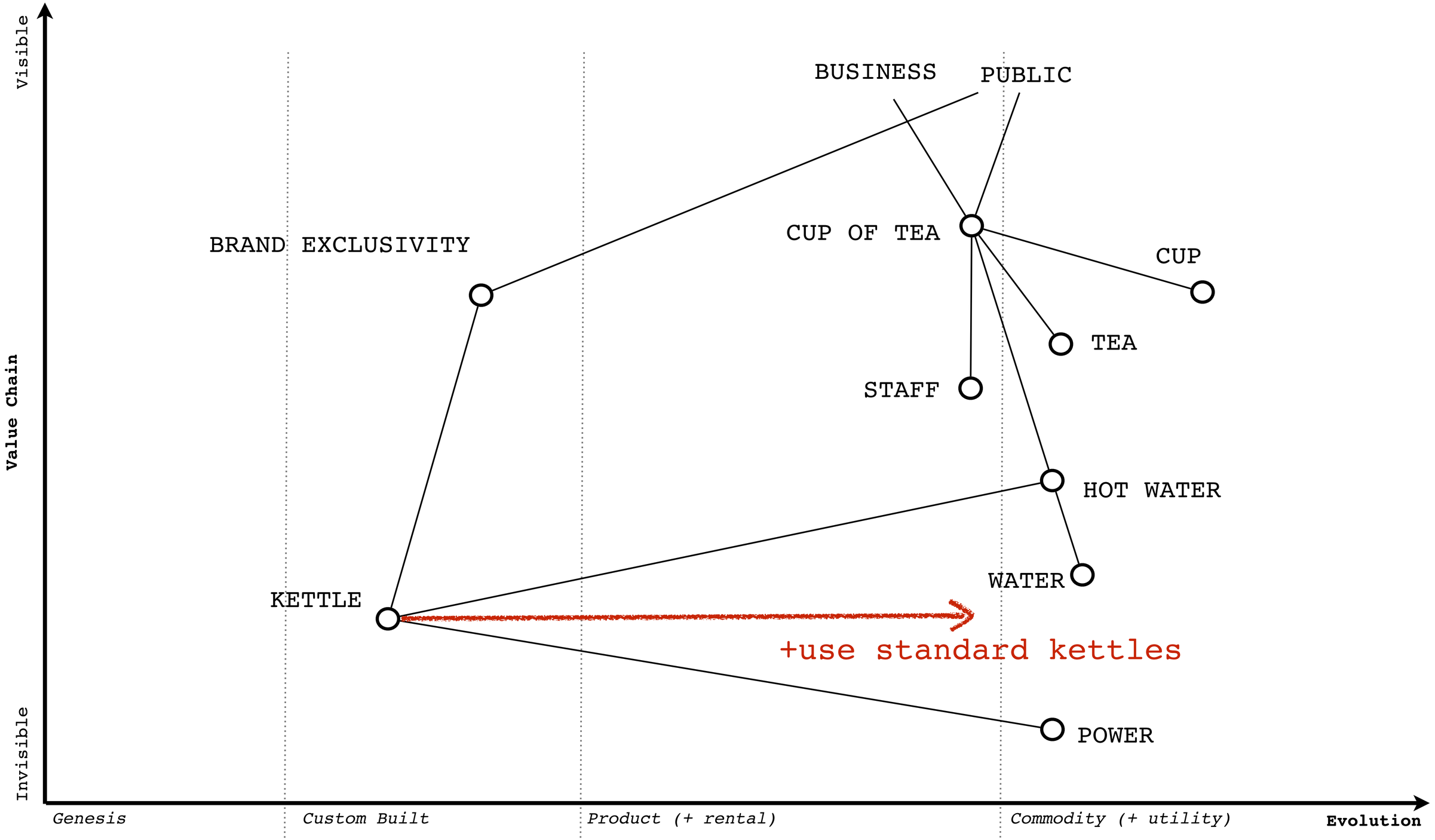

Visible
Value Chain
Invisible
BUSINESS
PUBLIC
CUP OF TEA
CUP
TEA
STAFF
Robots
HOT WATER
WATER
KETTLE
POWER
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Visible
Value Chain
Invisible
BUSINESS
PUBLIC
+$0.05
+$0.55
CUP OF TEA
+$0.05
CUP
+$0.15
+$0.10
TEA
STAFF
+$0.20
HOT WATER
+$0.15
+$0.05
WATER
KETTLE
+$0.05
POWER
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution



Company	unit
Revenue	0.55
Cost of Goods sold	0.40
Tea	0.15
Water	0.05
Power	0.05
Staff	0.10
Cup	0.05
Operating Profit	0.15
Other Expense	
Depreciation (Kettle)	0.10
Net Income	**0.05**


Visible
Value Chain
Invisible
BUSINESS
PUBLIC
CUP OF TEA
CUP
TEA
STAFF
HOT WATER
WATER
KETTLE
+use standard kettles
POWER
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Visible
Value Chain
Invisible
BUSINESS
PUBLIC
BRAND EXCLUSIVITY
CUP OF TEA
CUP
TEA
STAFF
HOT WATER
WATER
KETTLE
+use standard kettles
POWER
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution



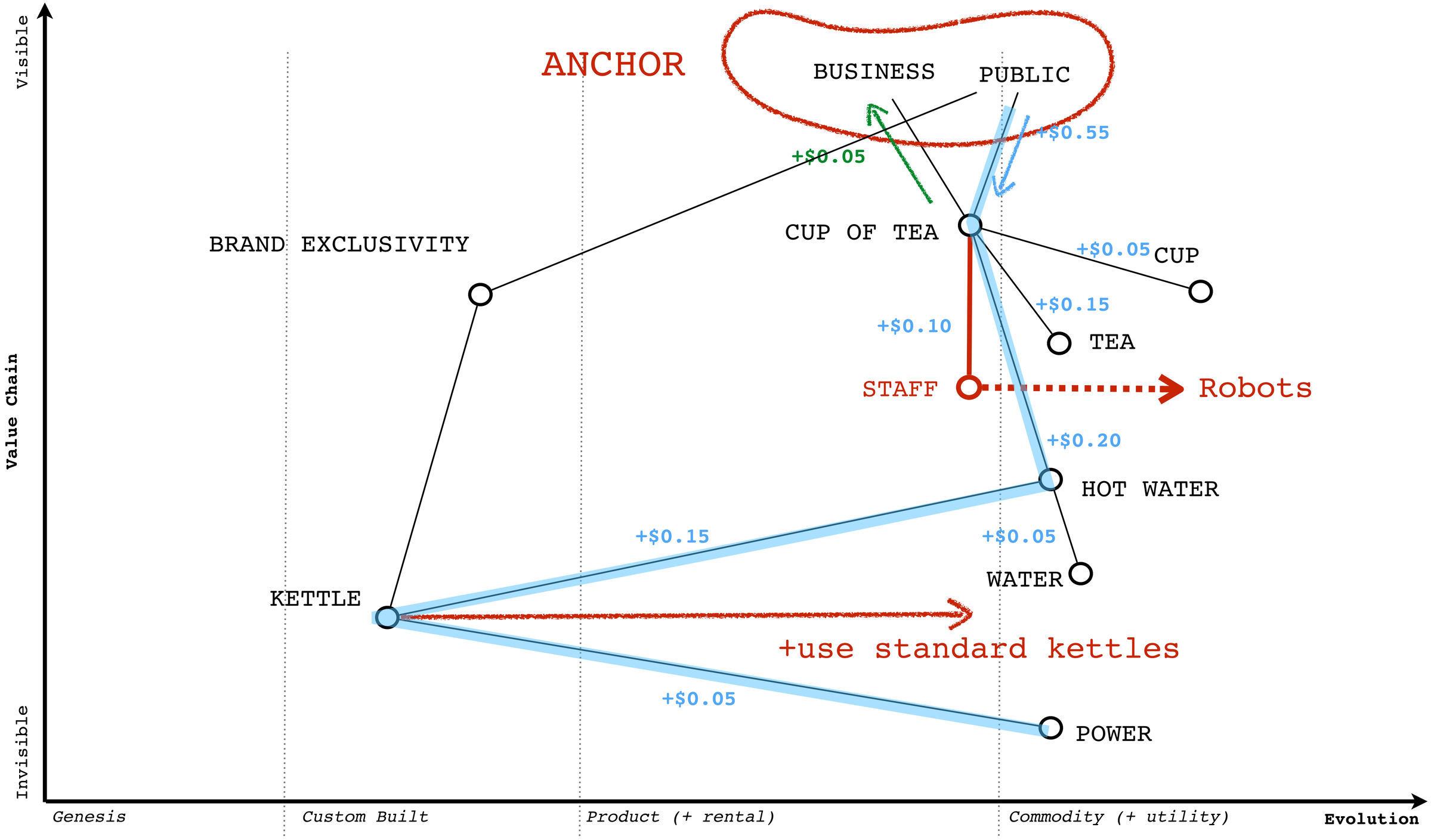
Ben Terrett
@benterrett

Following

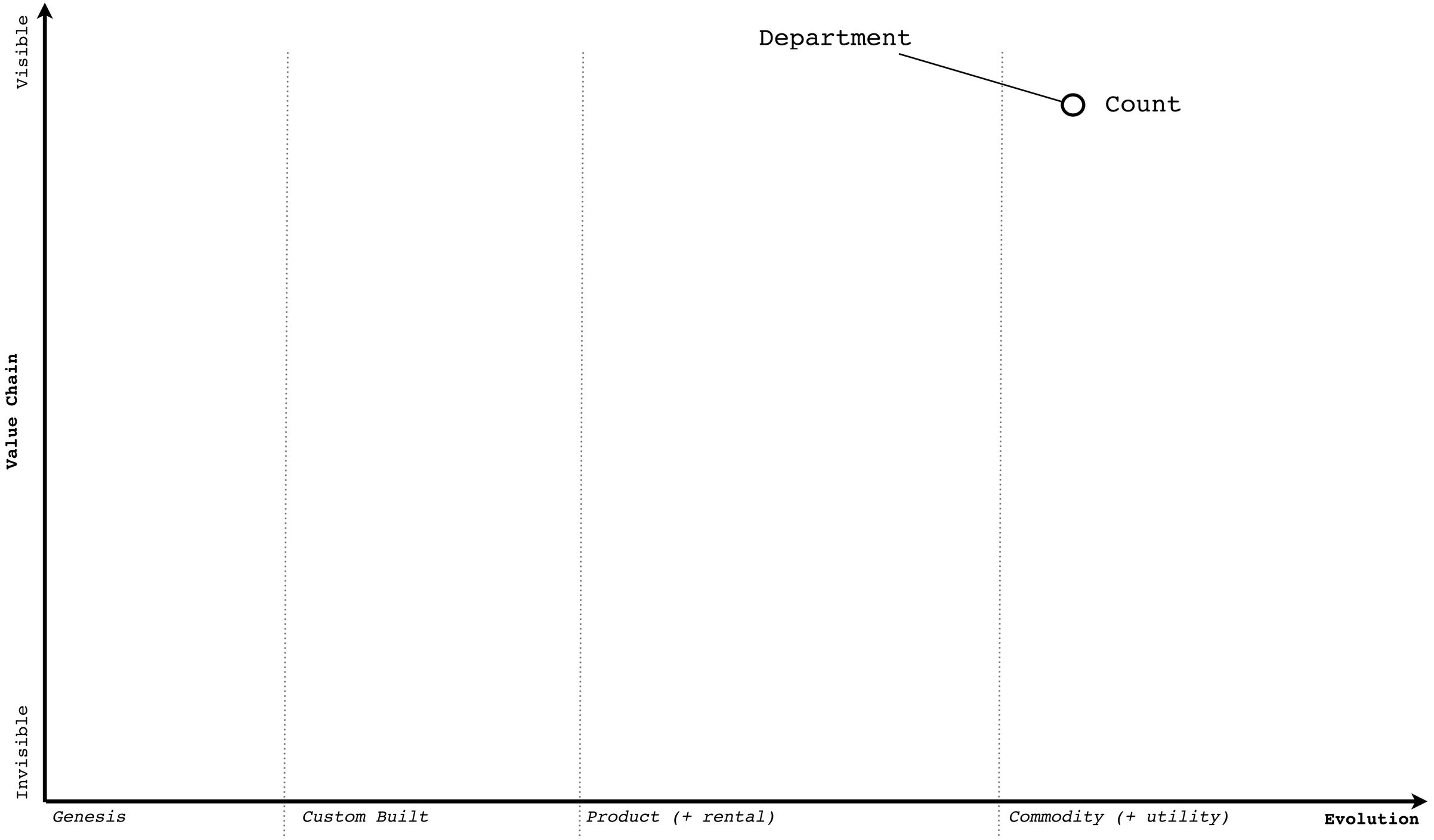
Tom (from Birmingham) orders a “boring tea” in Shoreditch @tomskitomski

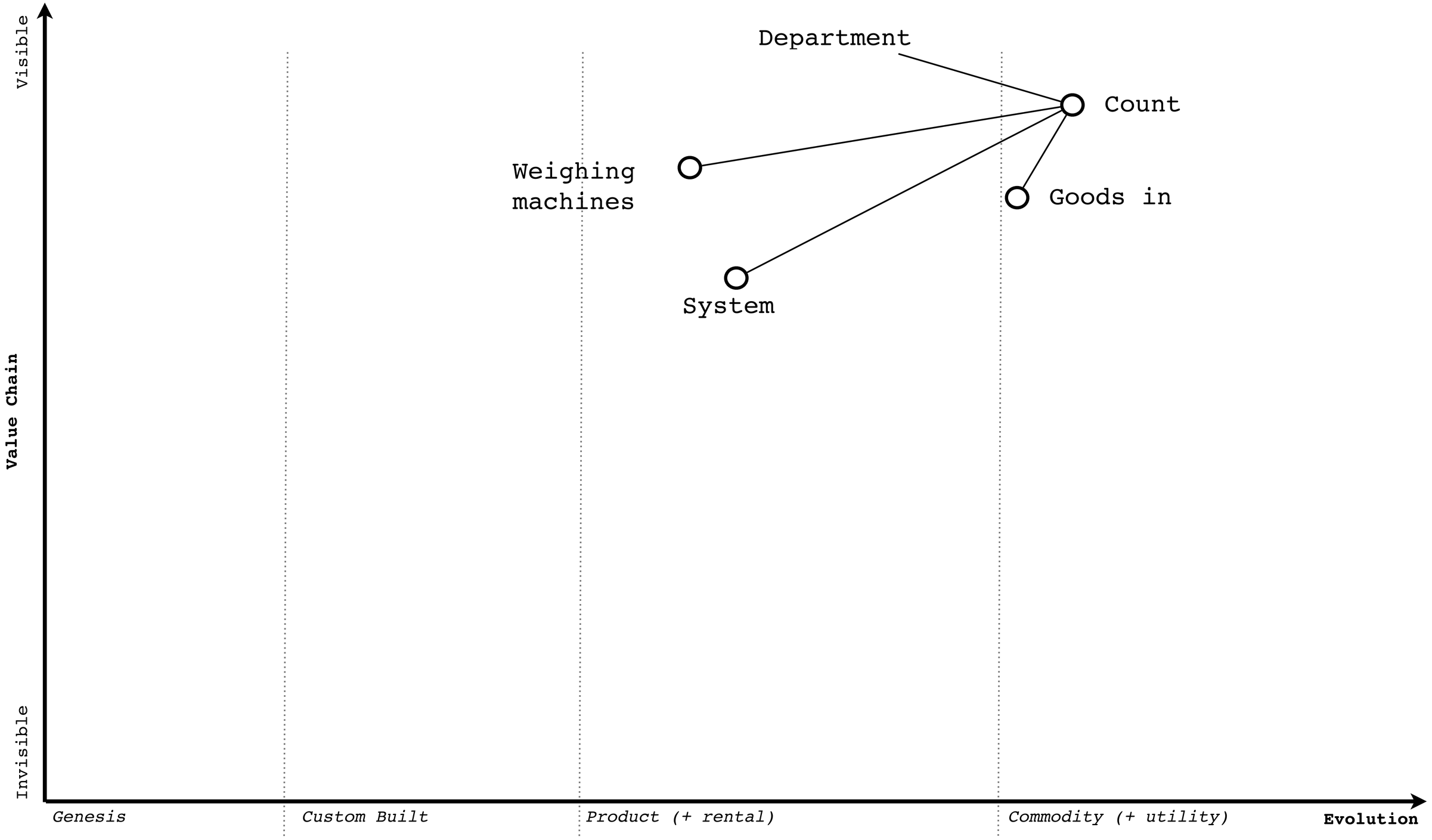


1:42 pm - 19 Nov 2018


Visible
Value Chain
Invisible
ANCHOR
BUSINESS
PUBLIC
+$0.05
+$0.55
BRAND EXCLUSIVITY
CUP OF TEA
+$0.05
CUP
+$0.15
+$0.10
TEA
STAFF
Robots
+$0.20
HOT WATER
+$0.15
+$0.05
WATER
KETTLE
+use standard kettles
+$0.05
POWER
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution




Visible
Value Chain
Invisible
Department
Count
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Visible
Value Chain
Invisible
Department
Count
Weighing machines
Goods in
System
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

Visible

Value Chain

Invisible

Department

Count

Weighing machines

Goods in

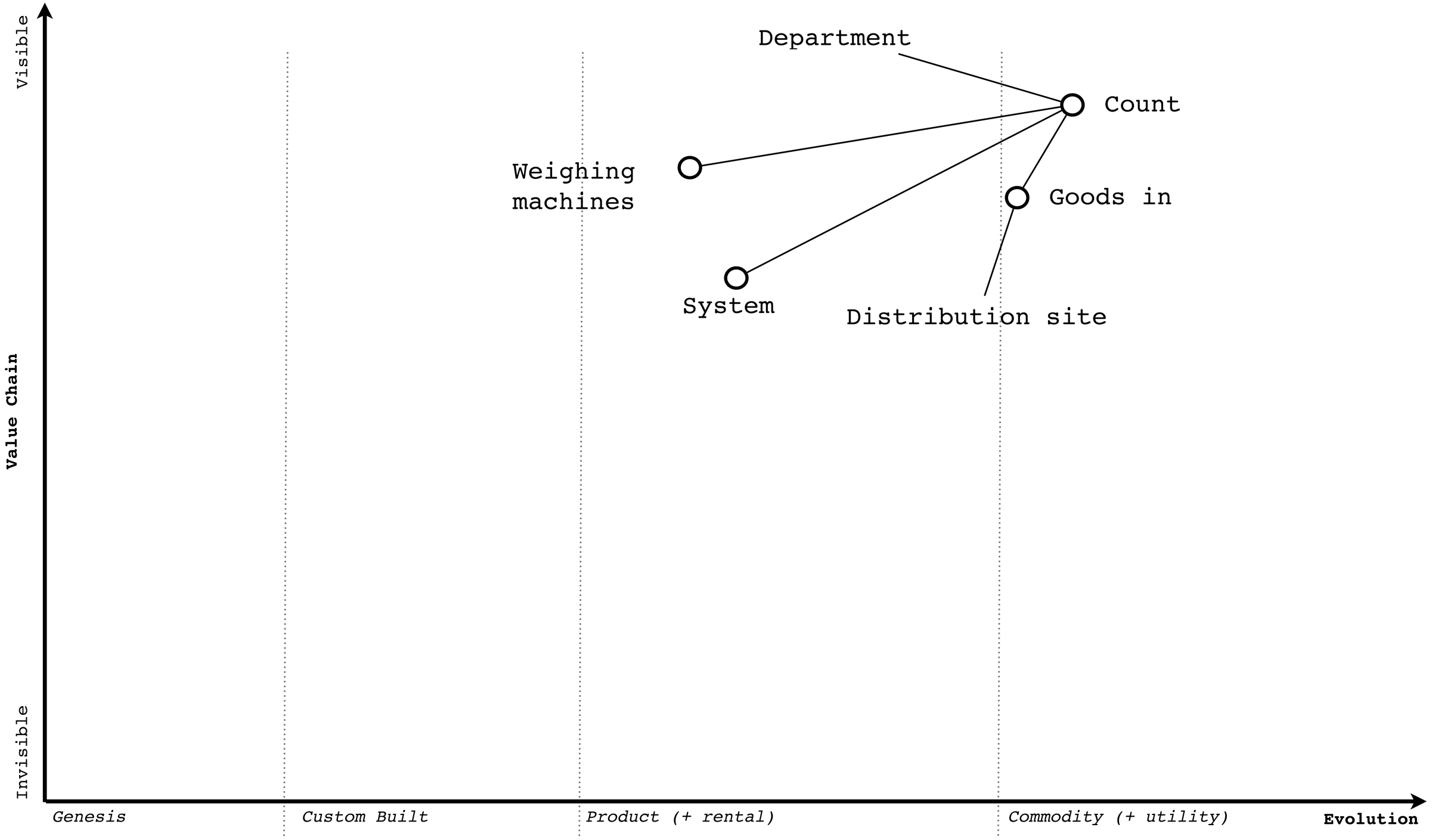
System

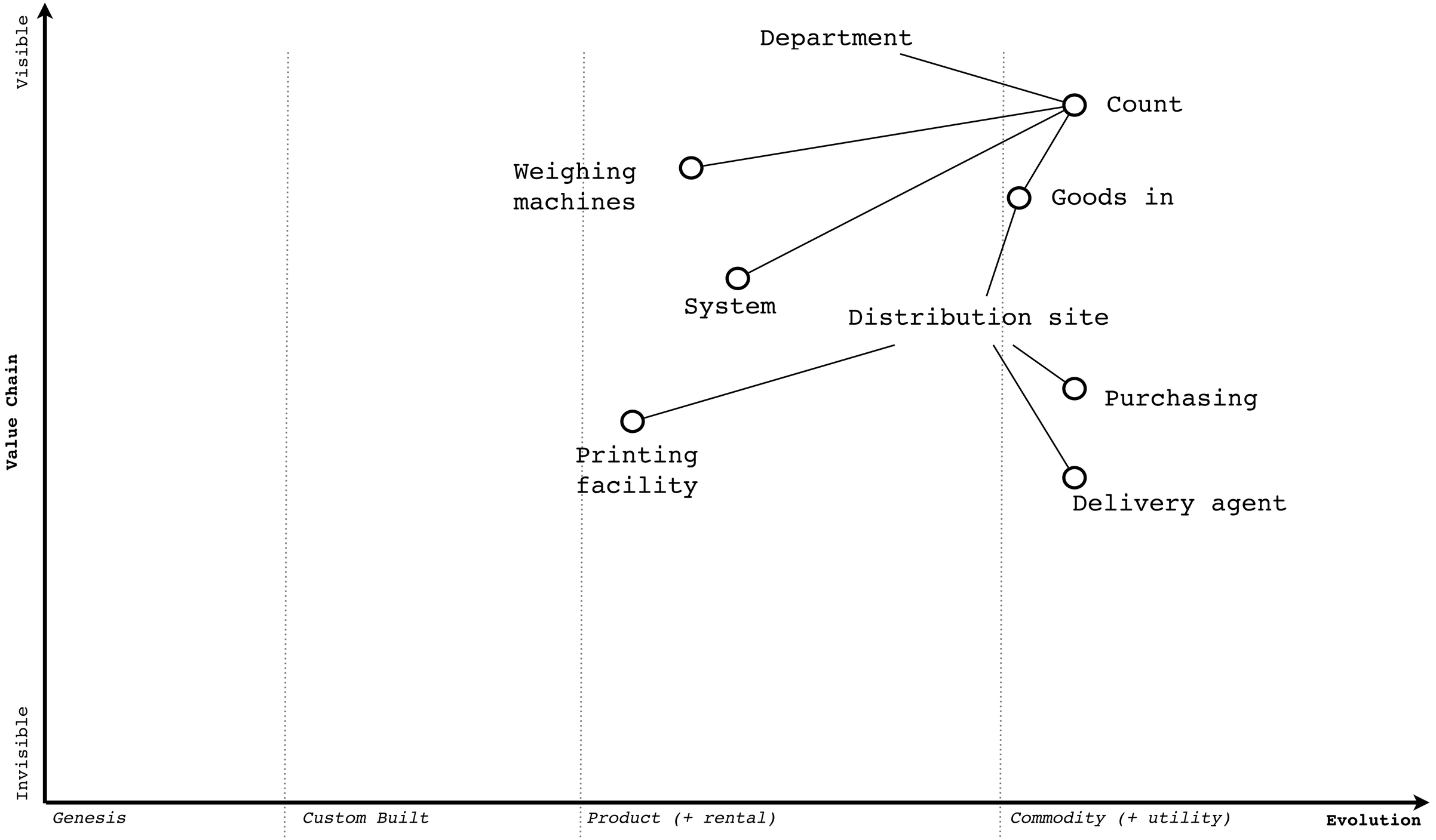
DIGITAL

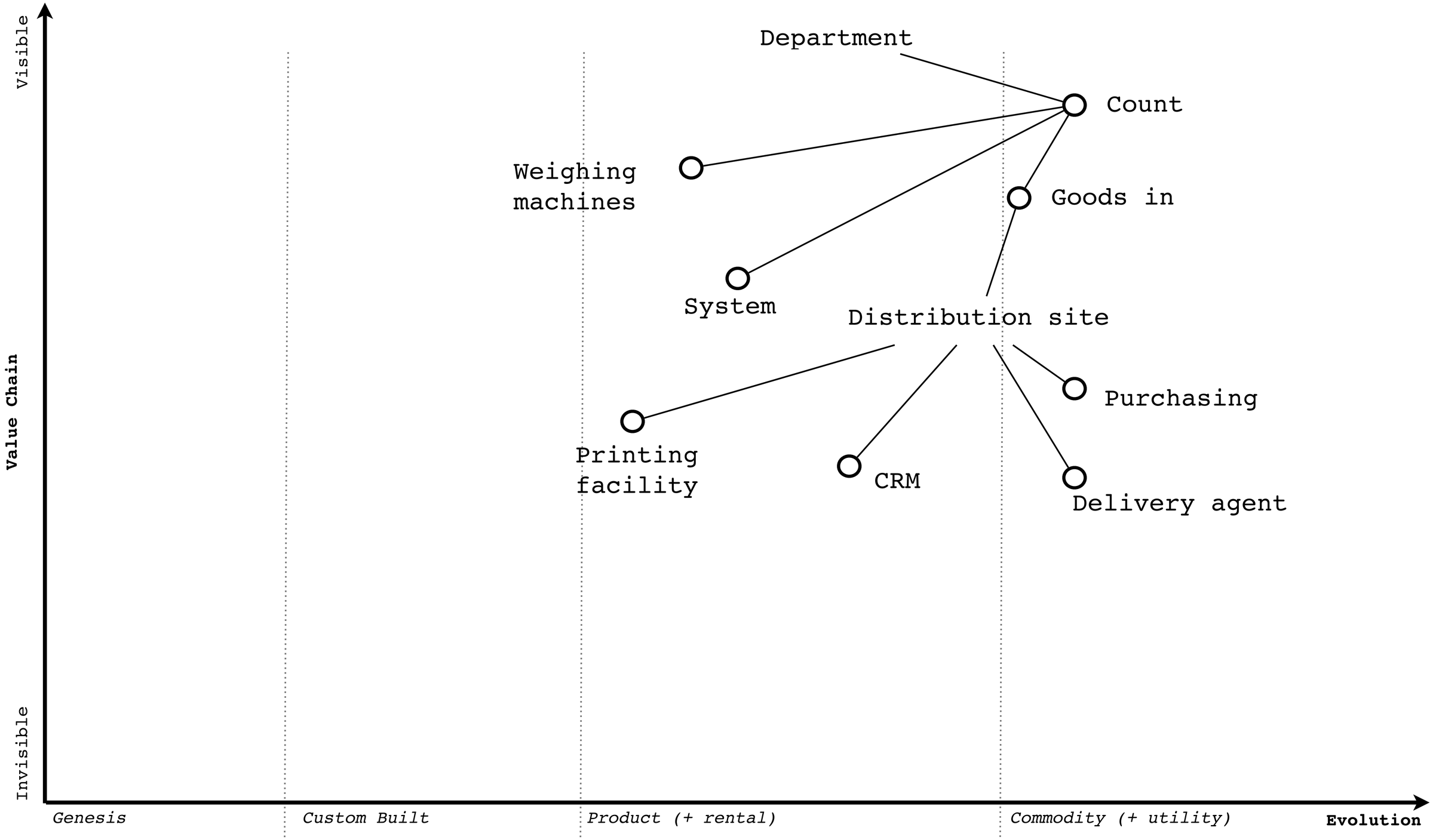


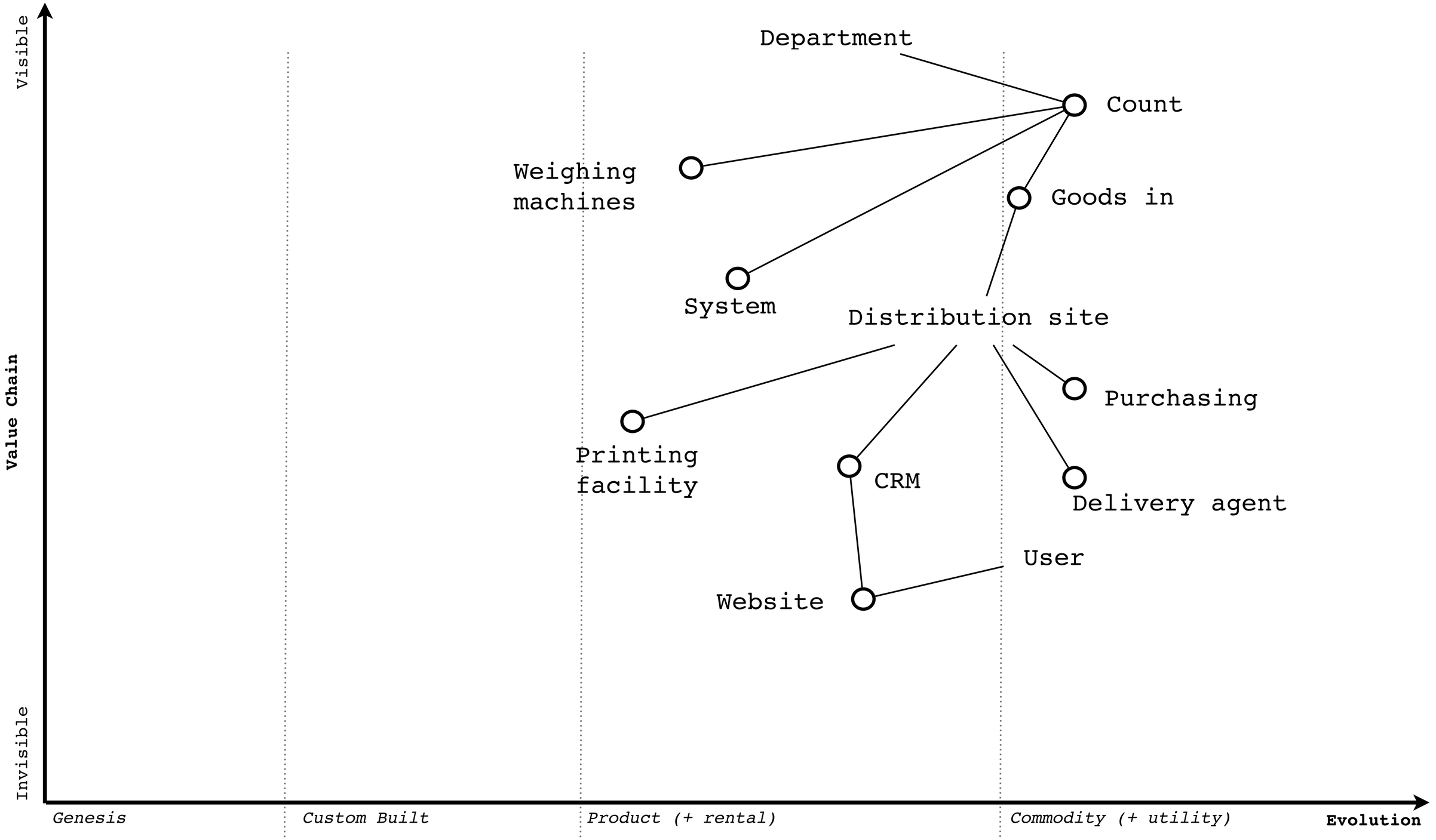
Genesis | *Custom Built* | *Product (+ rental)* | *Commodity (+ utility)*

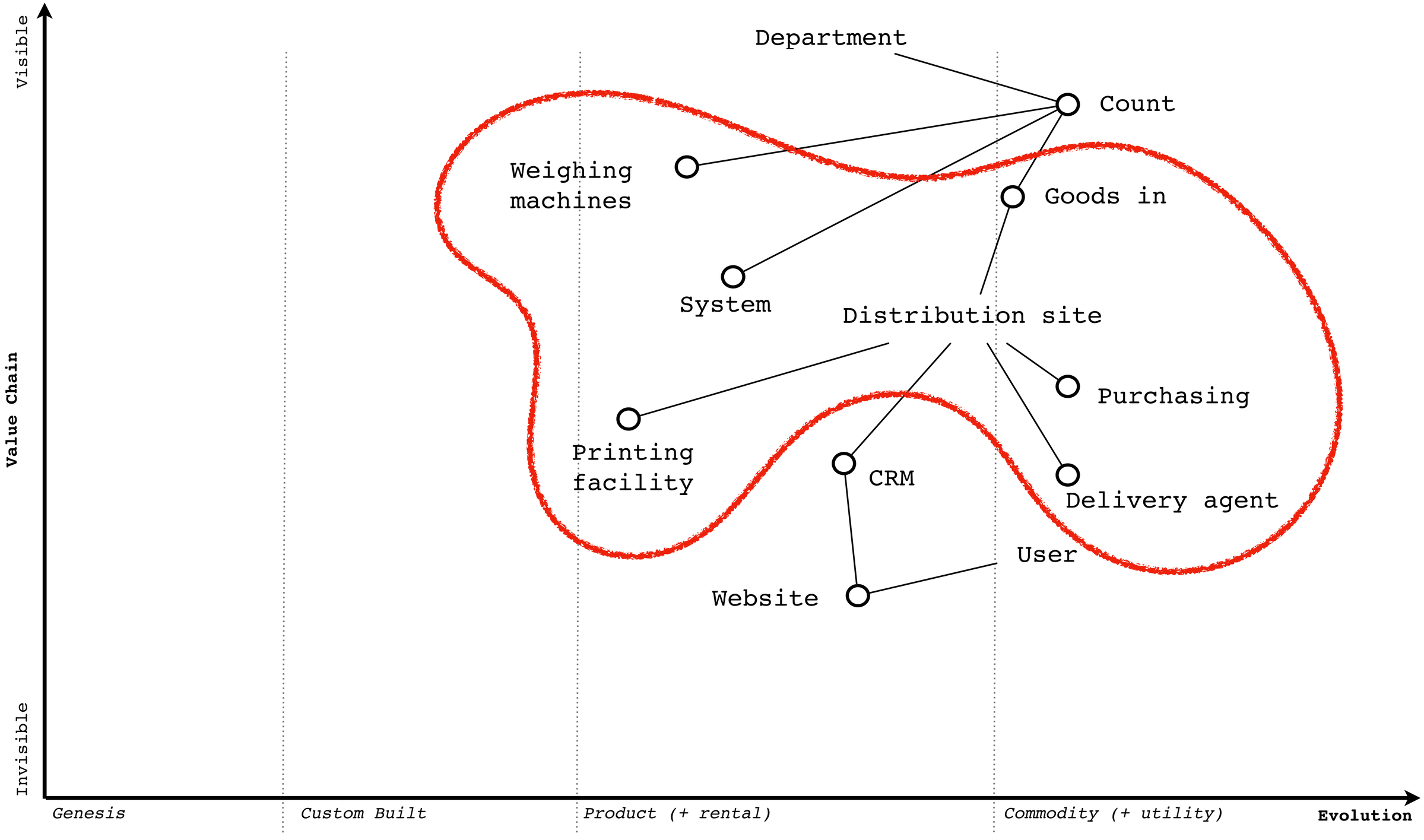
Evolution

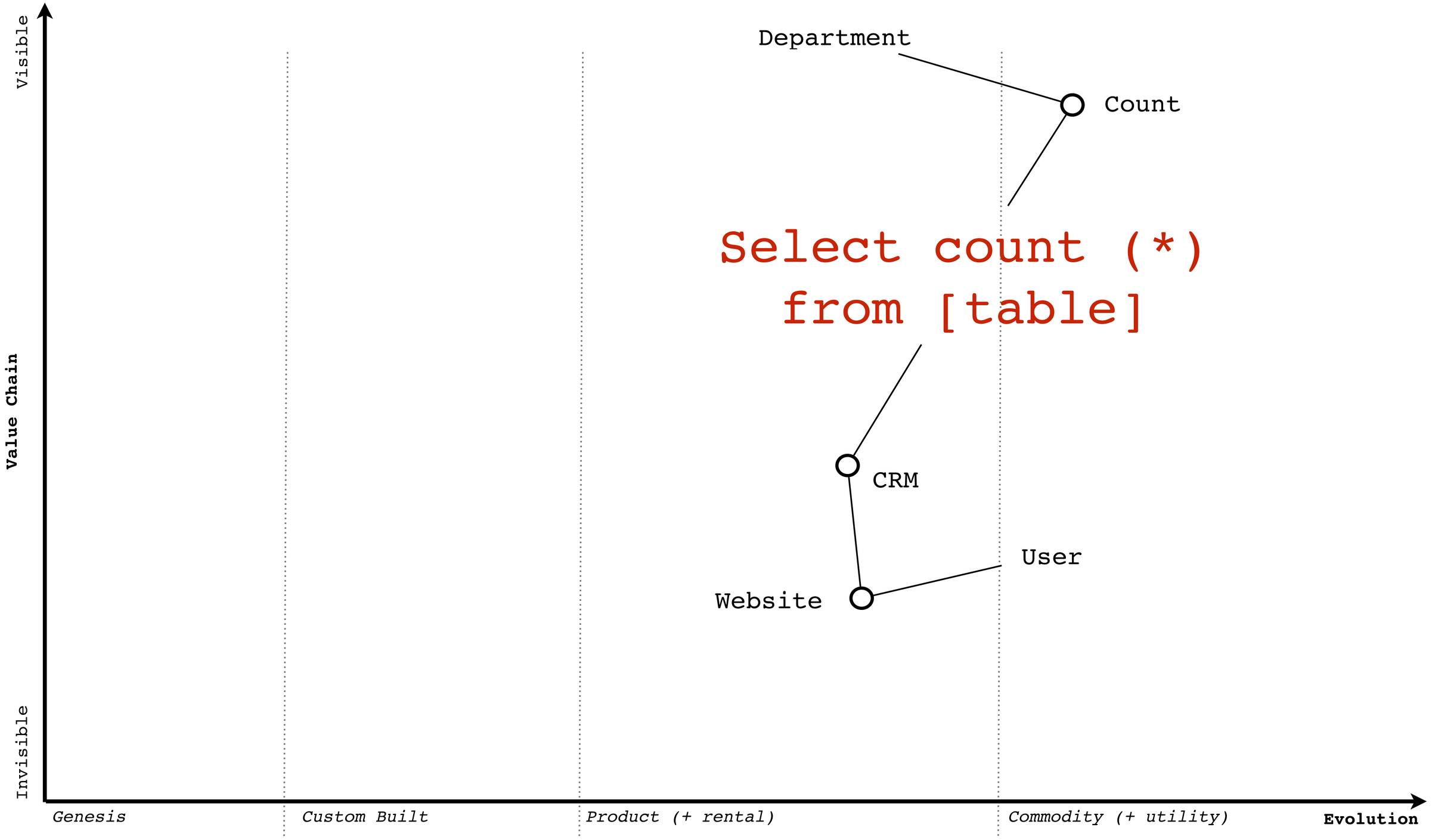

Visible
Value Chain
Invisible
Department
Count
Weighing machines
Goods in
System
Distribution site
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Visible
Value Chain
Invisible
Department
Count
Weighing machines
Goods in
System
Distribution site
Purchasing
Printing facility
Delivery agent
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Visible
Value Chain
Invisible
Department
Count
Weighing machines
Goods in
System
Distribution site
Purchasing
Printing facility
CRM
Delivery agent
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Visible
Value Chain
Invisible
Department
Count
Weighing machines
Goods in
System
Distribution site
Purchasing
Printing facility
CRM
Delivery agent
User
Website
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Visible
Value Chain
Invisible
Department
Count
Weighing machines
Goods in
System
Distribution site
Purchasing
Printing facility
CRM
Delivery agent
User
Website
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Visible
Value Chain
Invisible
Department
Count
Select count (*)
from [table]
CRM
User
Website
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

Visible

Value Chain

Invisible



vs

Department

Count

Select count (*)
from [table]

CRM

User

Website

Genesis

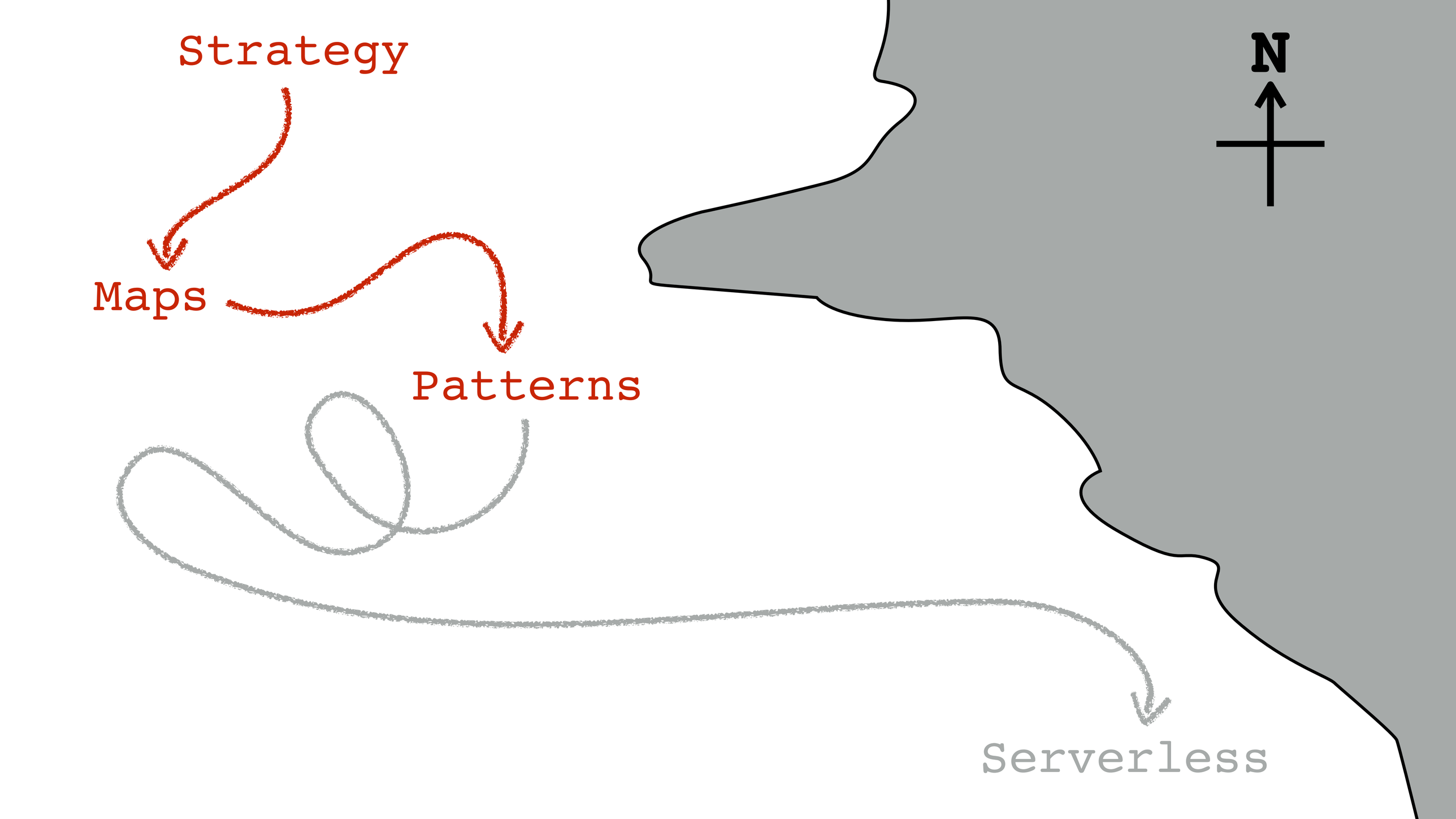
Custom Built

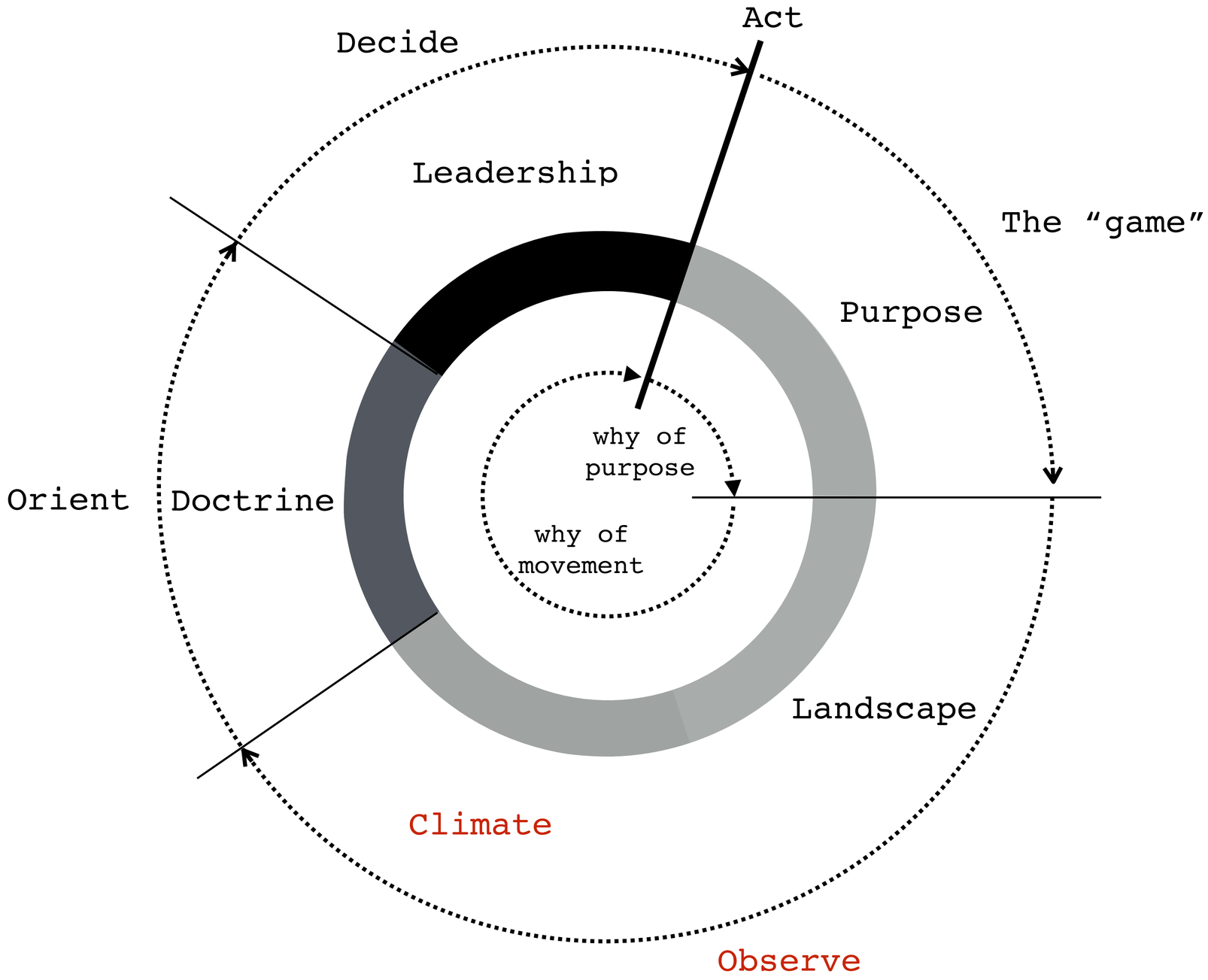
Product (+ rental)

Commodity (+ utility)

Evolution

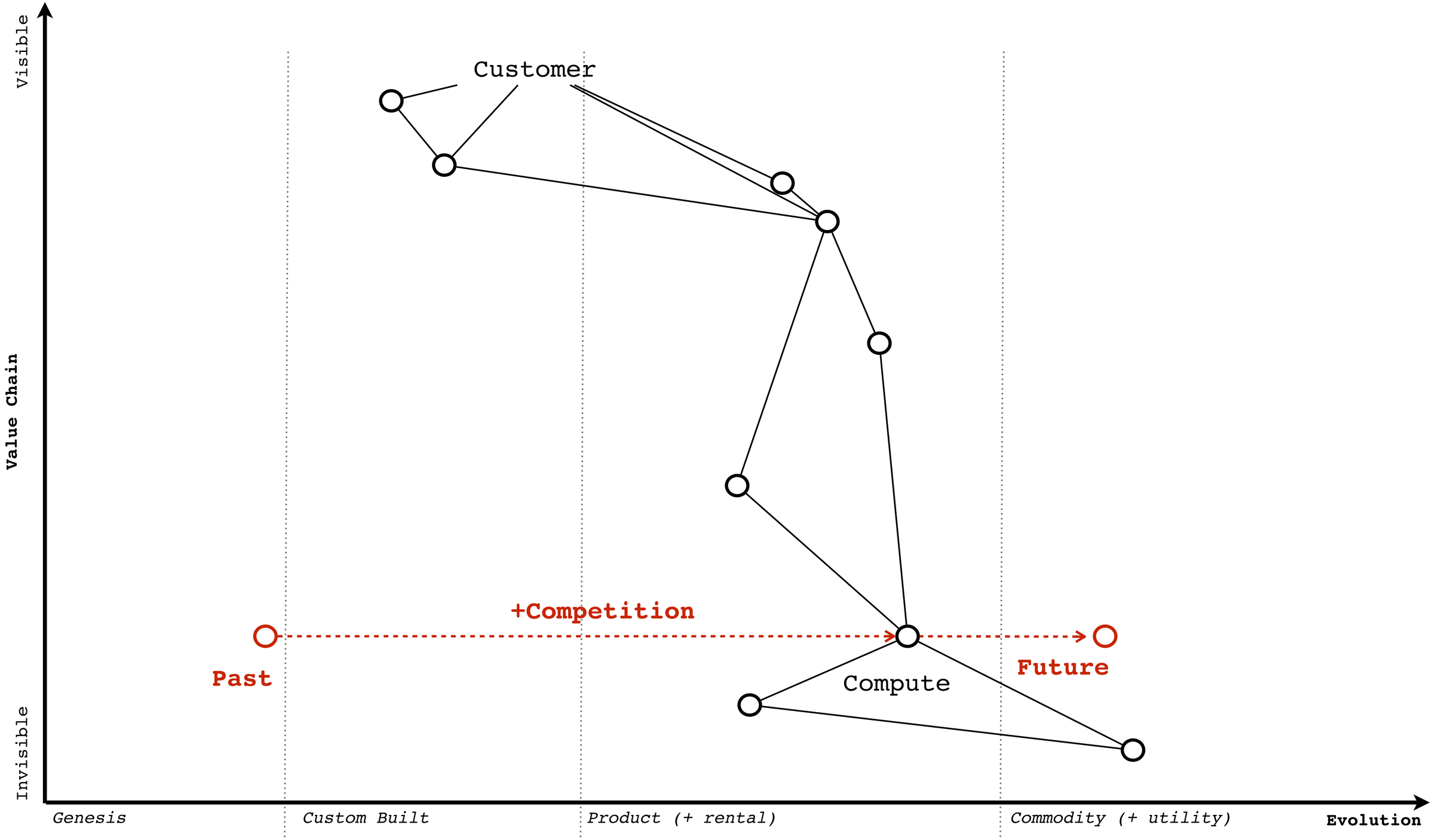

CALL OUTS SINCE 2 JAN 2002
7058
TOTAL LIVES SAVED
296
CALL OUTS THIS YEAR
195
LIVES SAVED THIS YEAR
04
Lifeboats
Tower Lifeboat Station
2nd January 2002 to
7th May 2018
MAP CAMP
October 2018 London

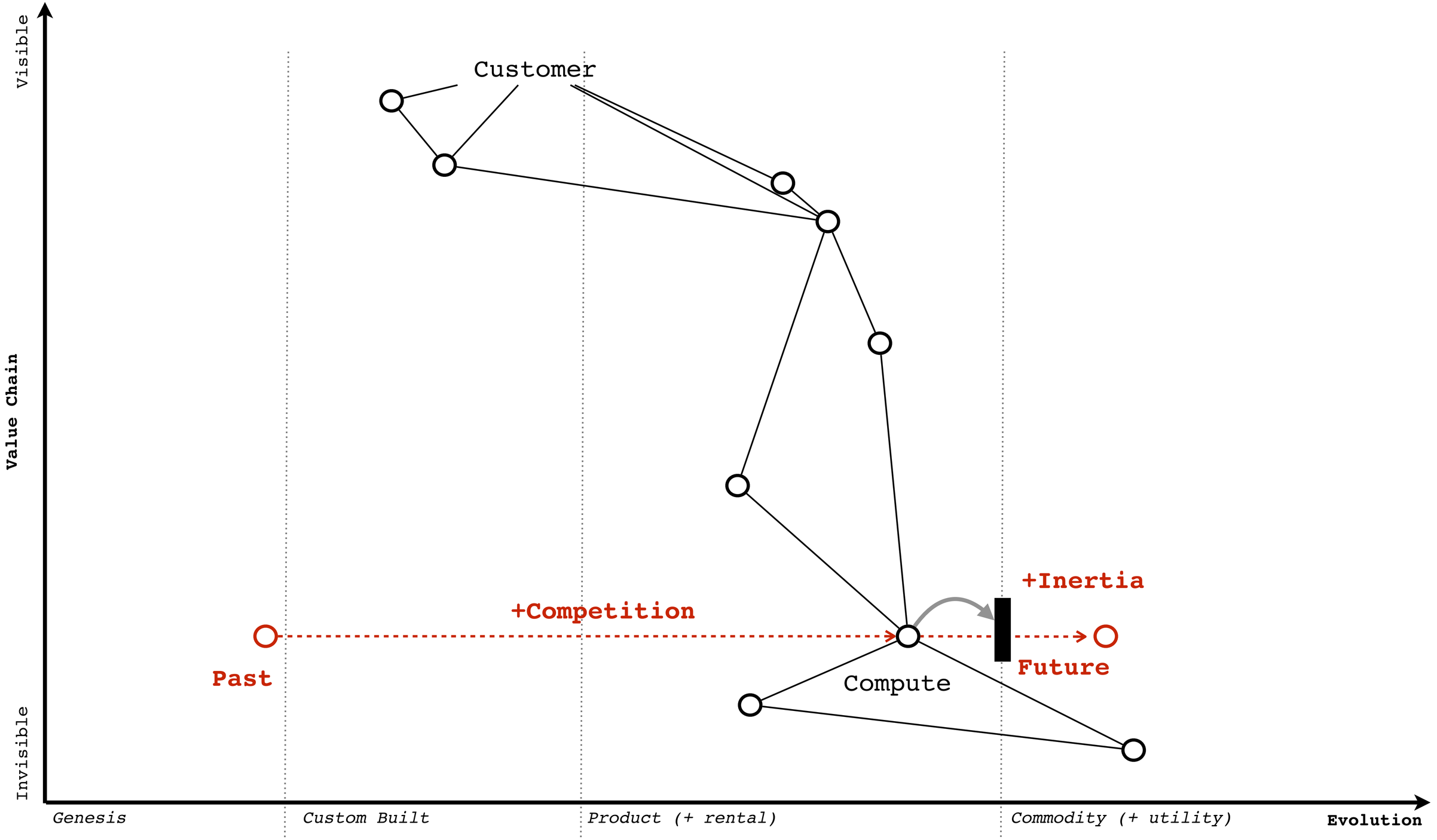

Strategy
Maps
Patterns
Serverless
N


Act
Decide
Leadership
The “game”
Purpose
why of
purpose
why of
movement
Orient
Doctrine
Landscape
Climate
Observe

Climate

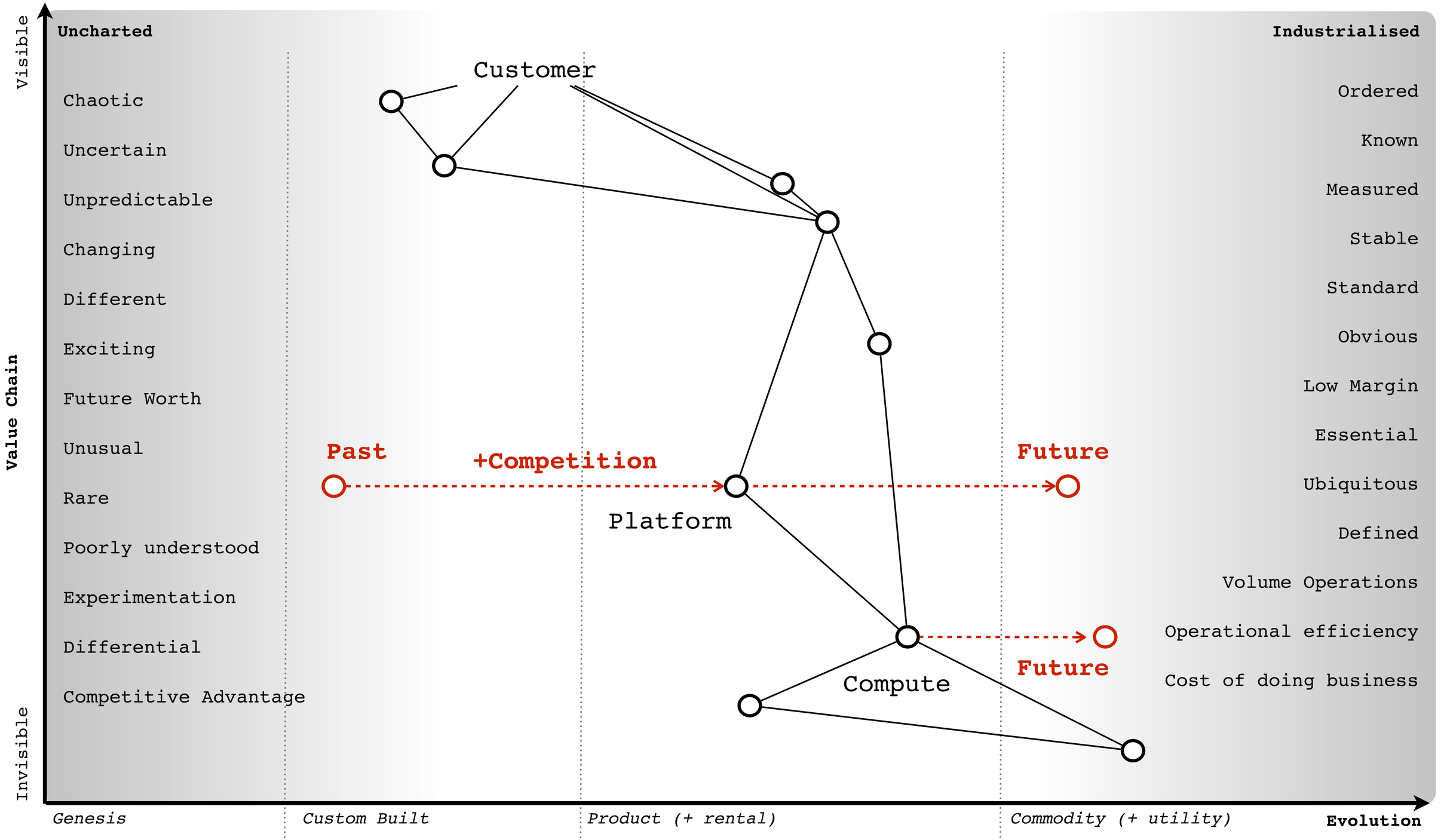
Rules that influence the game

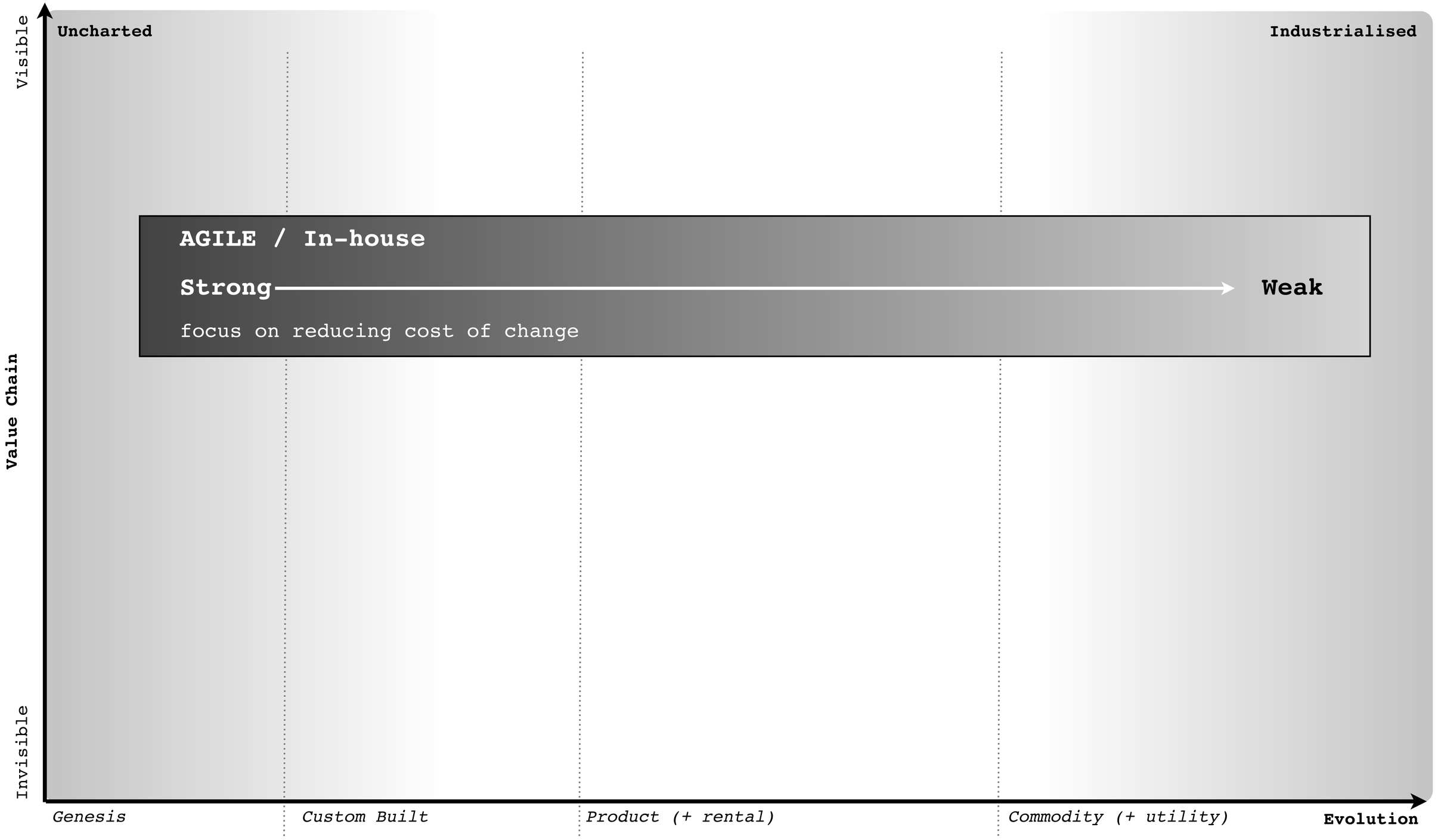

Visible
Value Chain
Invisible
Customer
+Competition
Past
Future
Compute
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

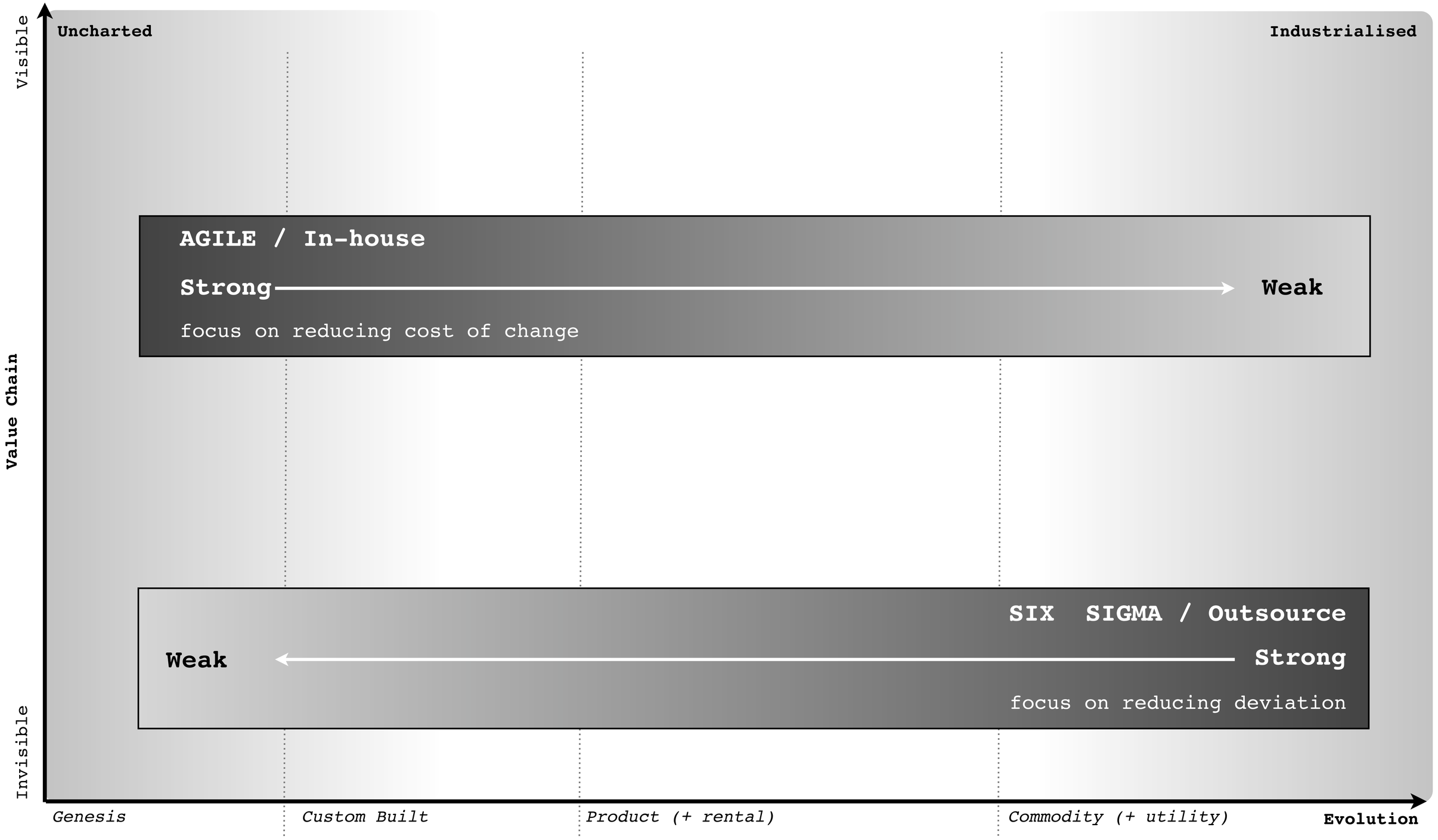

Visible
Value Chain
Invisible
Customer
+Inertia
+Competition
Past
Future
Compute
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

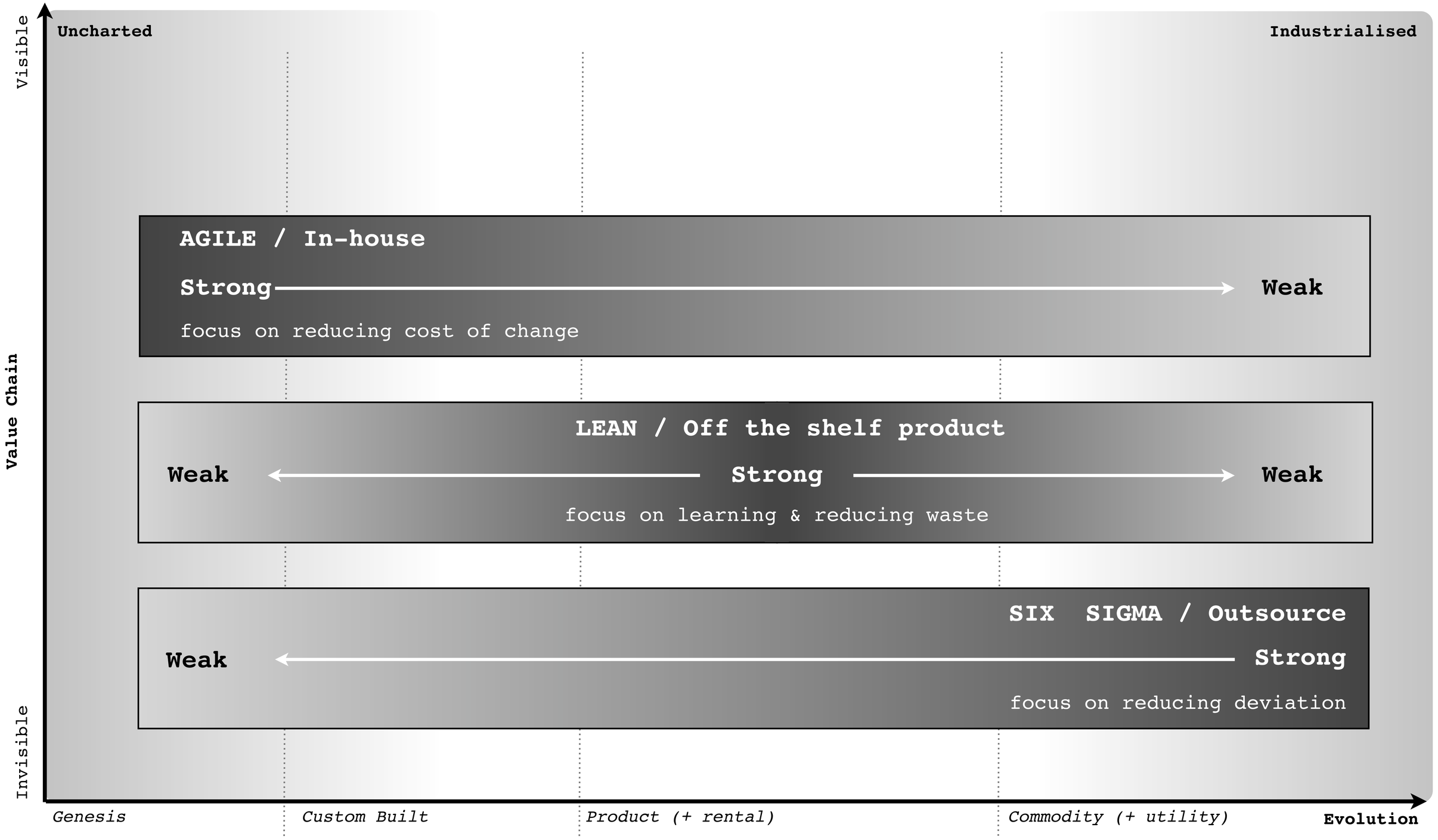

BLOCKBUSTER


NETFLIX

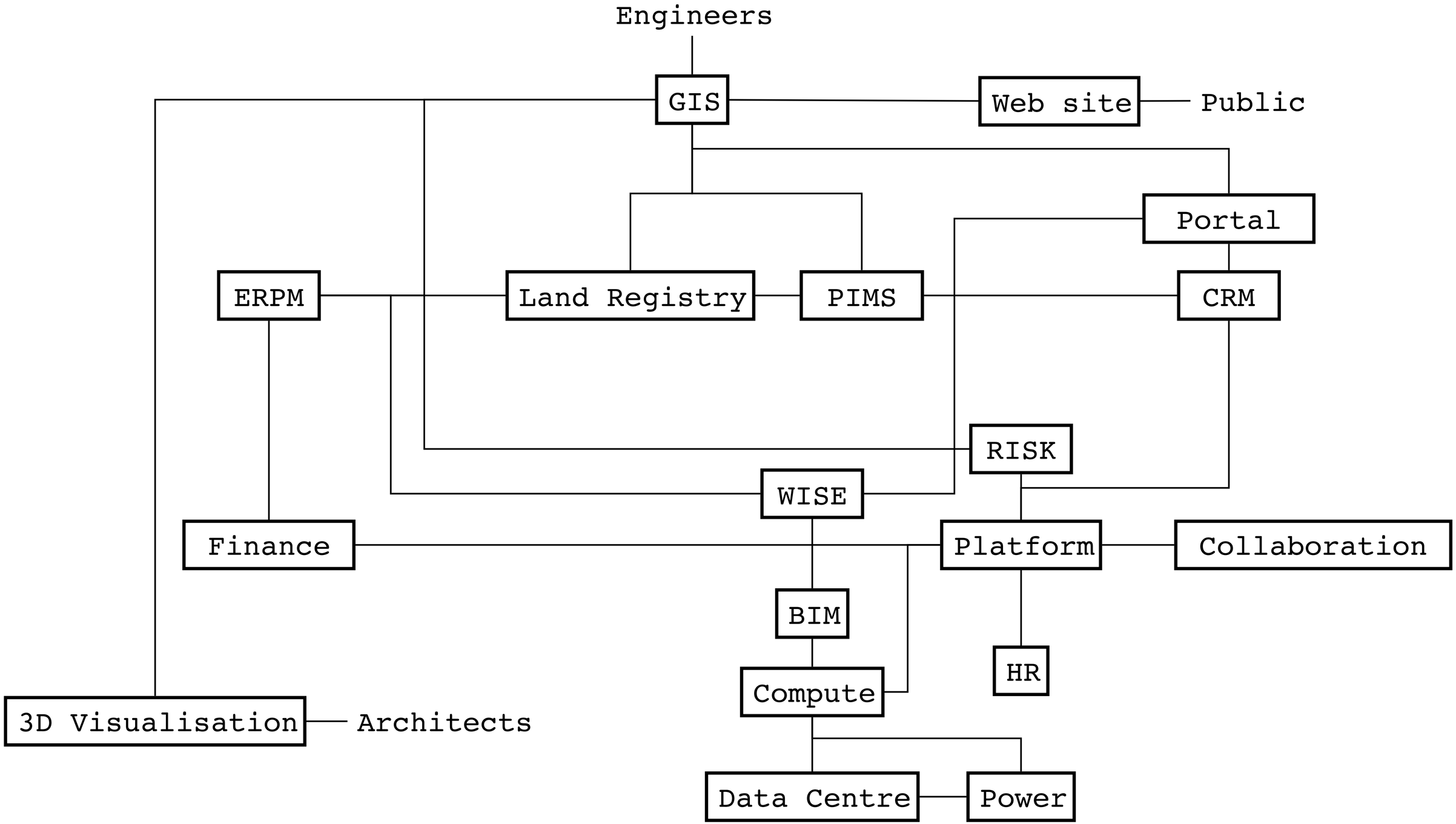

Visible
Invisible
Value Chain
Uncharted
Industrialised
Chaotic
Uncertain
Unpredictable
Changing
Different
Exciting
Future Worth
Unusual
Rare
Poorly understood
Experimentation
Differential
Competitive Advantage
Ordered
Known
Measured
Stable
Standard
Obvious
Low Margin
Essential
Ubiquitous
Defined
Volume Operations
Operational efficiency
Cost of doing business
Customer
Past
+Competition
Future
Platform
Future
Compute
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

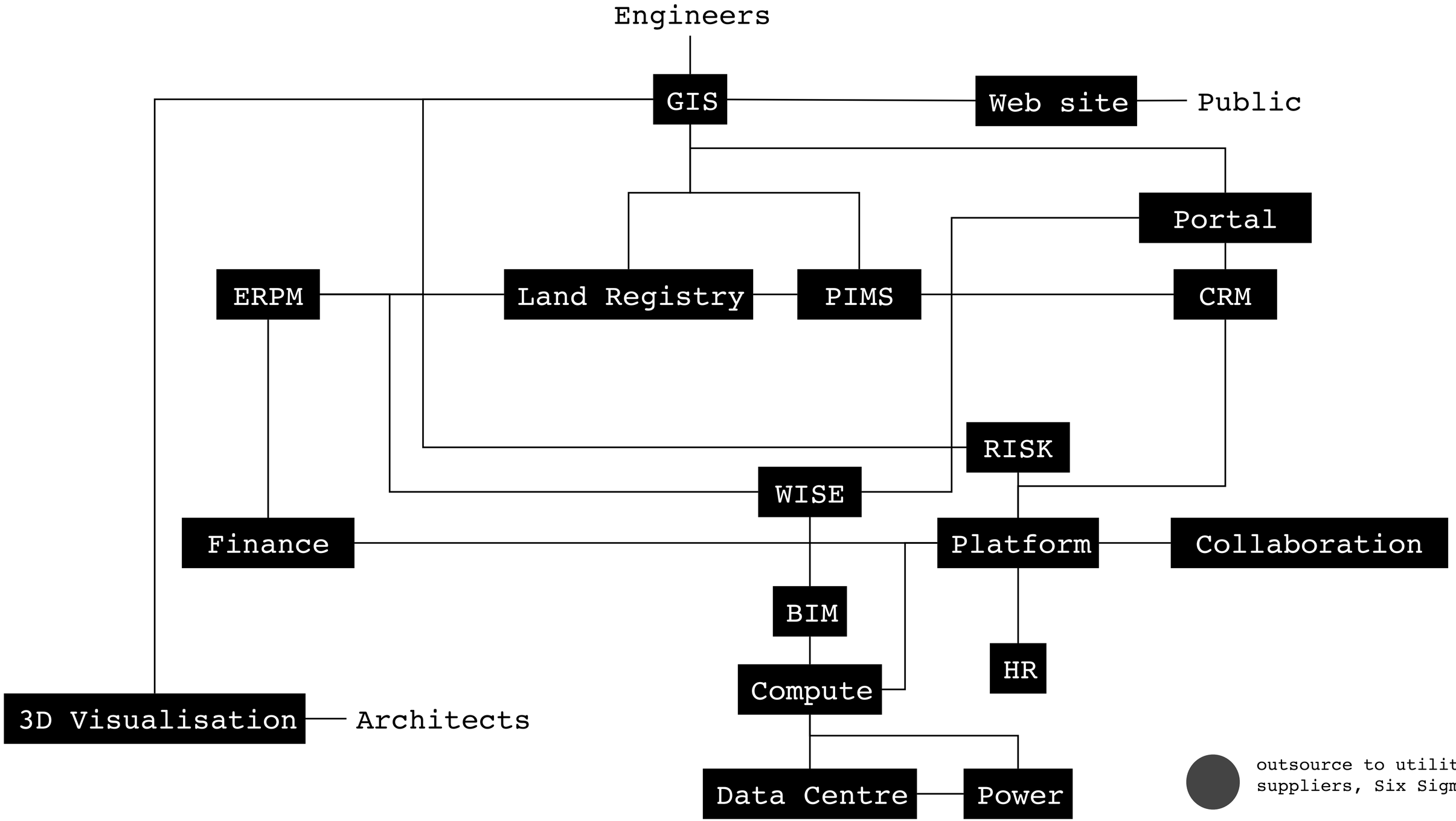

Visible
Uncharted
Industrialised
AGILE / In-house
Strong
Weak
focus on reducing cost of change
Value Chain
Invisible
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

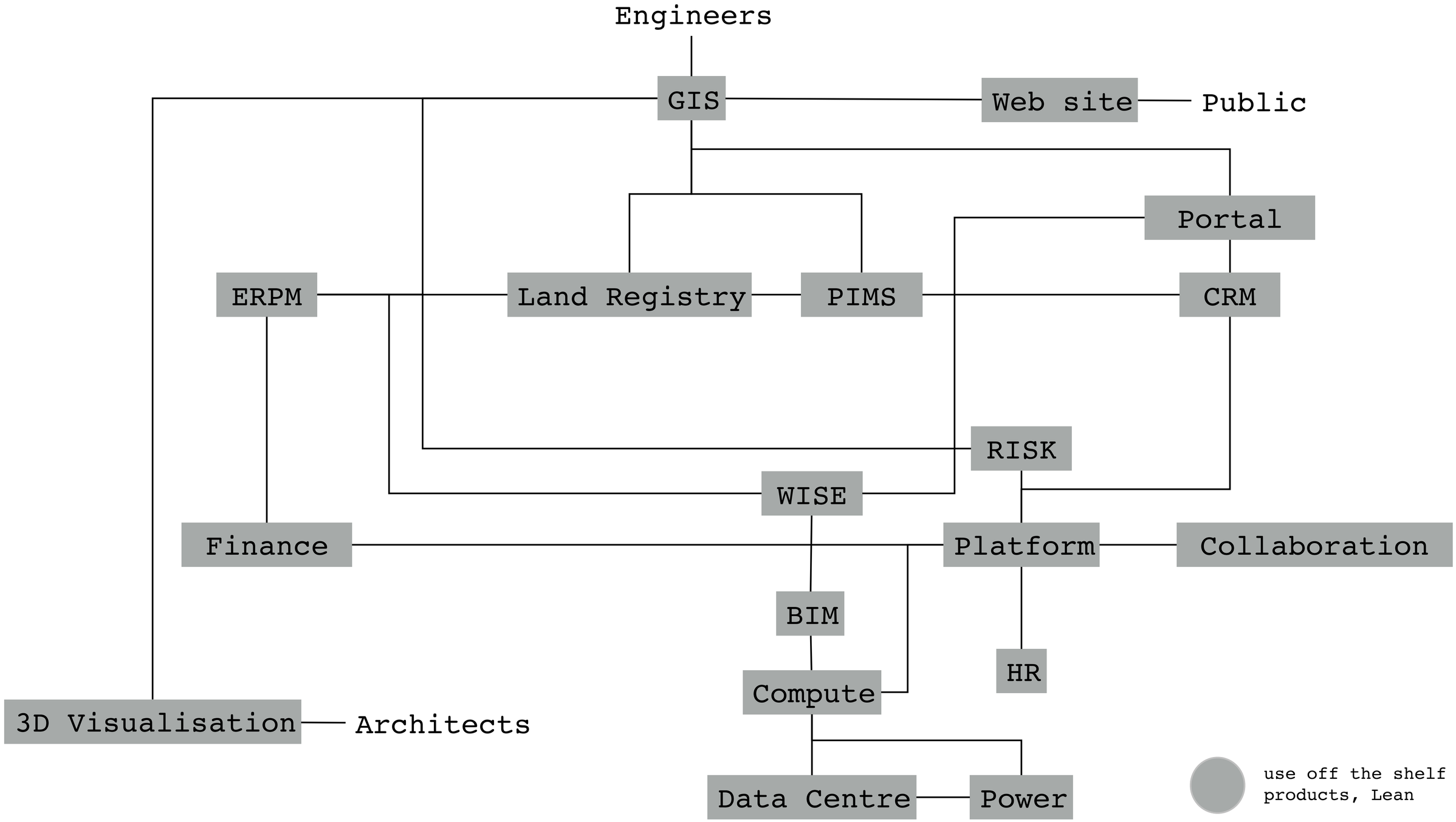

Uncharted
Industrialised
Visible
Invisible
Value Chain
AGILE / In-house
Strong
Weak
focus on reducing cost of change
SIX SIGMA / Outsource
Weak
Strong
focus on reducing deviation
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

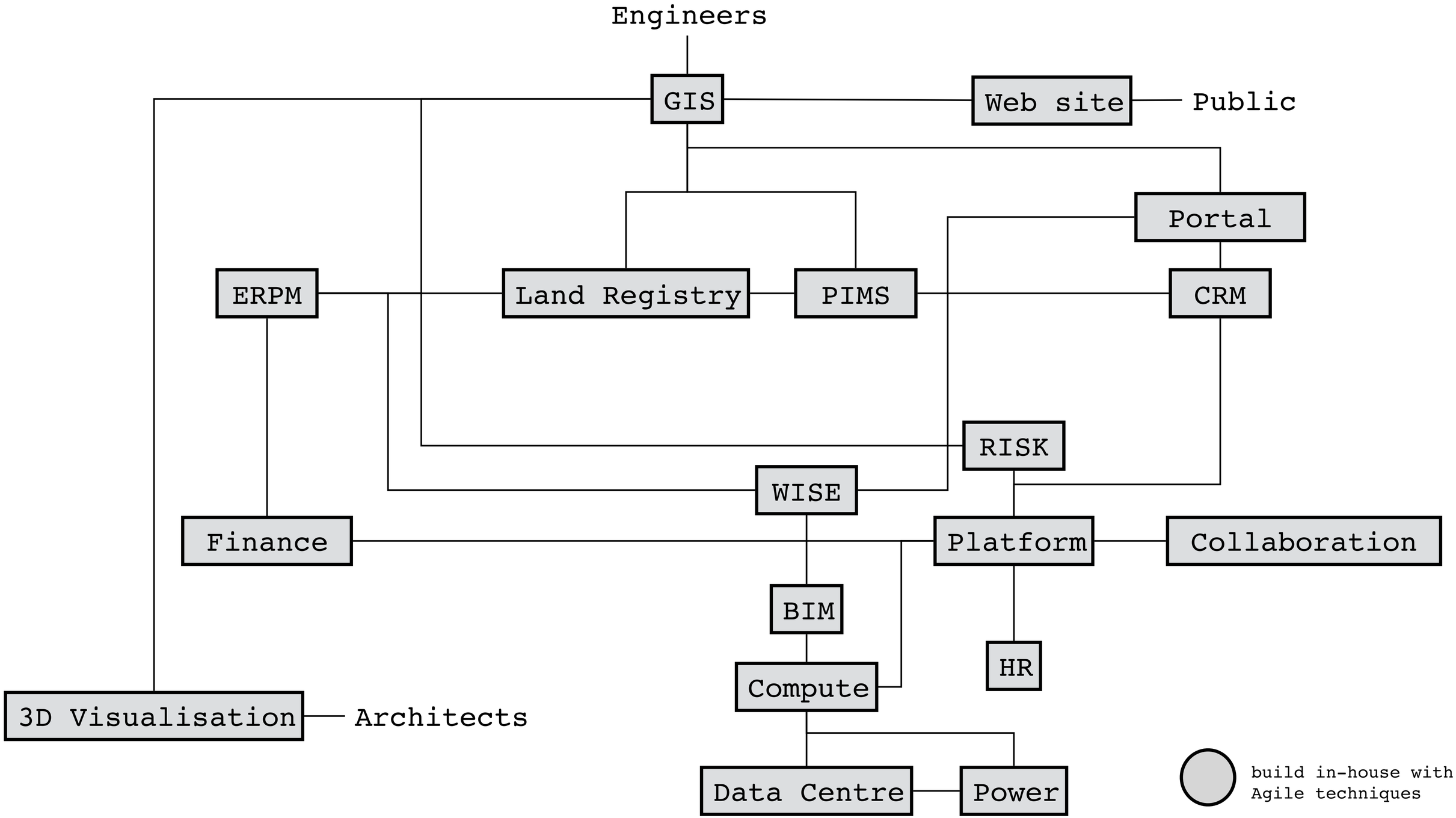

Uncharted
Industrialised
Visible
Invisible
Value Chain
AGILE / In-house
Strong
Weak
focus on reducing cost of change
LEAN / Off the shelf product
Weak
Strong
Weak
focus on learning & reducing waste
SIX SIGMA / Outsource
Weak
Strong
focus on reducing deviation
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

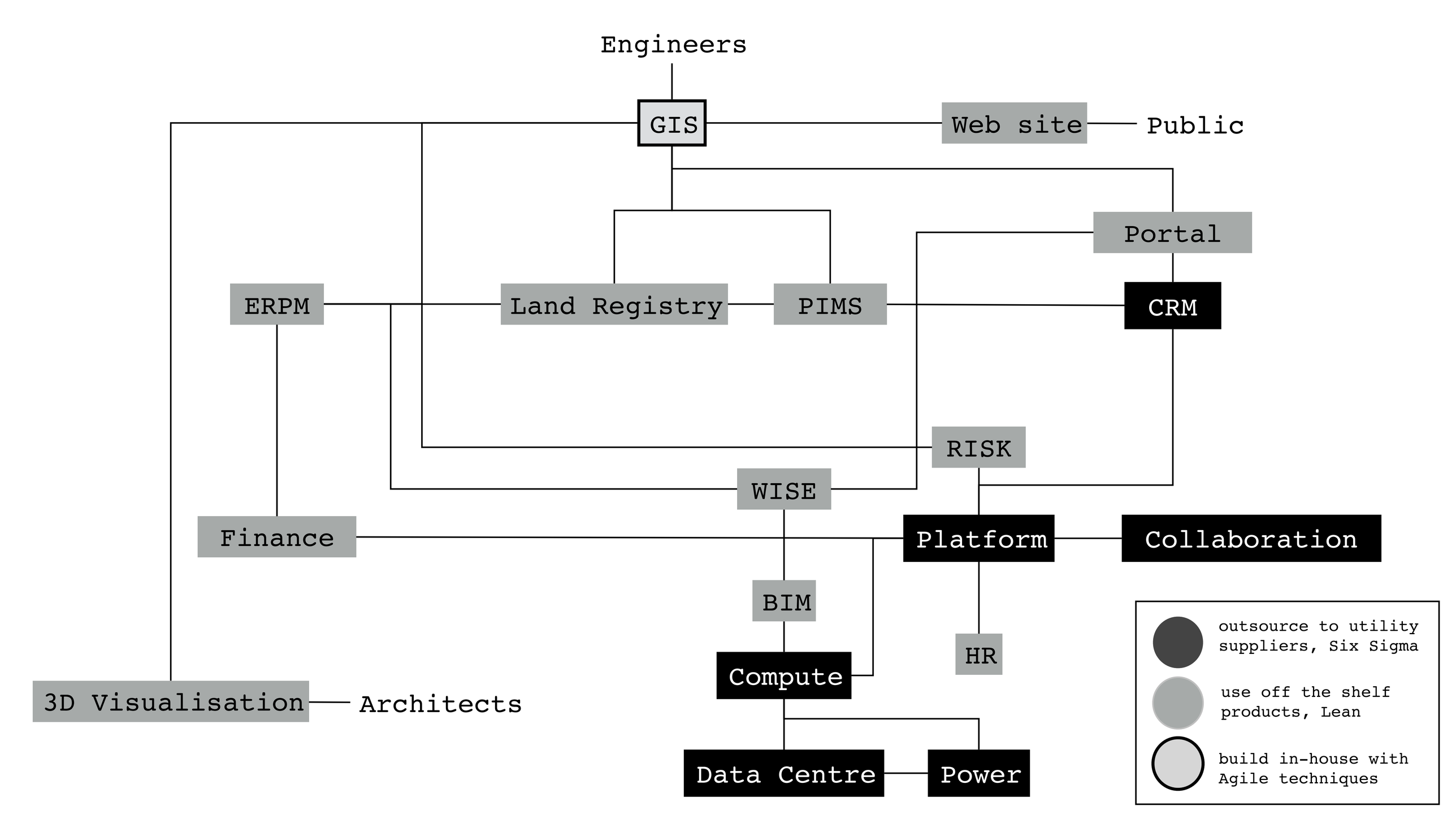


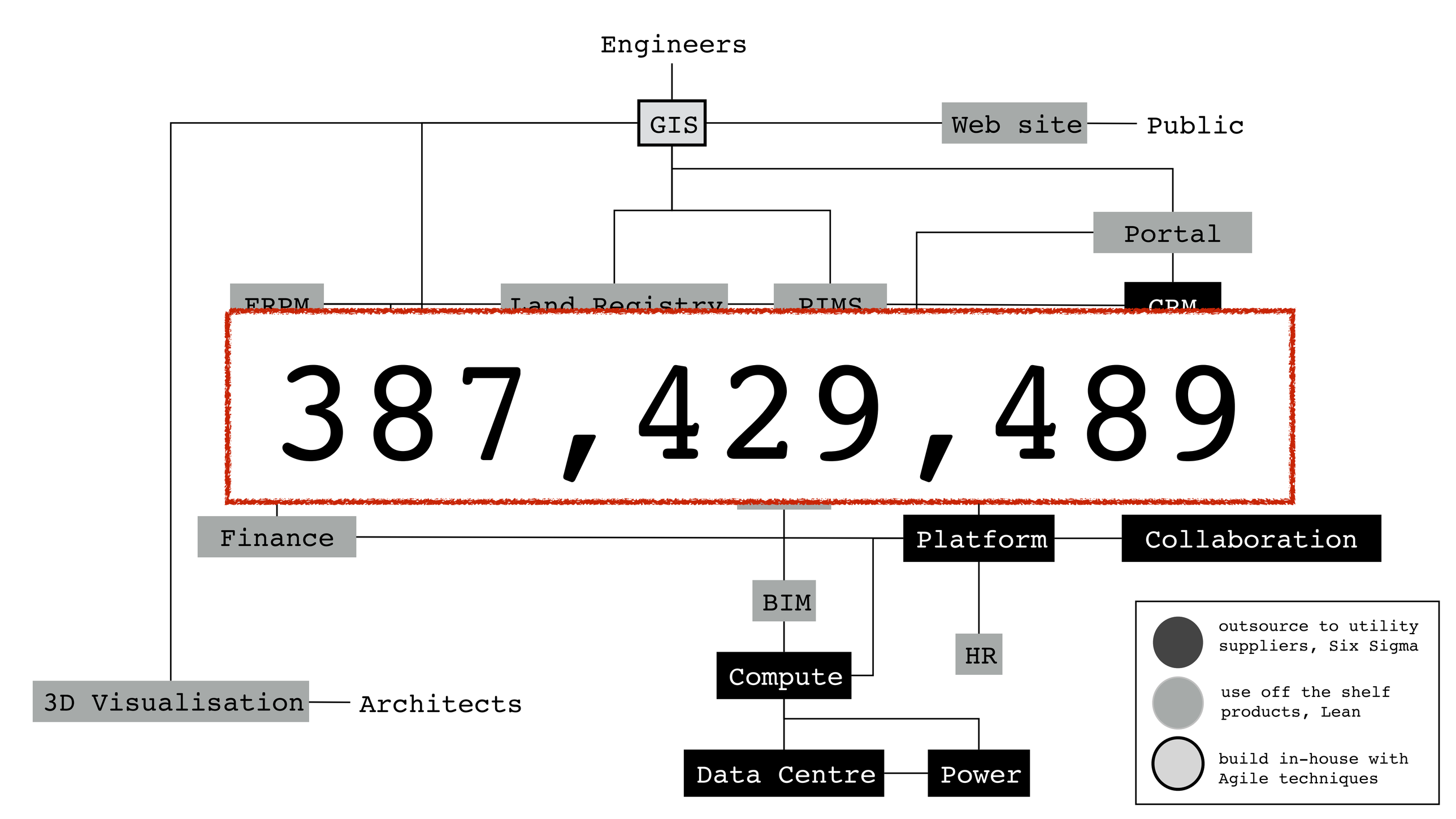

Engineers
GIS
Web site
Public
Portal
ERPM
Land Registry
PIMS
CRM
RISK
WISE
Finance
Platform
Collaboration
BIM
HR
Compute
3D Visualisation
Architects
Data Centre
Power

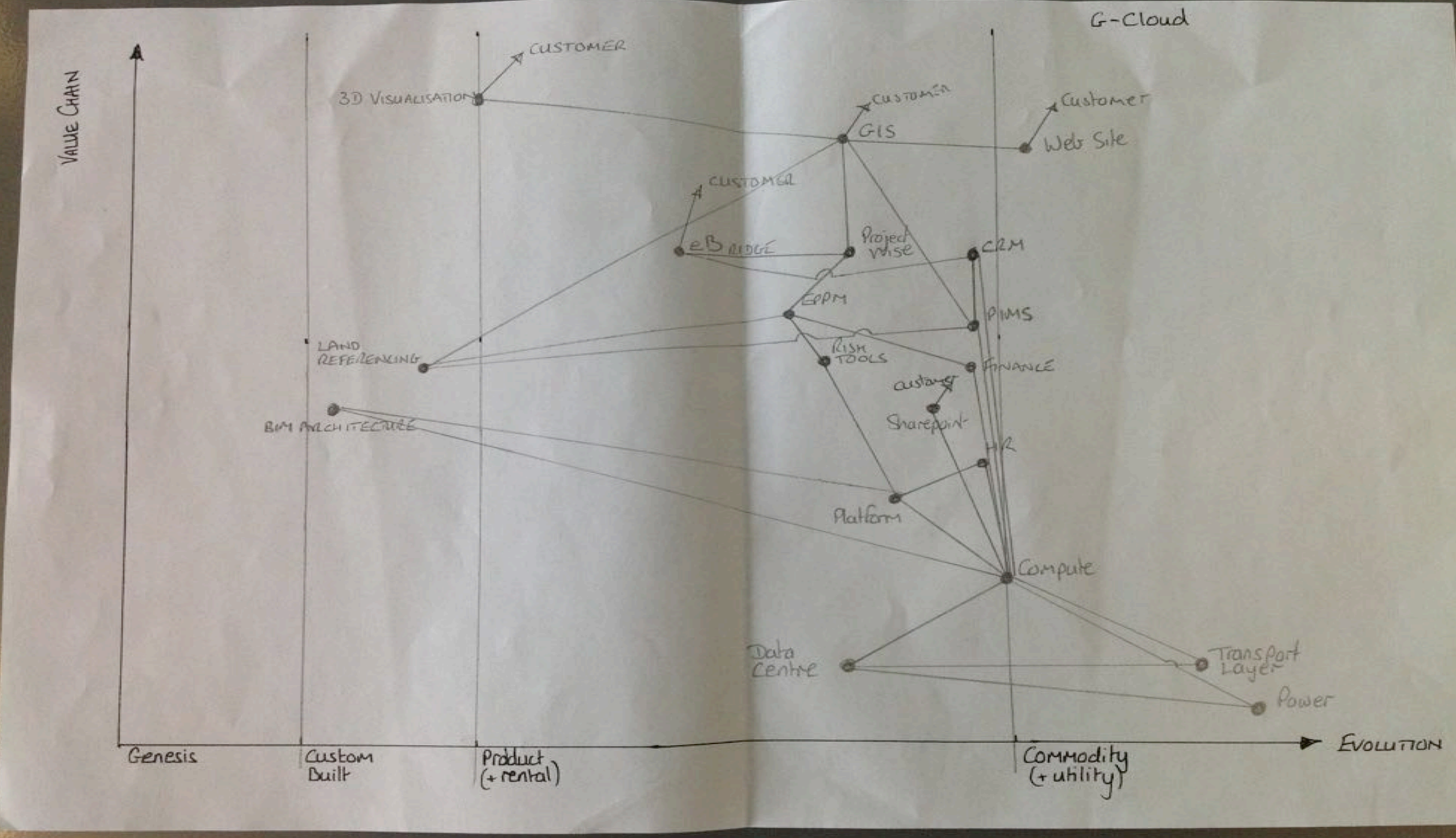

Engineers
GIS
Web site
Public
Portal
ERPM
Land Registry
PIMS
CRM
RISK
WISE
Finance
Platform
Collaboration
BIM
HR
Compute
3D Visualisation
Architects
Data Centre
Power
outsource to utility suppliers, Six Sigma

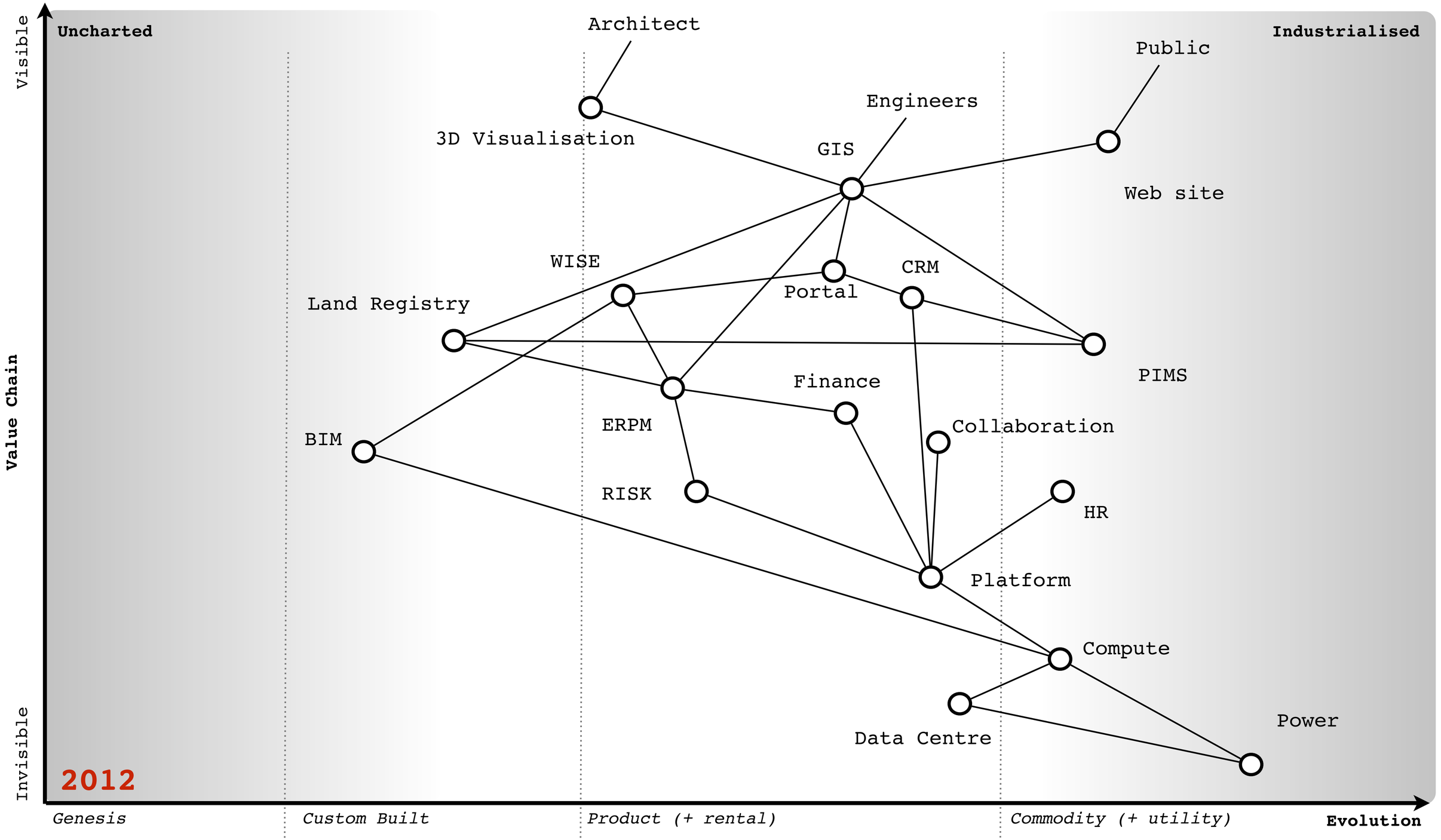

Engineers
GIS
Web site
Public
Portal
ERPM
Land Registry
PIMS
CRM
RISK
WISE
Finance
Platform
Collaboration
BIM
HR
Compute
3D Visualisation
Architects
Data Centre
Power
use off the shelf products, Lean

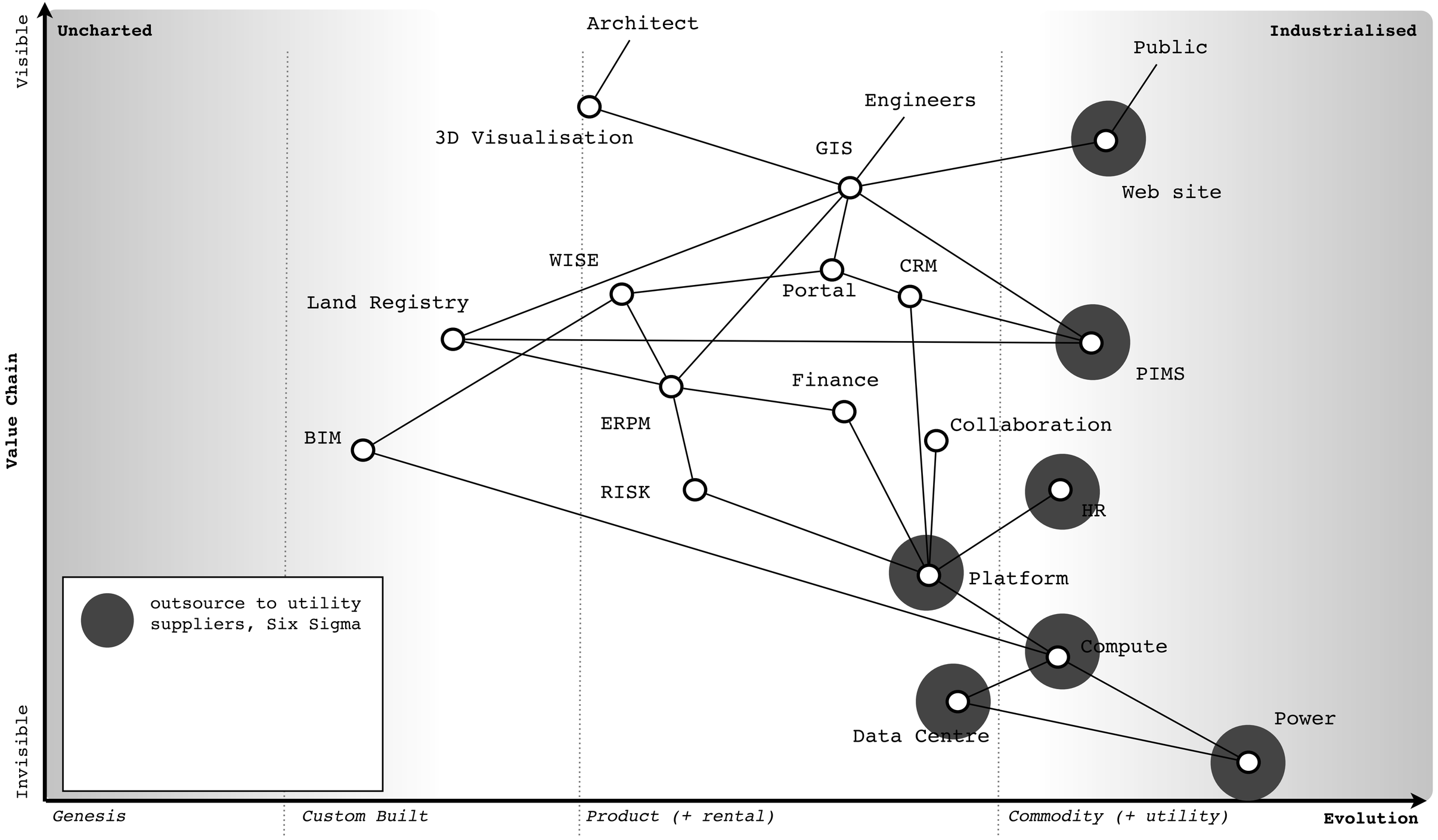

Engineers
GIS
Web site
Public
Portal
ERPM
Land Registry
PIMS
CRM
RISK
WISE
Finance
Platform
Collaboration
BIM
HR
Compute
3D Visualisation
Architects
Data Centre
Power
build in-house with
Agile techniques

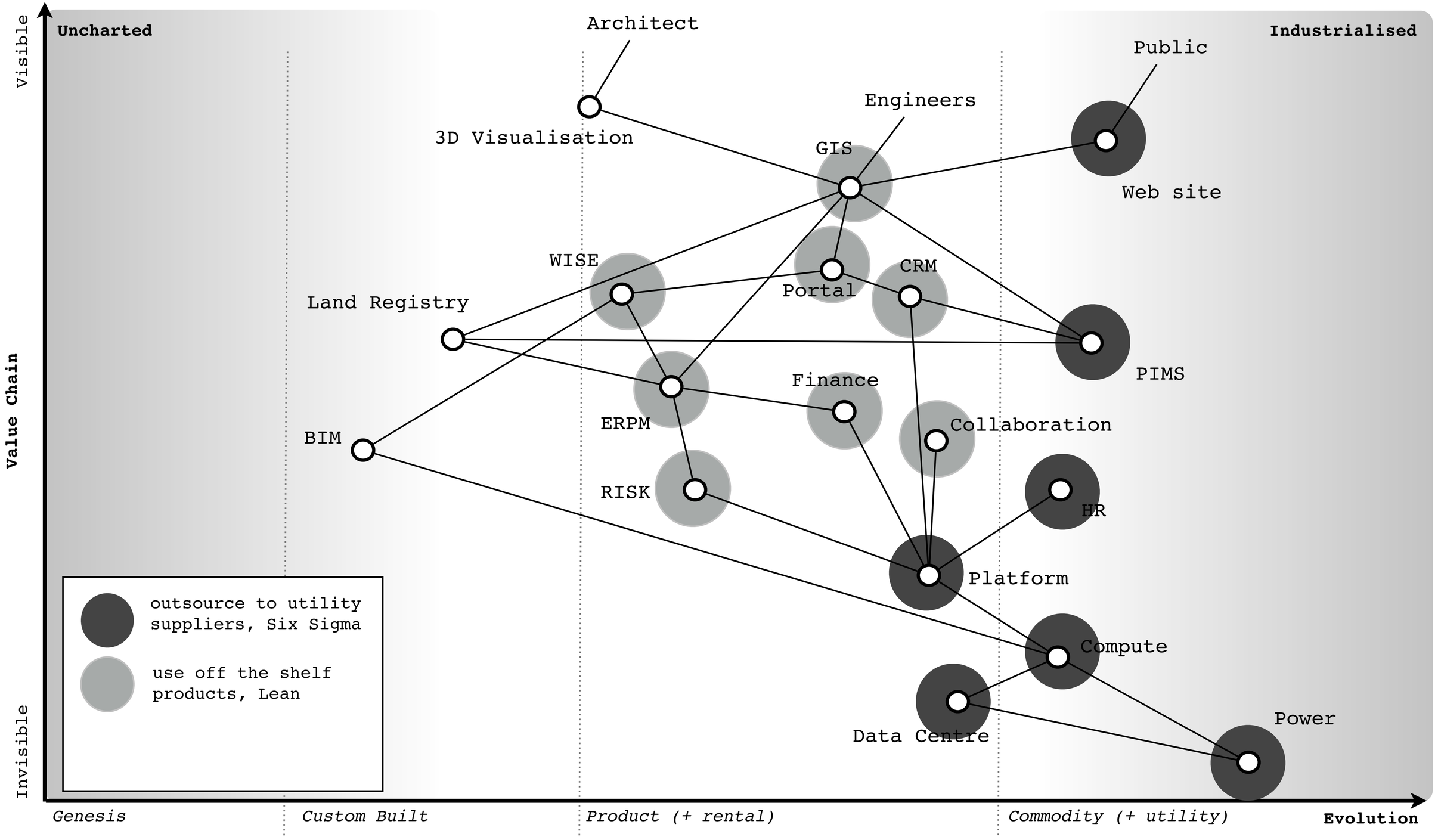

Engineers
GIS
Web site
Public
Portal
ERPM
Land Registry
PIMS
CRM
RISK
WISE
Finance
Platform
Collaboration
BIM
HR
Compute
3D Visualisation
Architects
Data Centre
Power
outsource to utility suppliers, Six Sigma
use off the shelf products, Lean
build in-house with Agile techniques

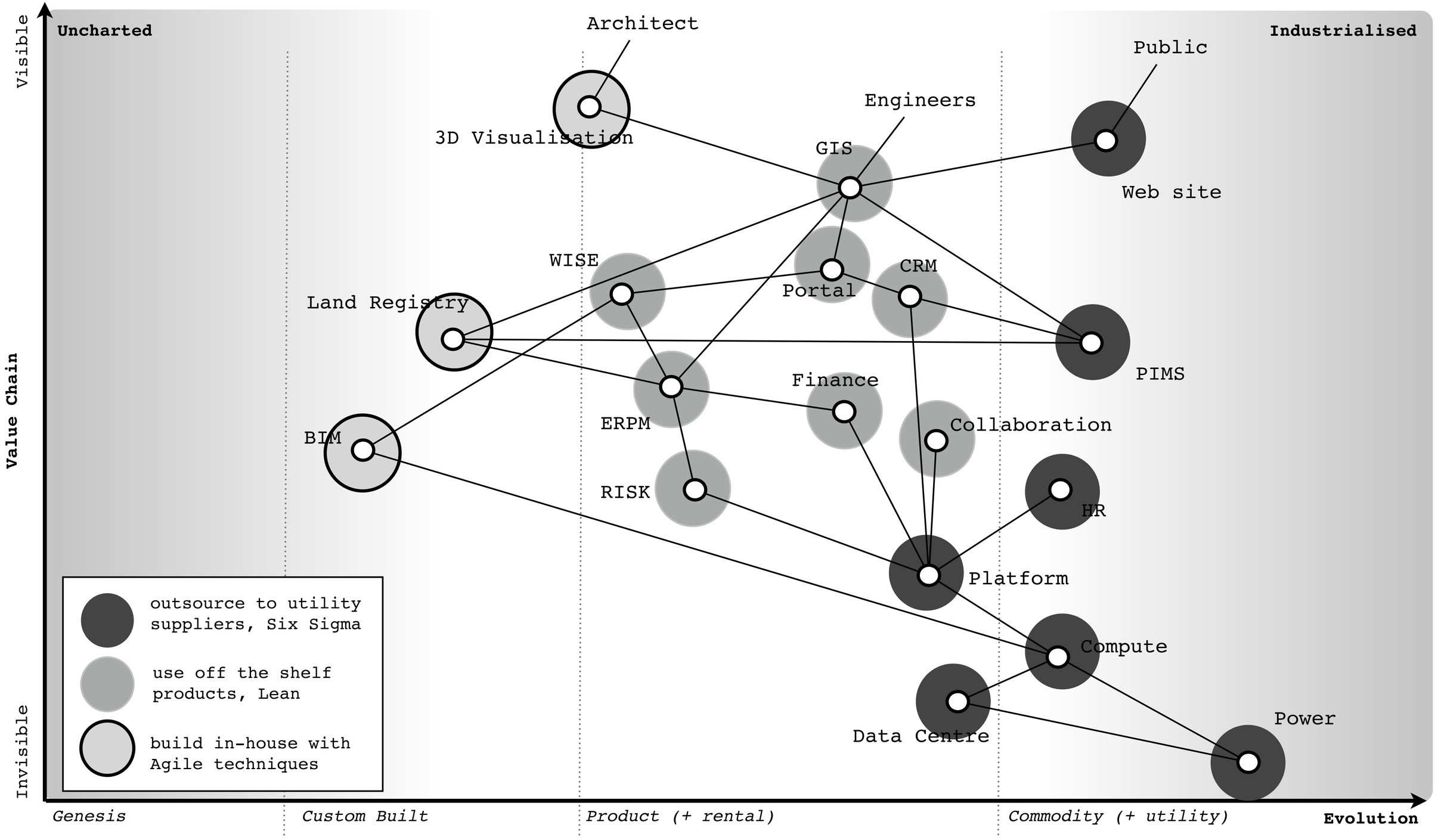

Engineers
GIS
Web site
Public
Portal
FRPM
Land Registry
PIMS
CRM
387,429,489
Finance
Platform
Collaboration
BIM
HR
Compute
3D Visualisation
Architects
Data Centre
Power
outsource to utility suppliers, Six Sigma
use off the shelf products, Lean
build in-house with Agile techniques


G-Cloud
Value Chain
CUSTOMER
3D Visualisation
CUSTOMER
GIS
Customer
Web Site
CUSTOMER
eB Bridge
Project Wise
CRM
EPPM
PIMS
Land Referencing
Risk Tools
Finance
customer
Sharepoint
BIM Architecture
HR
Platform
Compute
Data Centre
Transport Layer
Power
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Uncharted
Industrialised
Visible
Invisible
Value Chain
Architect
Public
Engineers
3D Visualisation
GIS
Web site
WISE
CRM
Portal
Land Registry
PIMS
Finance
ERPM
Collaboration
BIM
RISK
HR
Platform
Compute
Power
Data Centre
2012
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

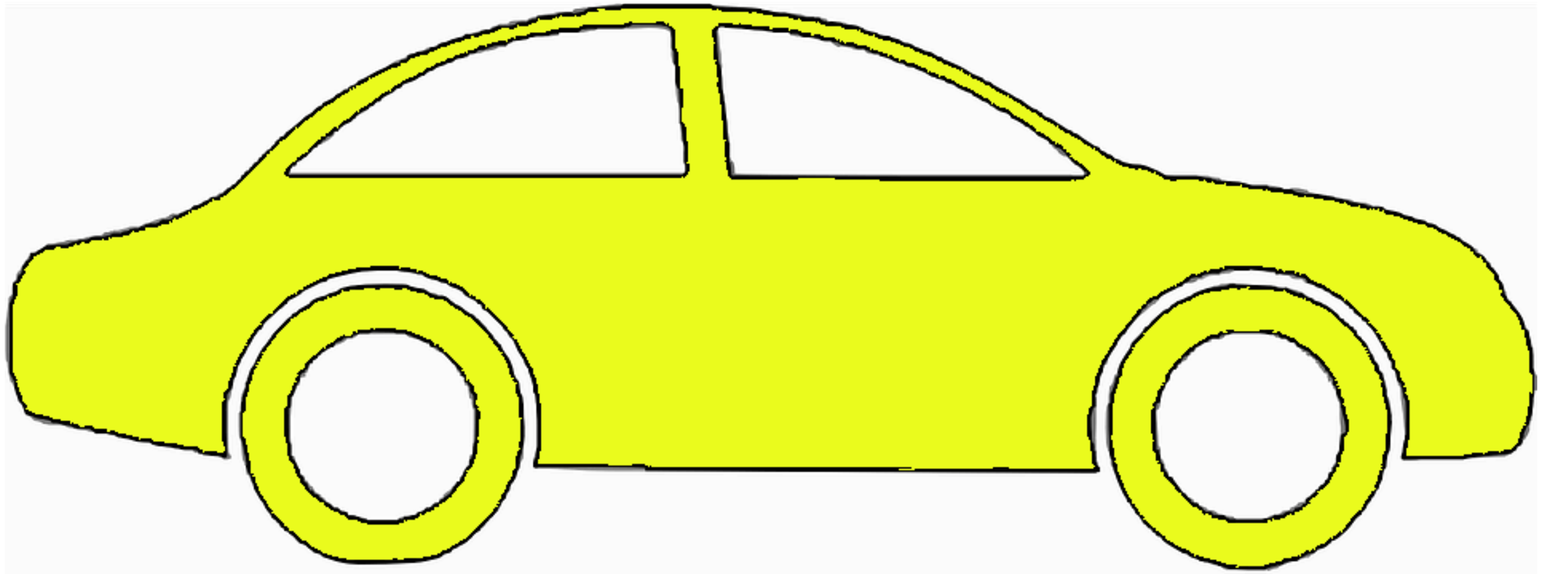

Uncharted
Industrialised
Visible
Invisible
Value Chain
Architect
Public
Engineers
3D Visualisation
GIS
Web site
WISE
CRM
Portal
Land Registry
PIMS
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Collaboration
BIM
RISK
HR
Platform
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Data Centre
outsource to utility suppliers, Six Sigma
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Commodity (+ utility)
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ERPM
Collaboration
BIM
RISK
HR
Platform
Compute
Power
Data Centre
outsource to utility suppliers, Six Sigma
use off the shelf products, Lean
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

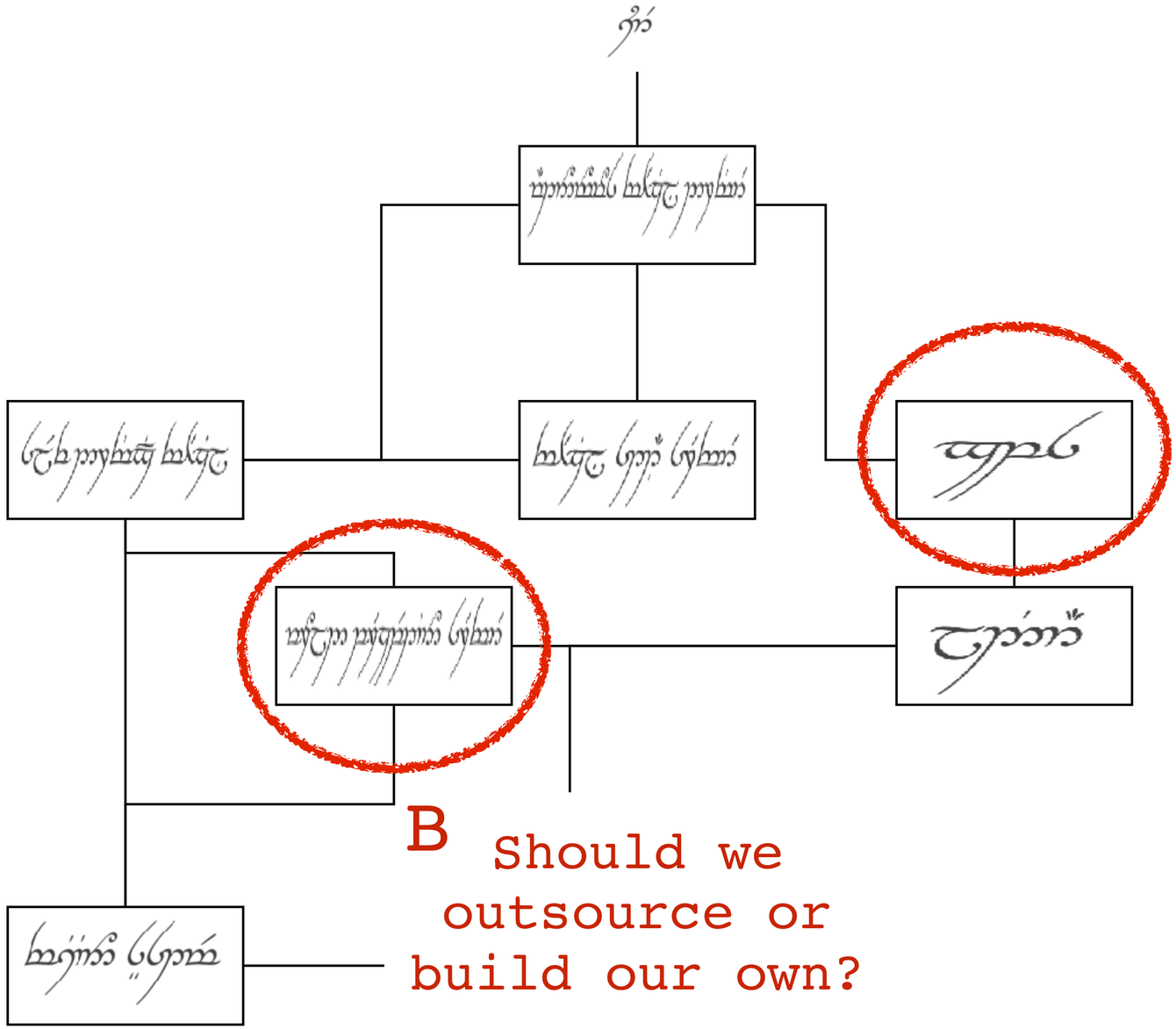

Uncharted
Industrialised
Visible
Invisible
Value Chain
Architect
3D Visualisation
Engineers
GIS
Public
Web site
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Portal
CRM
Land Registry
PIMS
Finance
ERPM
Collaboration
BIM
RISK
HR
Platform
Compute
Power
Data Centre
outsource to utility suppliers, Six Sigma
use off the shelf products, Lean
build in-house with Agile techniques
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution



What is a world perception server?

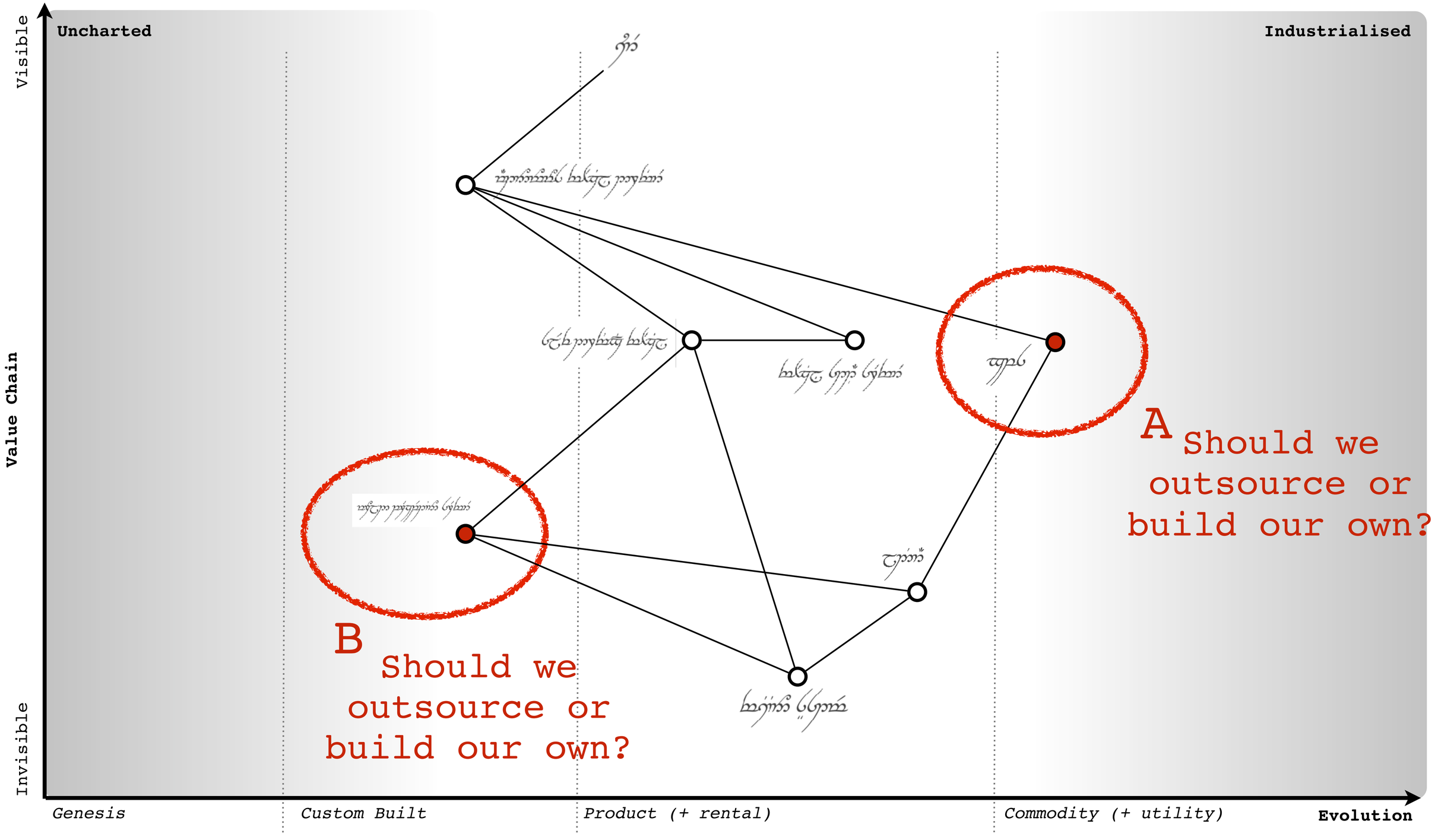


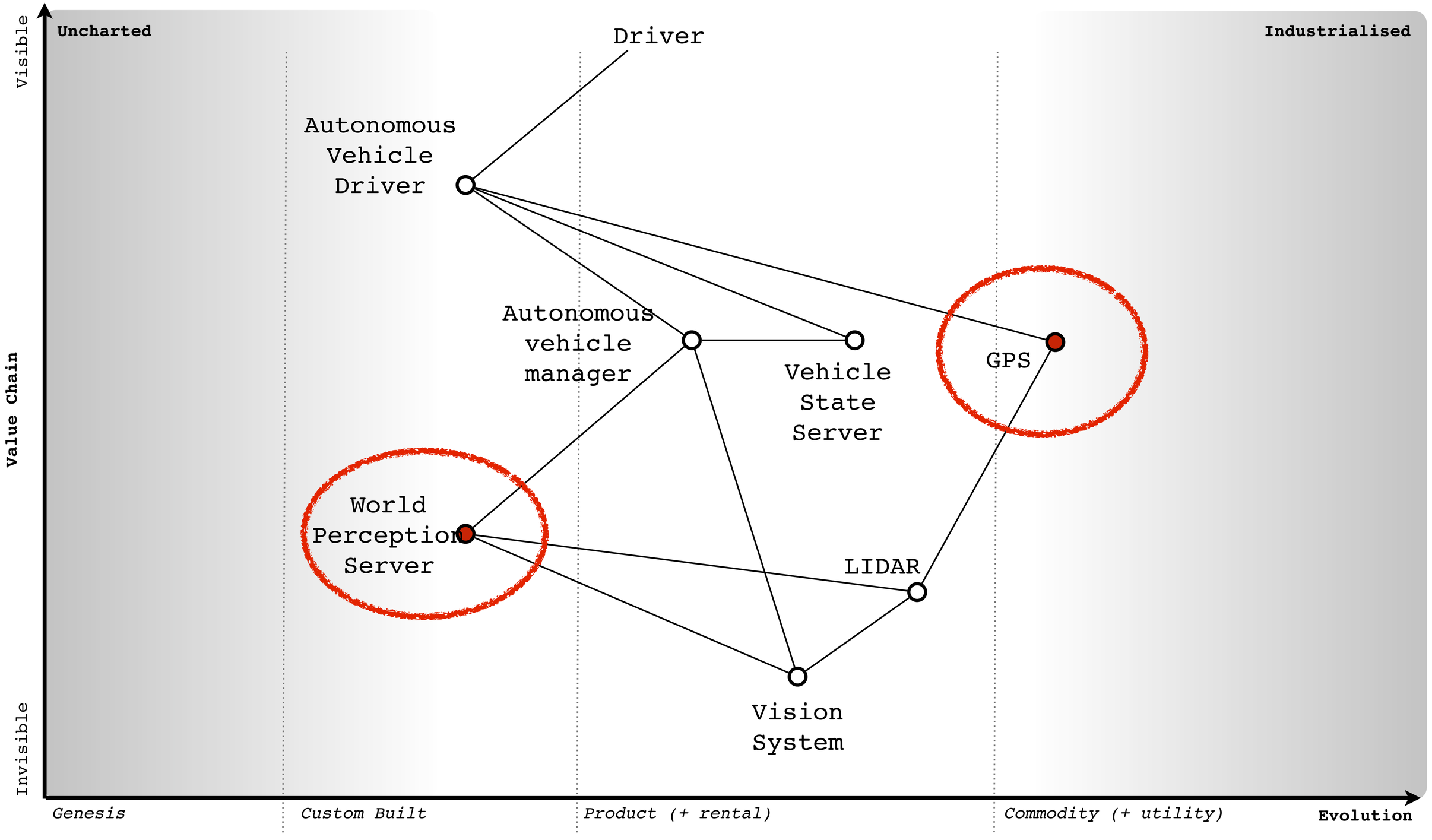
ᚠᚢᚦᚨᚱᚲ
ᚷᚹᚺᚾᛁᛃᛇᛈᛉᛊᛏᛒᛖᛗᛚᛜᛞᛟ
ᚠᚢᚦᚨᚱᚲᚷᚹᚺᚾᛁᛃᛇᛈᛉᛊᛏᛒᛖᛗᛚᛜᛞᛟ
ᚠᚢᚦᚨᚱᚲᚷᚹᚺᚾᛁᛃᛇᛈᛉᛊᛏᛒᛖᛗᛚᛜᛞᛟ
ᚠᚢᚦᚨᚱᚲᚷᚹᚺᚾᛁᛃᛇᛈᛉᛊᛏᛒᛖᛗᛚᛜᛞᛟ
ᚠᚢᚦᚨᚱᚲᚷᚹᚺᚾᛁᛃᛇᛈᛉᛊᛏᛒᛖᛗᛚᛜᛞᛟ
ᚠᚢᚦᚨᚱᚲᚷᚹᚺᚾᛁᛃᛇᛈᛉᛊᛏᛒᛖᛗᛚᛜᛞᛟ



A Should we outsource or build our own?

B Should we outsource or build our own?


Uncharted
Industrialised
Visible
Invisible
Value Chain
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution
A Should we outsource or build our own?
B Should we outsource or build our own?


Uncharted
Industrialised
Visible
Invisible
Value Chain
Driver
Autonomous Vehicle Driver
Autonomous vehicle manager
Vehicle State Server
GPS
World Perception Server
LIDAR
Vision System
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

LEARNING



Engineers

GIS

Web site

Public

Portal

ERPM

Land Registry

PIMS

CRM

RISK

WISE

Finance

Platform

Collaboration

BIM

HR

Compute

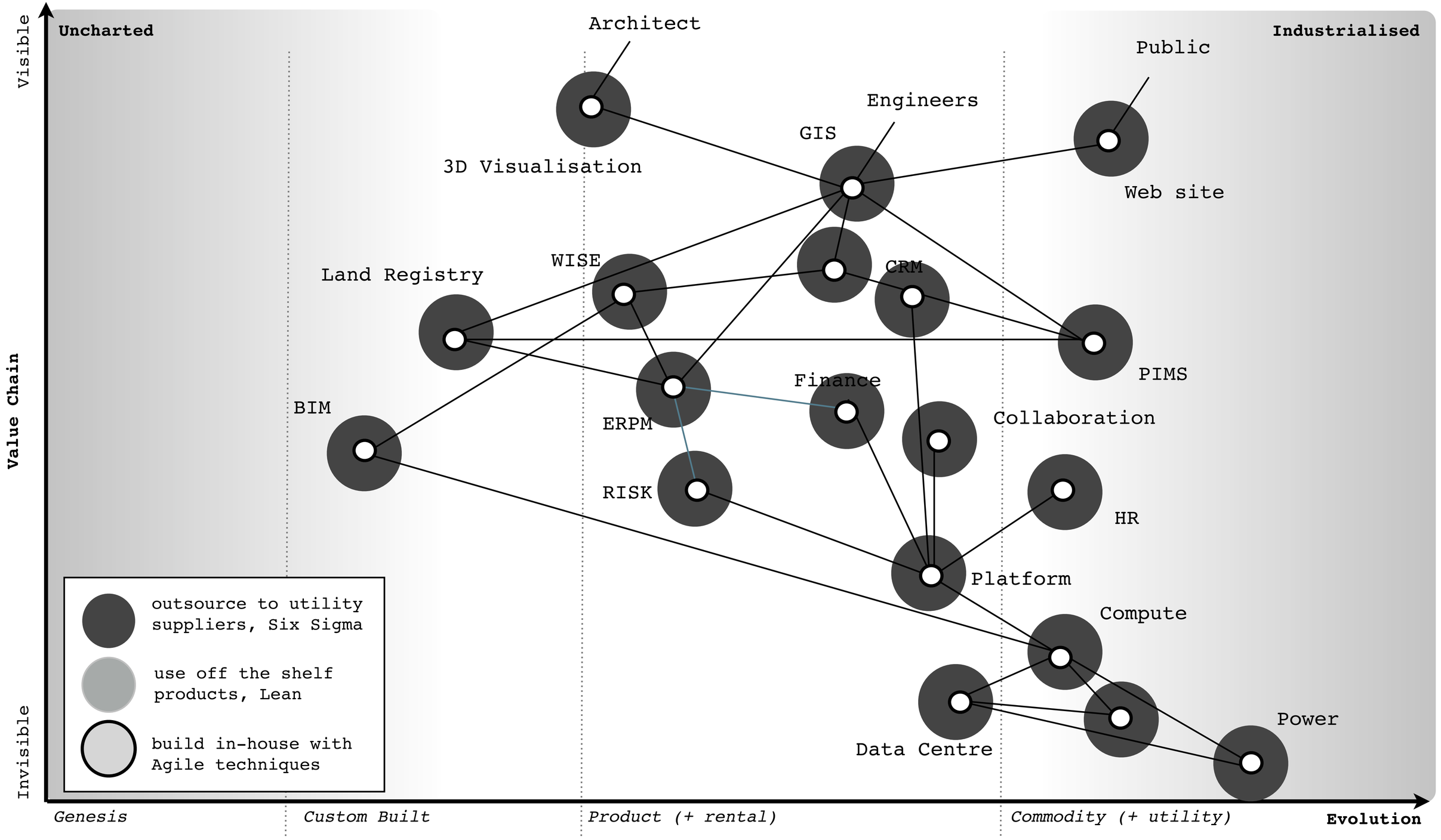
3D Visualisation

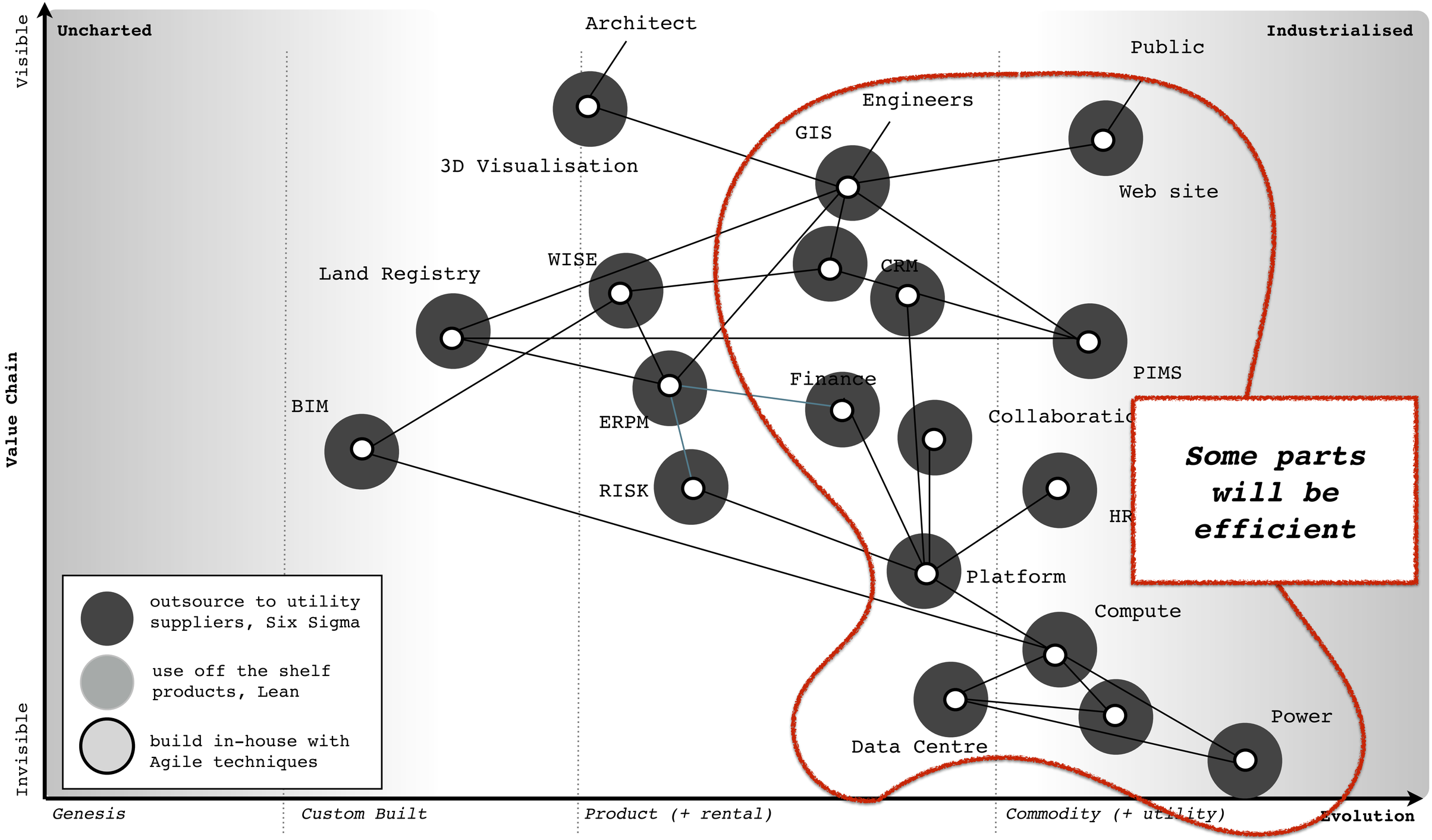
Architects

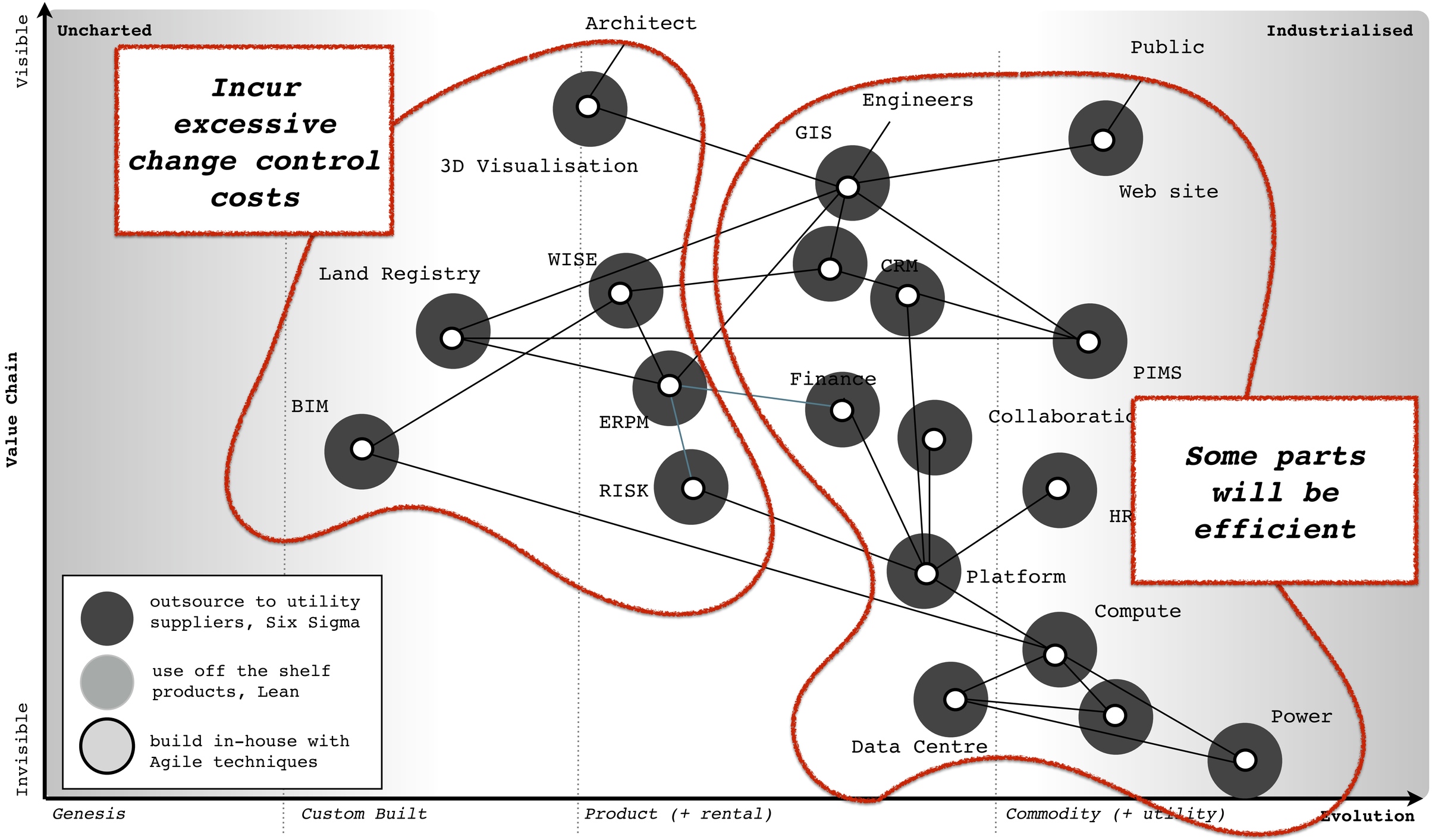
Data Centre

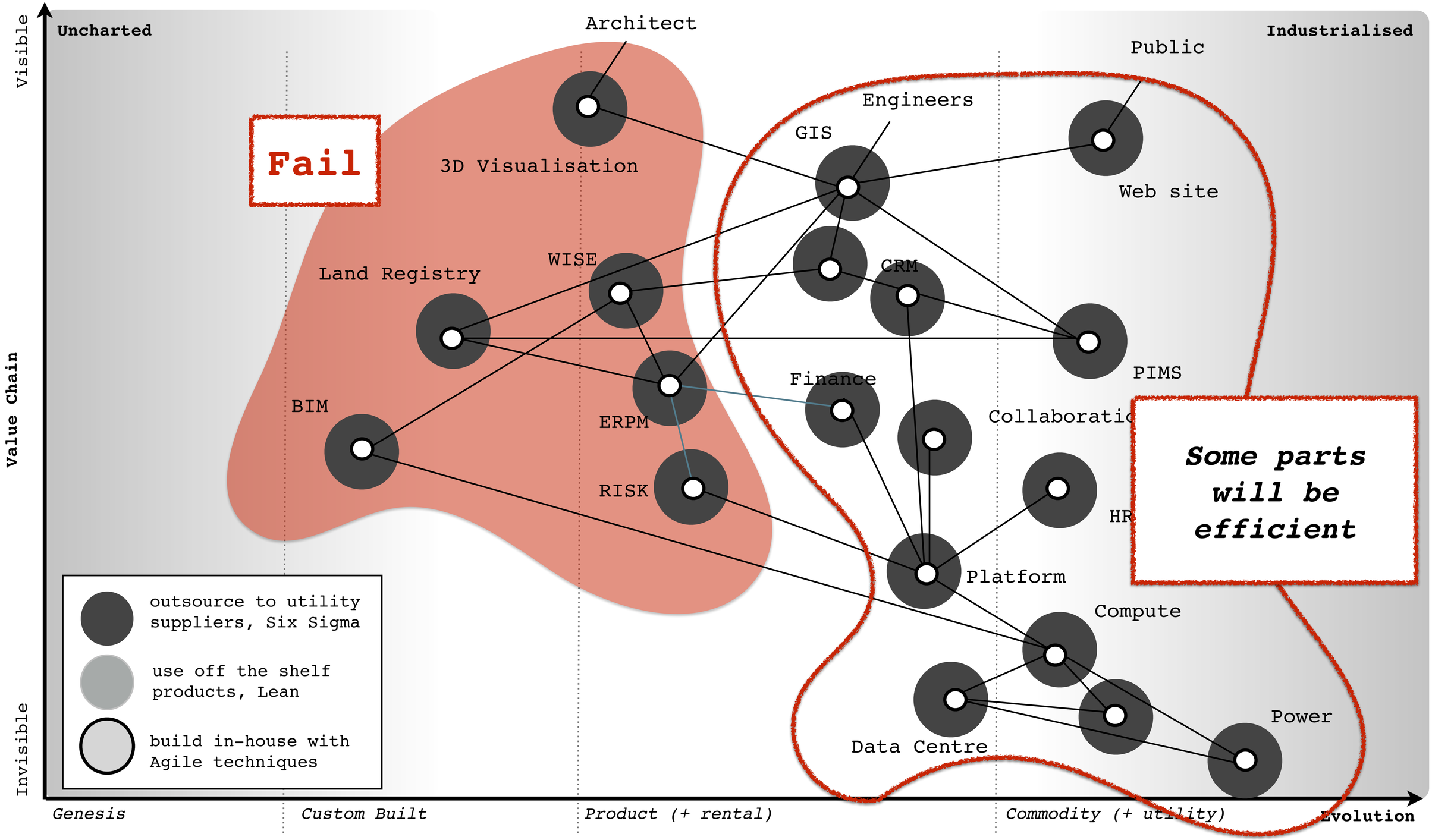
Power

outsource to utility suppliers, Six Sigma


Uncharted
Industrialised
Visible
Invisible
Value Chain
Architect
Public
Engineers
GIS
3D Visualisation
Web site
Land Registry
WISE
CRM
PIMS
Finance
BIM
ERPM
Collaboration
RISK
HR
Platform
Compute
Power
Data Centre
outsource to utility suppliers, Six Sigma
use off the shelf products, Lean
build in-house with Agile techniques
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Uncharted
Industrialised
Visible
Invisible
Value Chain
Architect
Public
Engineers
GIS
3D Visualisation
Web site
WISE
Land Registry
CRM
PIMS
Finance
BIM
ERPM
Collaboratic
RISK
HR
Platform
Compute
Power
Data Centre
Some parts will be efficient
outsource to utility suppliers, Six Sigma
use off the shelf products, Lean
build in-house with Agile techniques
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

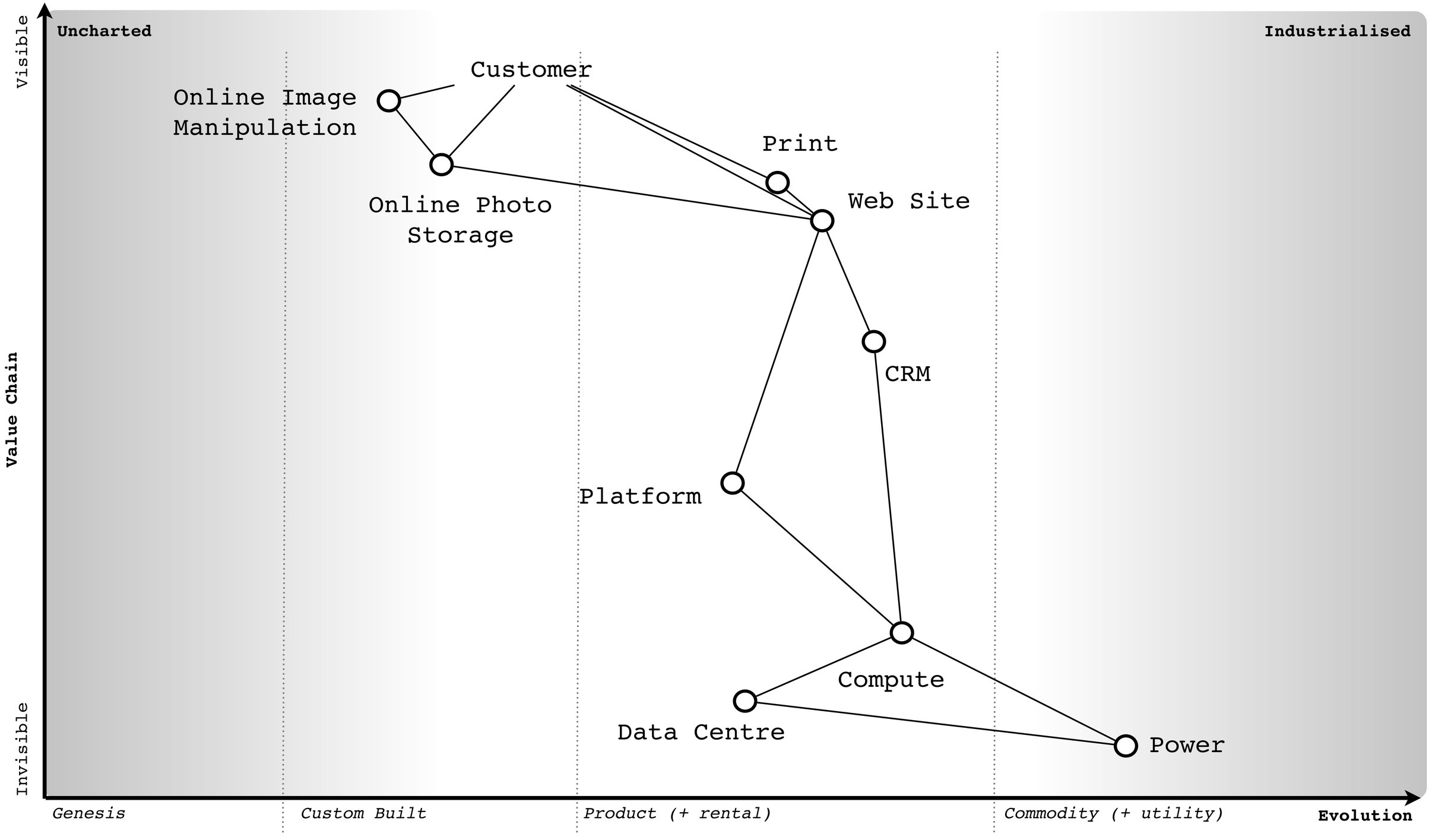

Uncharted
Industrialised
Visible
Invisible
Value Chain
Evolution
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Incur excessive change control costs
Some parts will be efficient
Architect
3D Visualisation
Public
Web site
Engineers
GIS
WISE
Land Registry
CRM
PIMS
BIM
ERPM
Finance
Collaboratic
RISK
HR
Platform
Compute
Power
Data Centre
outsource to utility suppliers, Six Sigma
use off the shelf products, Lean
build in-house with Agile techniques

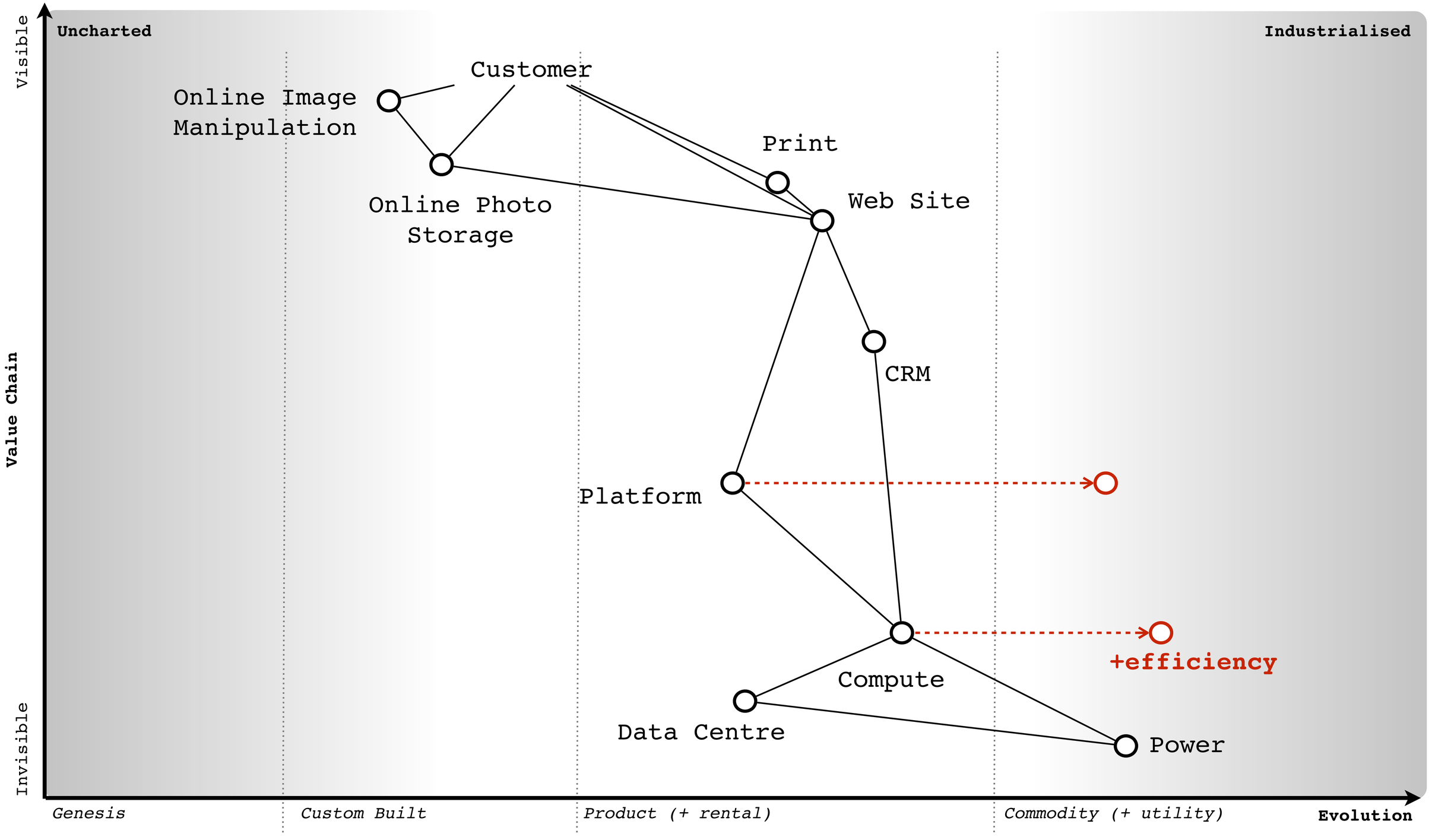

Uncharted
Industrialised
Visible
Invisible
Value Chain
Evolution
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Architect
Public
Engineers
GIS
Fail
3D Visualisation
Web site
WISE
Land Registry
CRM
PIMS
Finance
BIM
ERPM
Collaboratic
RISK
HR
Some parts will be efficient
Platform
Compute
Power
Data Centre
outsource to utility suppliers, Six Sigma
use off the shelf products, Lean
build in-house with Agile techniques

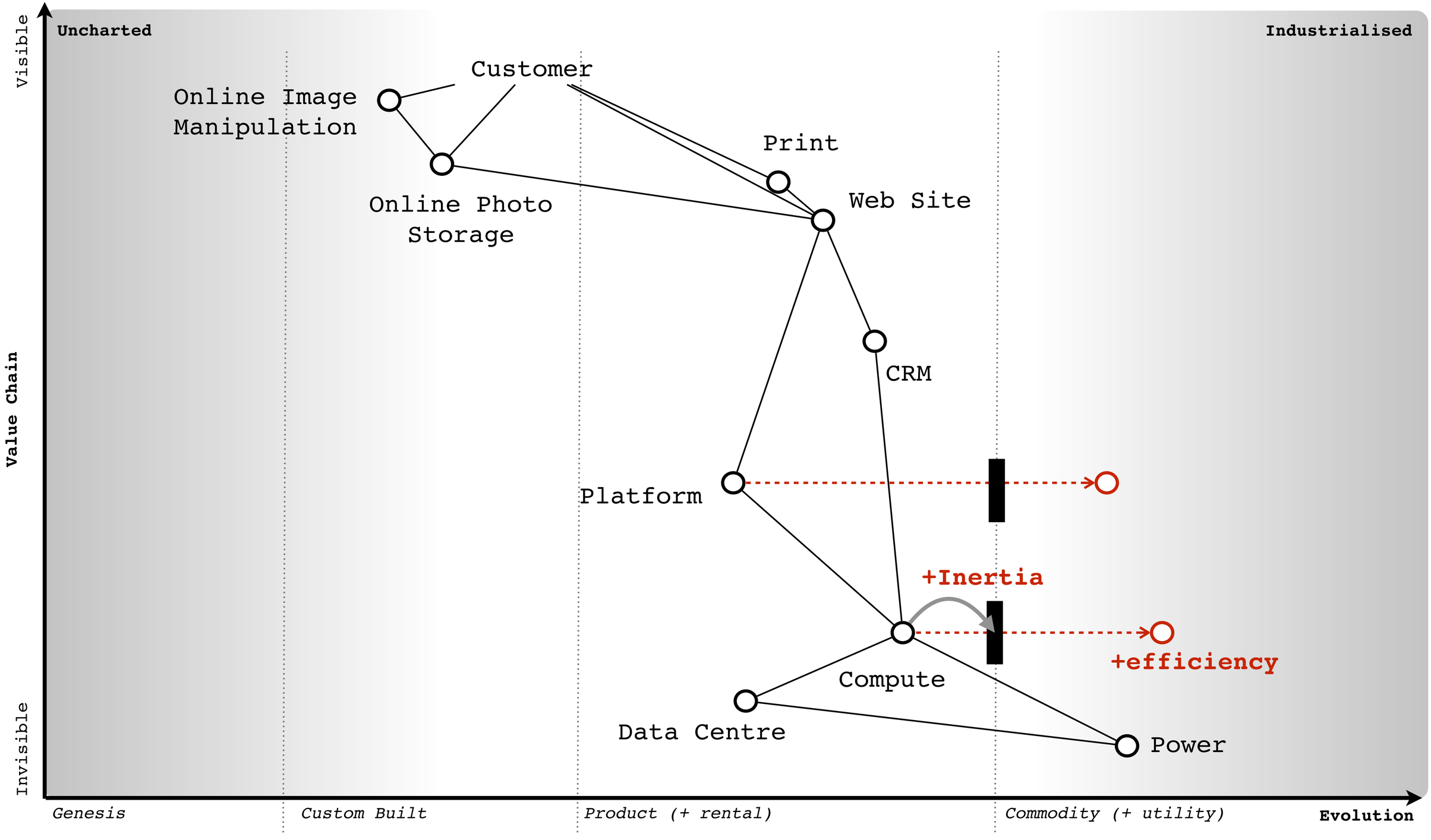

It’s the vendor’s fault!
Burn them!

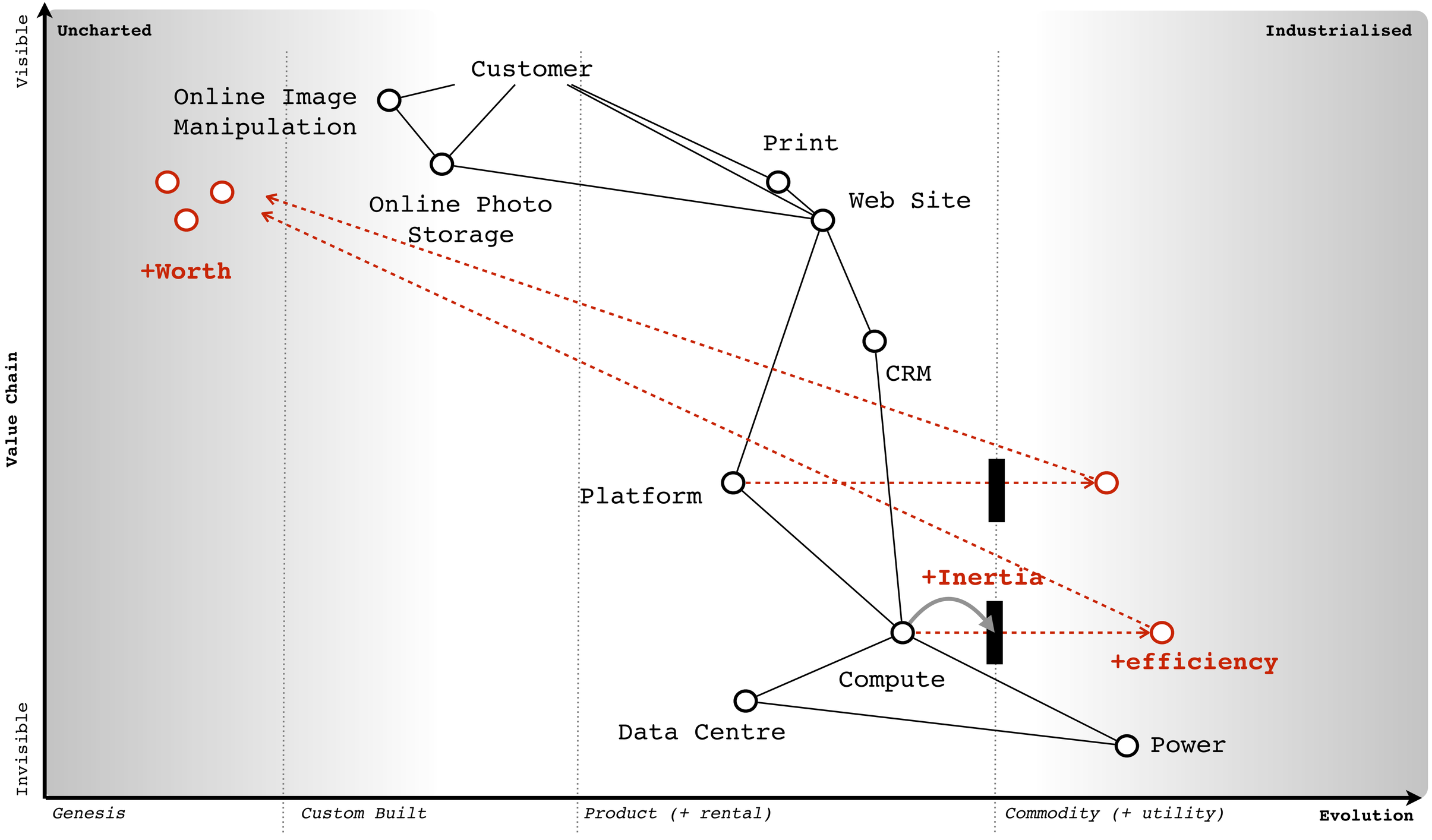

Next time we need to specify it better!

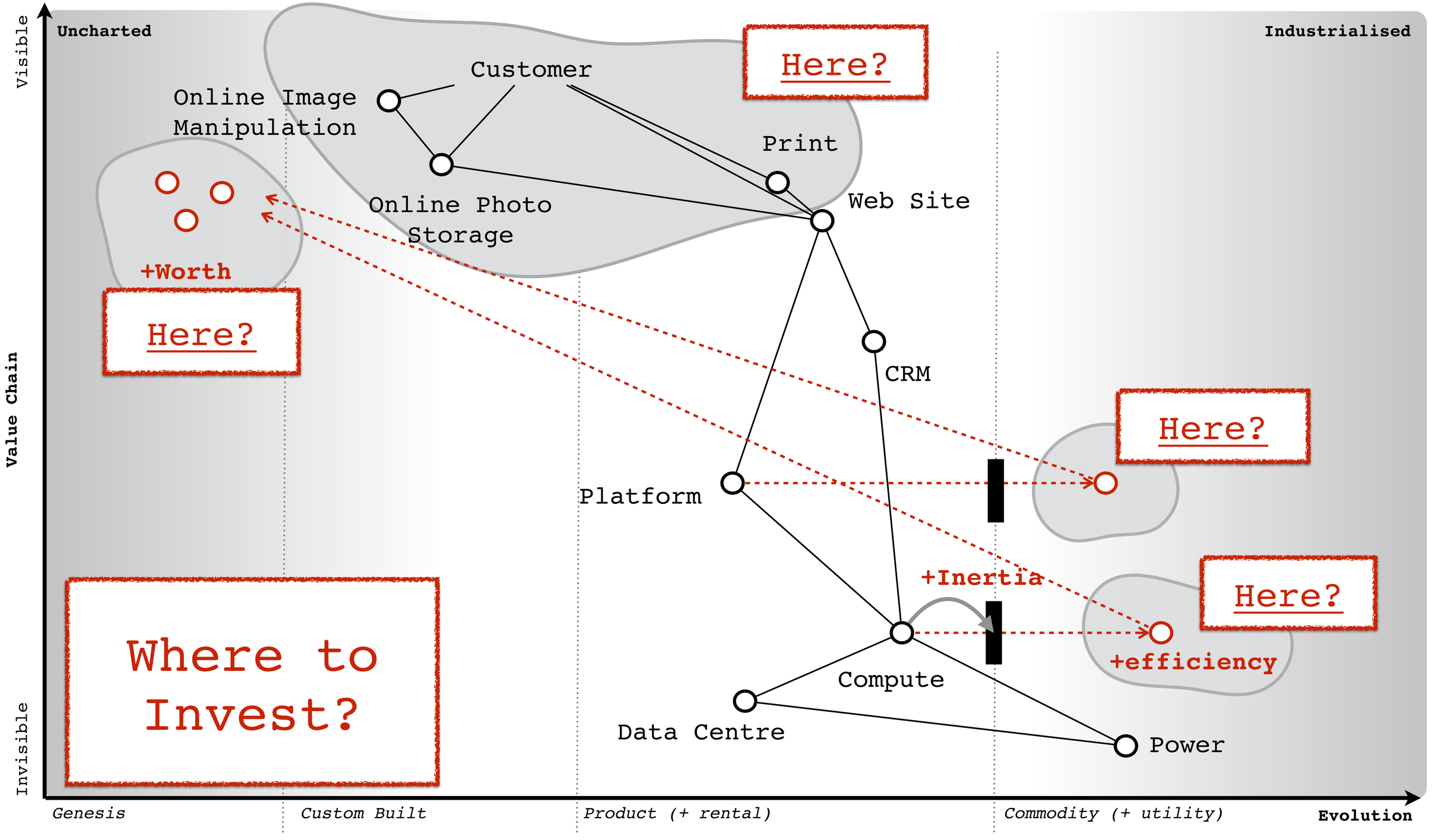


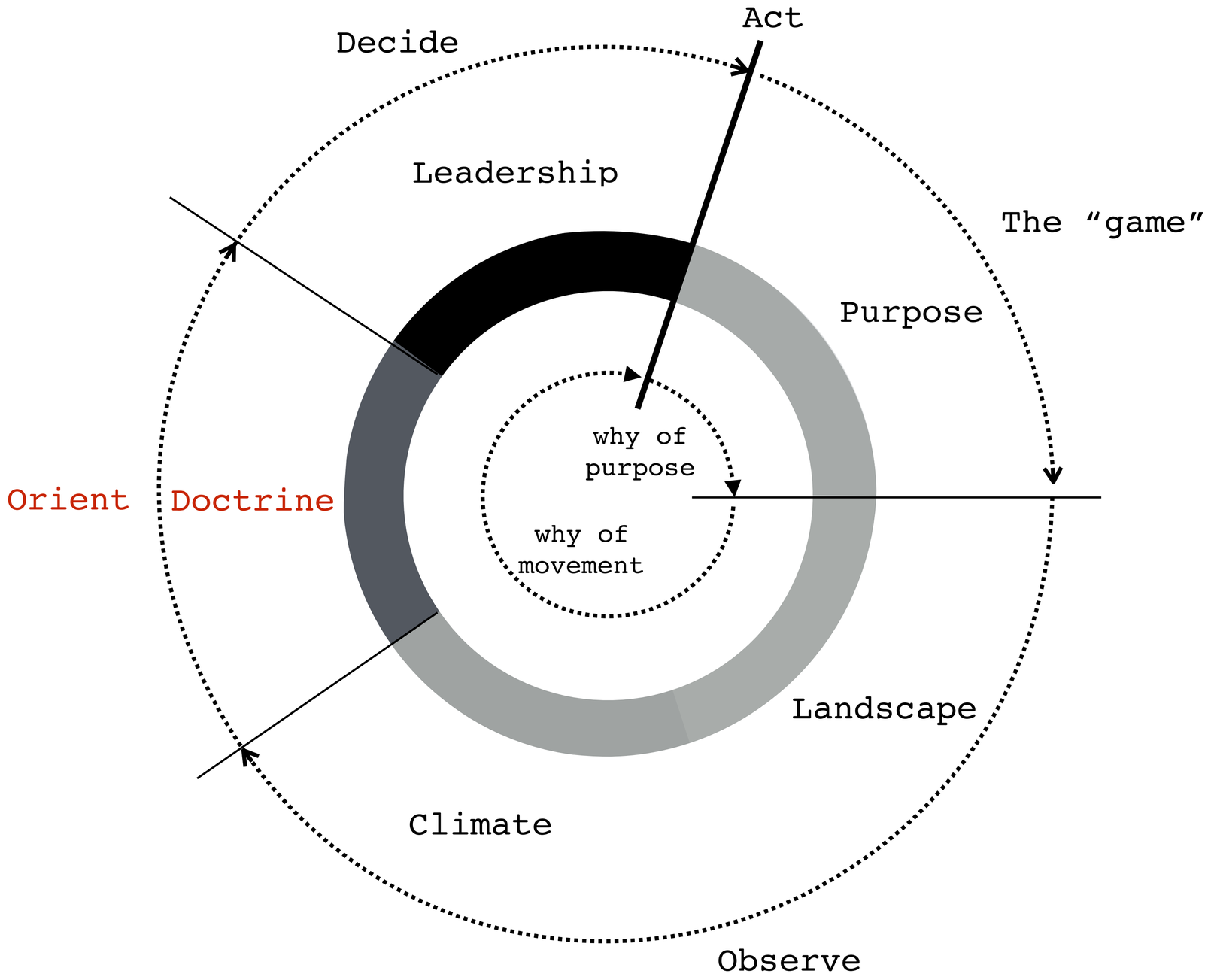

Uncharted
Industrialised
Visible
Invisible
Value Chain
Customer
Online Image Manipulation
Online Photo Storage
Print
Web Site
CRM
Platform
Compute
Data Centre
Power
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Uncharted
Industrialised
Visible
Invisible
Value Chain
Customer
Online Image Manipulation
Online Photo Storage
Print
Web Site
CRM
Platform
+efficiency
Compute
Data Centre
Power
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Uncharted
Industrialised
Visible
Invisible
Value Chain
Customer
Online Image Manipulation
Online Photo Storage
Print
Web Site
CRM
Platform
+Inertia
+efficiency
Compute
Data Centre
Power
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

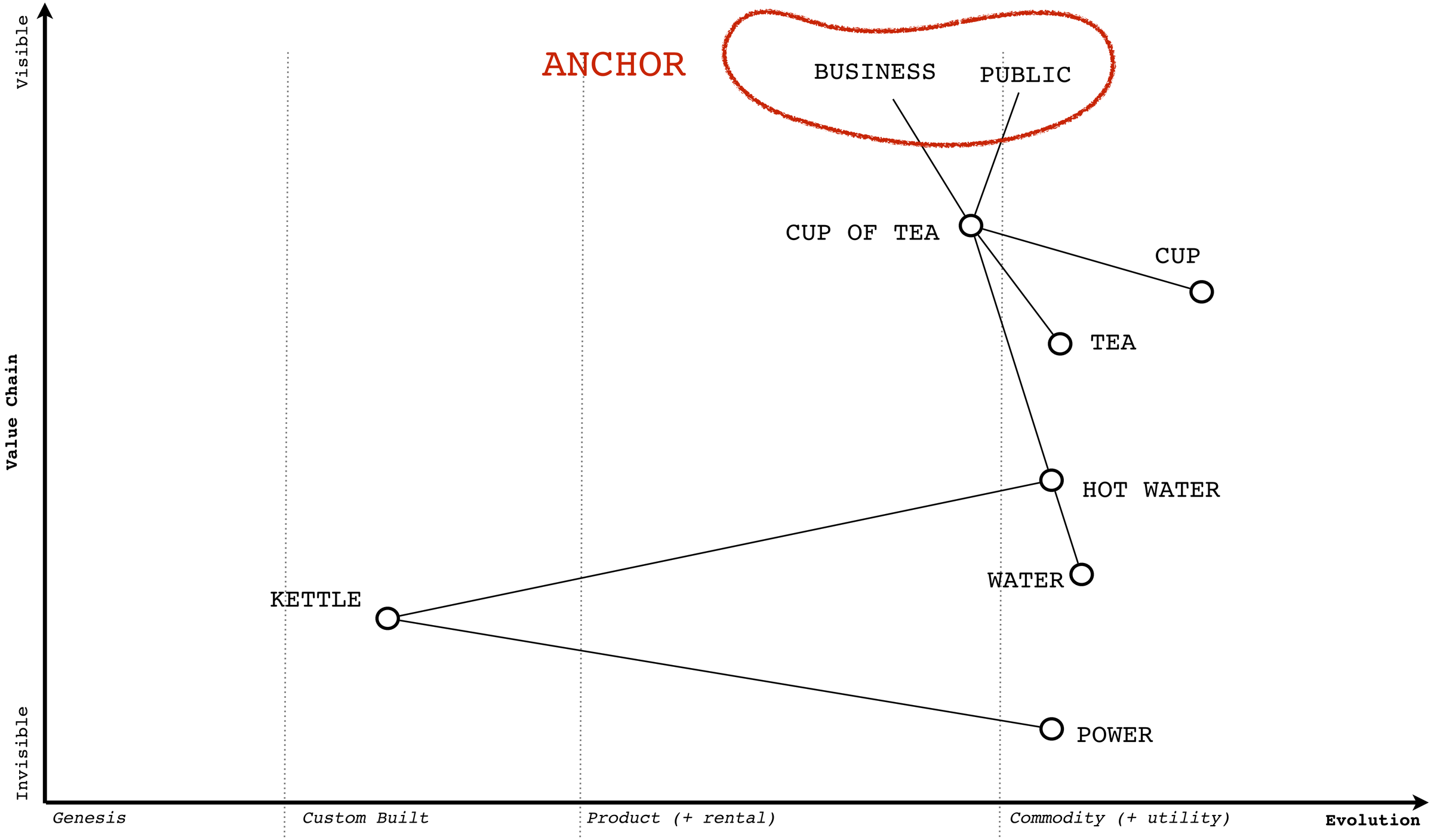

Uncharted
Industrialised
Visible
Invisible
Value Chain
Customer
Online Image Manipulation
Print
Online Photo Storage
Web Site
+Worth
CRM
Platform
+Inertia
+efficiency
Compute
Data Centre
Power
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

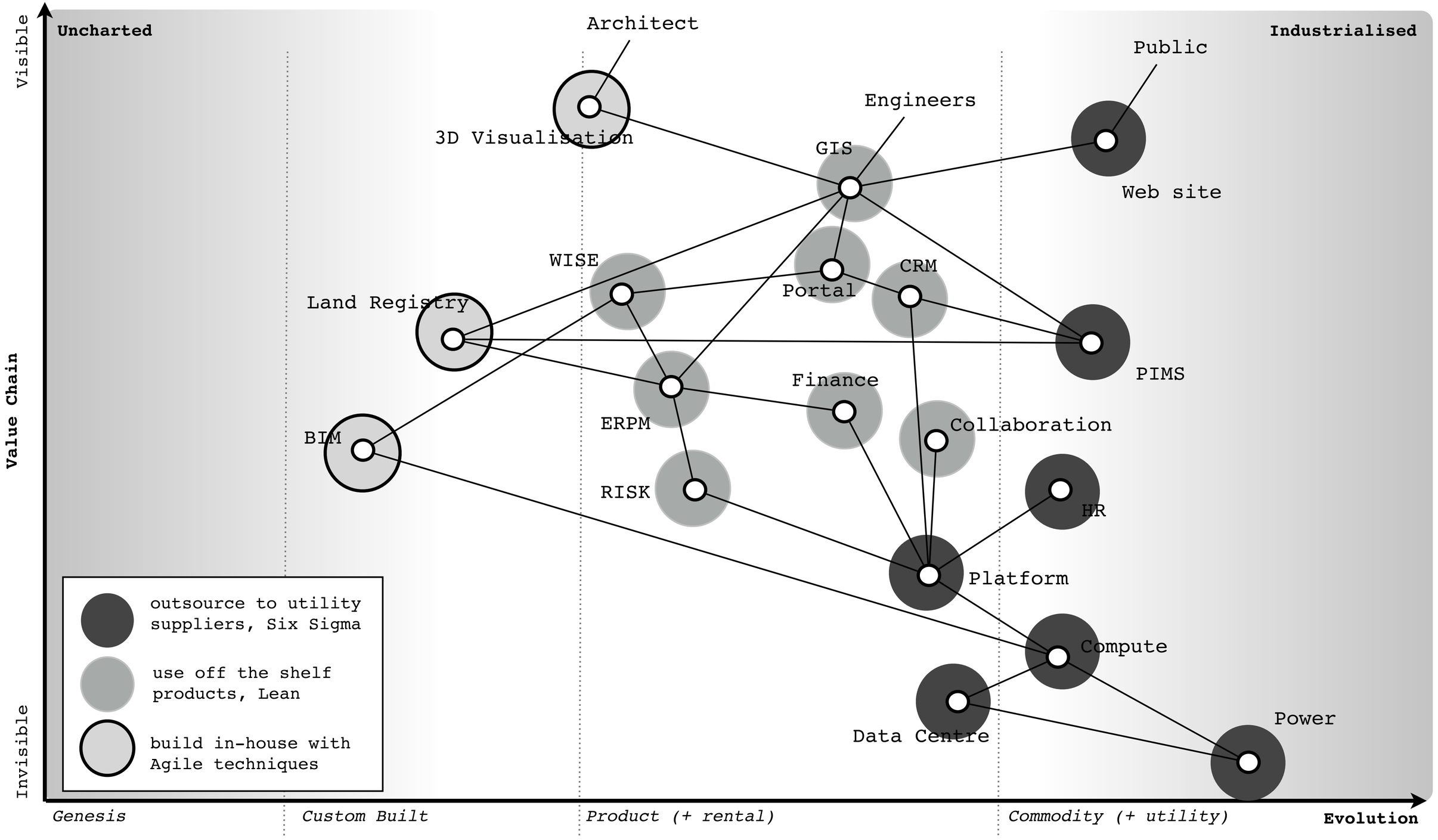

Visible
Invisible
Value Chain
Uncharted
Industrialised
Customer
Online Image Manipulation
Online Photo Storage
Print
Web Site
CRM
Platform
Compute
Data Centre
Power
Here?
Here?
Here?
Here?
+Worth
+Inertia
+efficiency
Where to Invest?
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Act
Decide
Leadership
The “game”
Purpose
why of
purpose
why of
movement
Orient
Doctrine
Landscape
Climate
Observe

Doctrine

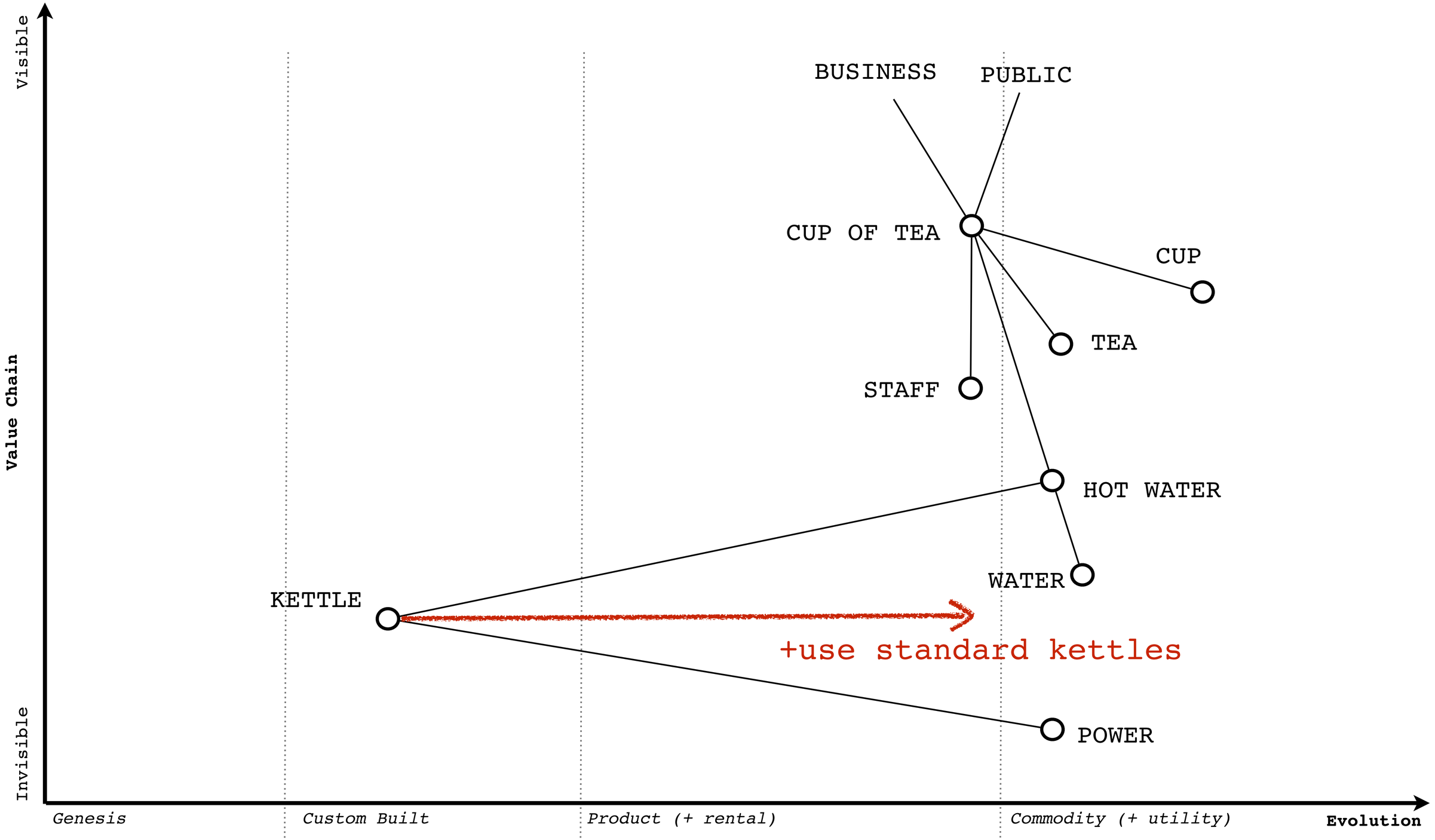
universally applicable principles regardless of context


ANCHOR
BUSINESS
PUBLIC
CUP OF TEA
CUP
TEA
HOT WATER
WATER
KETTLE
POWER
Visible
Value Chain
Invisible
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Uncharted
Industrialised
Visible
Invisible
Value Chain
Architect
3D Visualisation
Engineers
GIS
Public
Web site
WISE
Portal
CRM
Land Registry
PIMS
Finance
ERPM
Collaboration
BIM
RISK
HR
Platform
Compute
Power
Data Centre
outsource to utility suppliers, Six Sigma
use off the shelf products, Lean
build in-house with Agile techniques
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

EFFECTIVENESS OVER EFFICIENCY

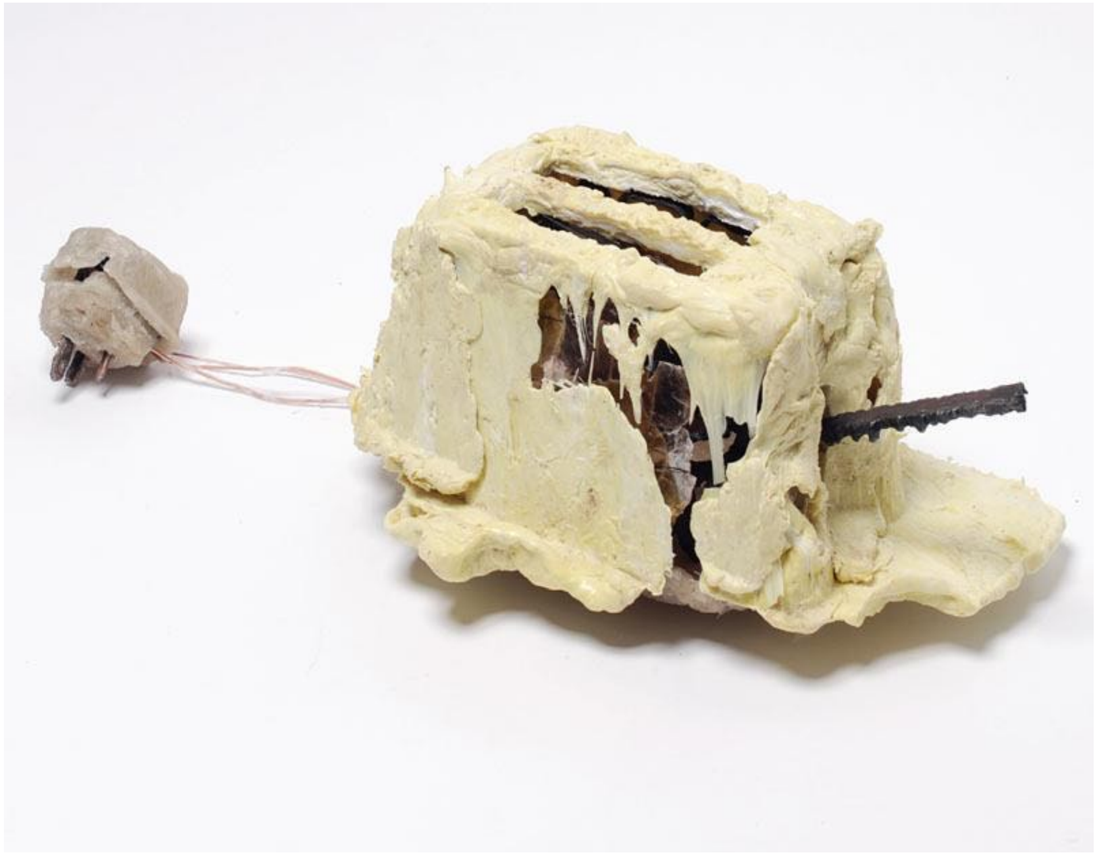



Visible
Value Chain
Invisible
BUSINESS
PUBLIC
CUP OF TEA
CUP
TEA
STAFF
HOT WATER
WATER
KETTLE
+use standard kettles
POWER
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

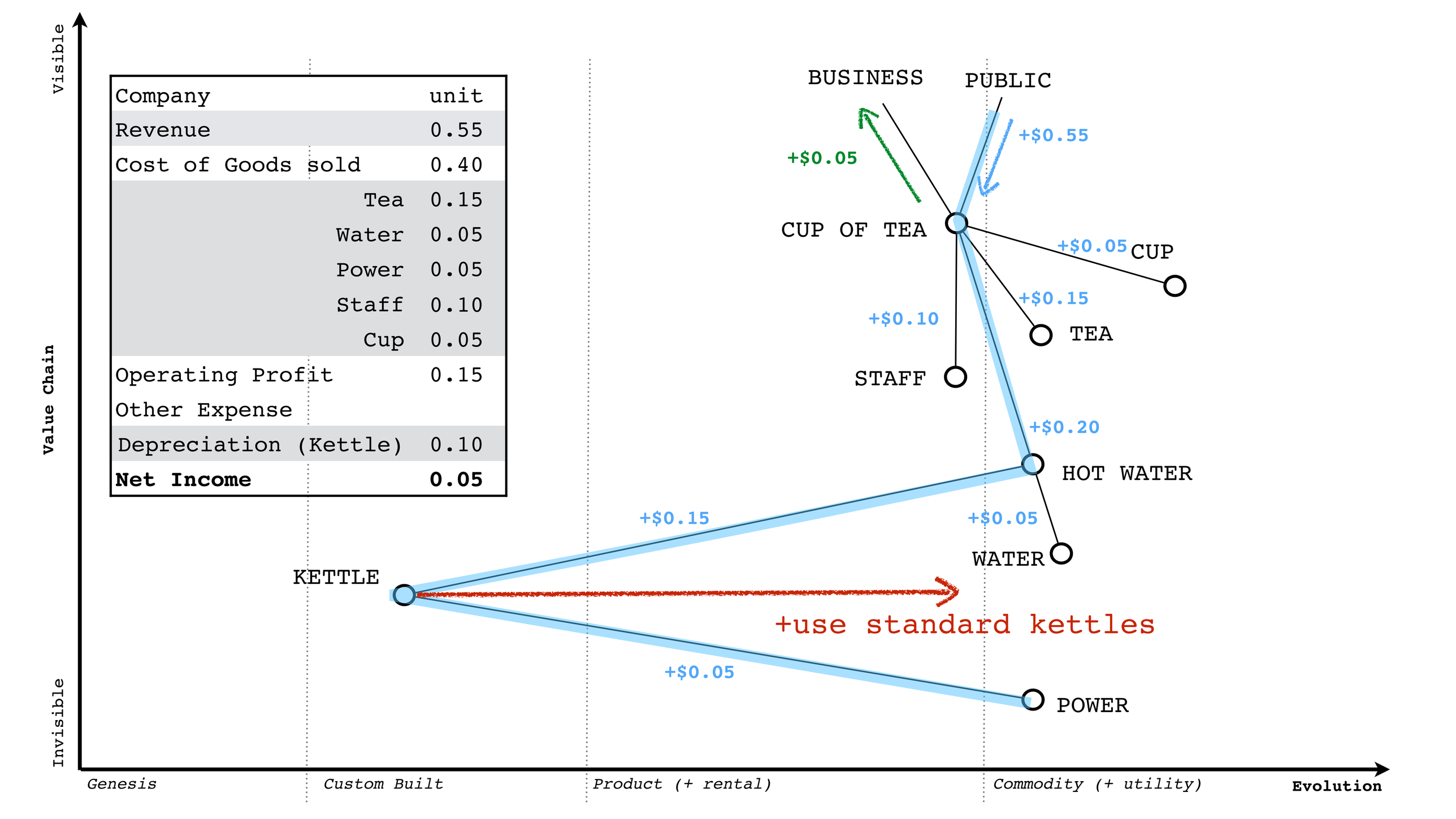
If the user needs a slice of toast …



Buy a toaster for $40?

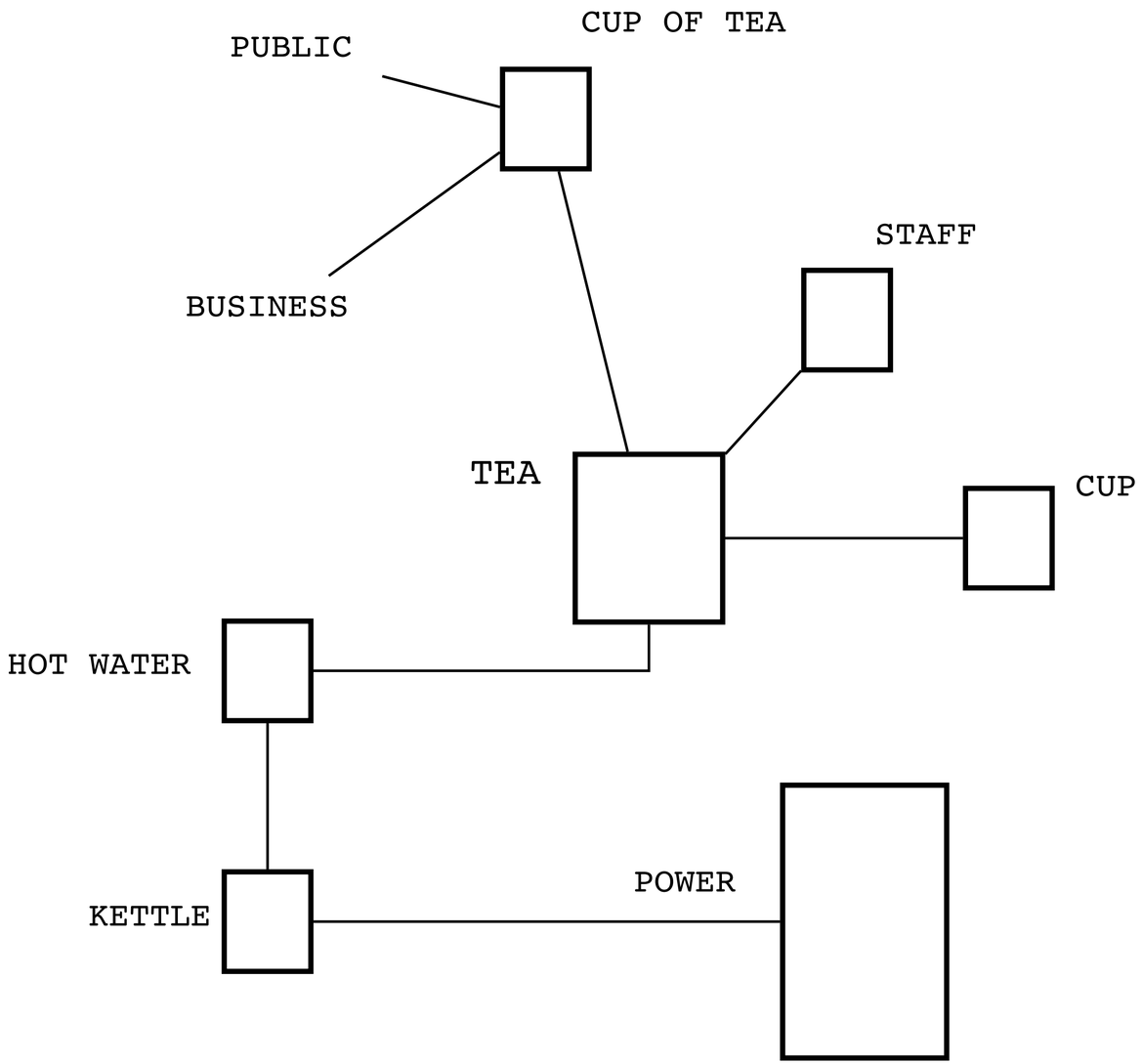


Spend 9 months lovingly building a toaster for $1000 from raw materials?

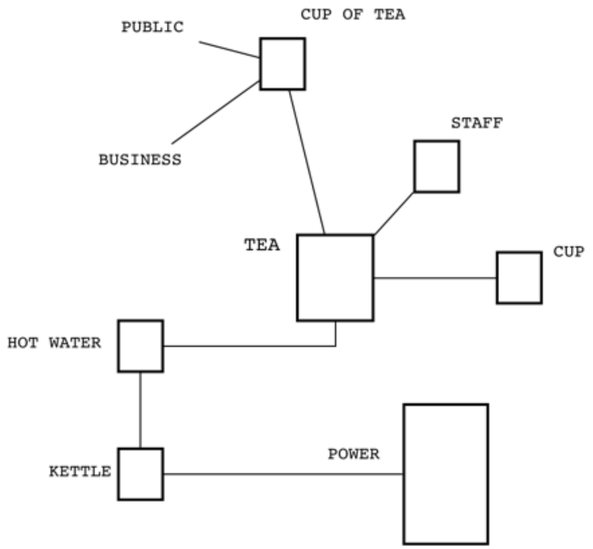


Company	unit
Revenue	0.55
Cost of Goods sold	0.40
Tea	0.15
Water	0.05
Power	0.05
Staff	0.10
Cup	0.05
Operating Profit	0.15
Other Expense	
Depreciation (Kettle)	0.10
Net Income	**0.05**

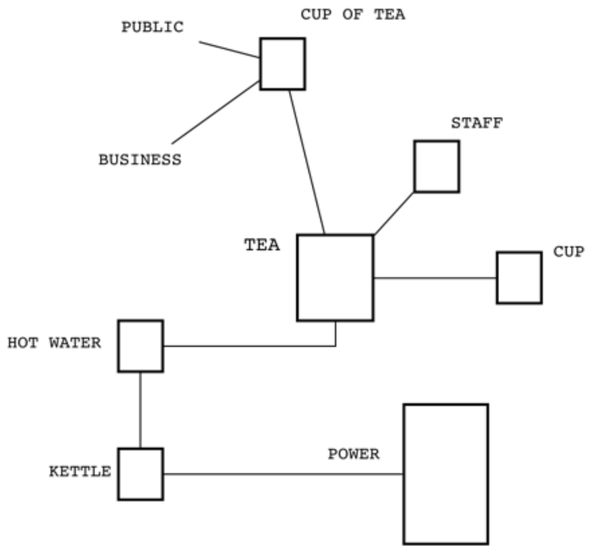
Systems Diagram



Systems Diagram



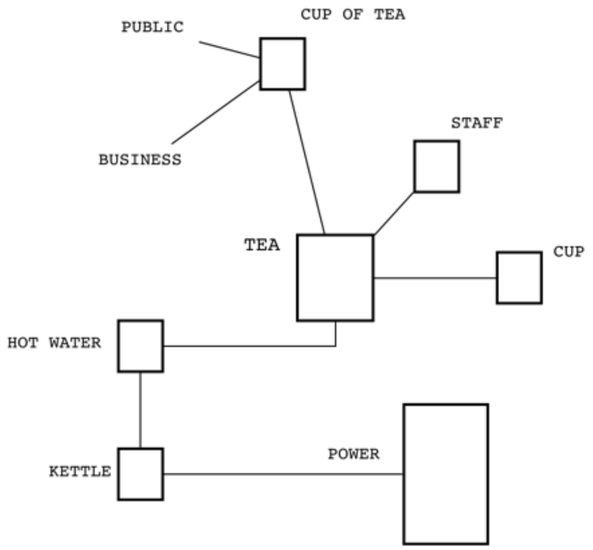
Systems Diagram



+ Finance

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Systems Diagram



+ Finance

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+ SWOT

Strengths

A well trained Spartan army

A high level of motivation not to become a Persian slave

Weaknesses

The Ephors might stop the Spartans turning up

A lot of Persians ARE turning up



Opportunities

Get rid of the Persians

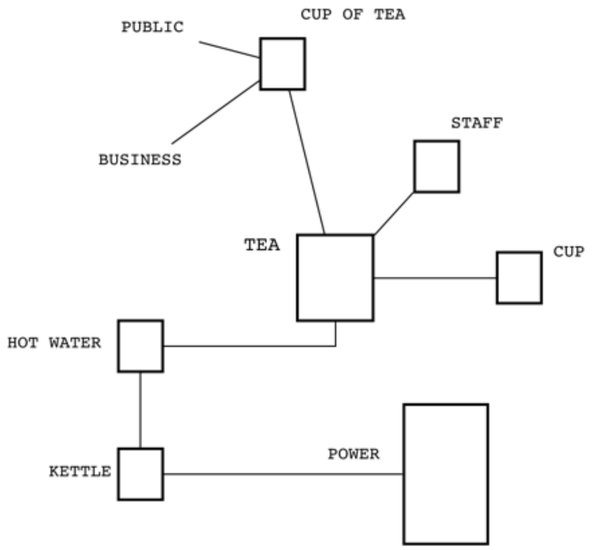
Get rid of the Spartans

Threats

Persians get rid of us

The Oracle says a really dodgy film might be produced over 2,000 years later

Systems Diagram



+ Finance

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+ SWOT

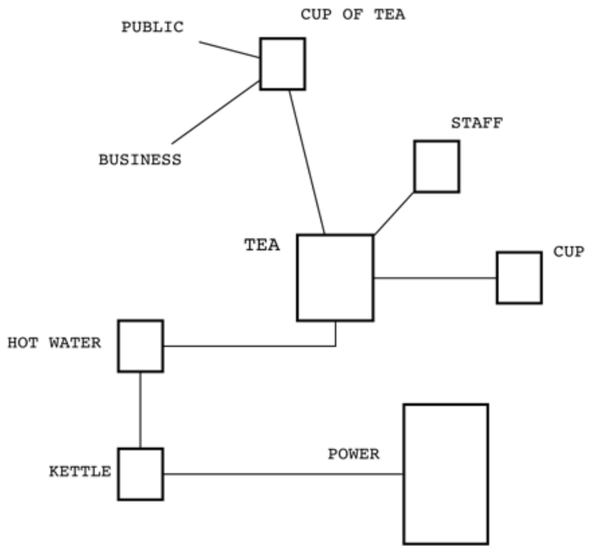
Strengths	Weaknesses
A well trained Spartan army A high level of motivation not to become a Persian slave	The Ephors might stop the Spartans turning up A lot of Persians ARE turning up
Opportunities	**Threats**
Get rid of the Persians Get rid of the Spartans	Persians get rid of us The Oracle says a really dodgy film might be produced over 2,000 years later



+ STORY

From Hernam, head due west towards Hvarf, and you will have sailed north of Hjaltland, so that you just glimpse it in clear weather, but south of the islands, so that the sea is right in between the distant mountains and thus also south of Iceland.

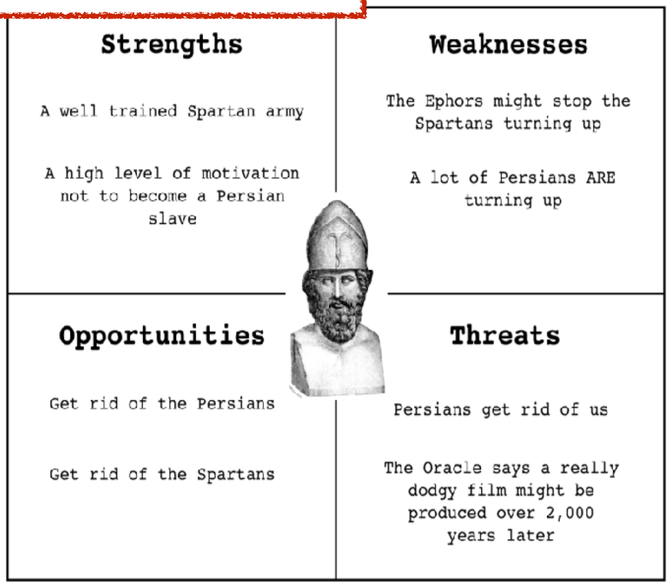
Systems Diagram



+ Finance

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+ SWOT

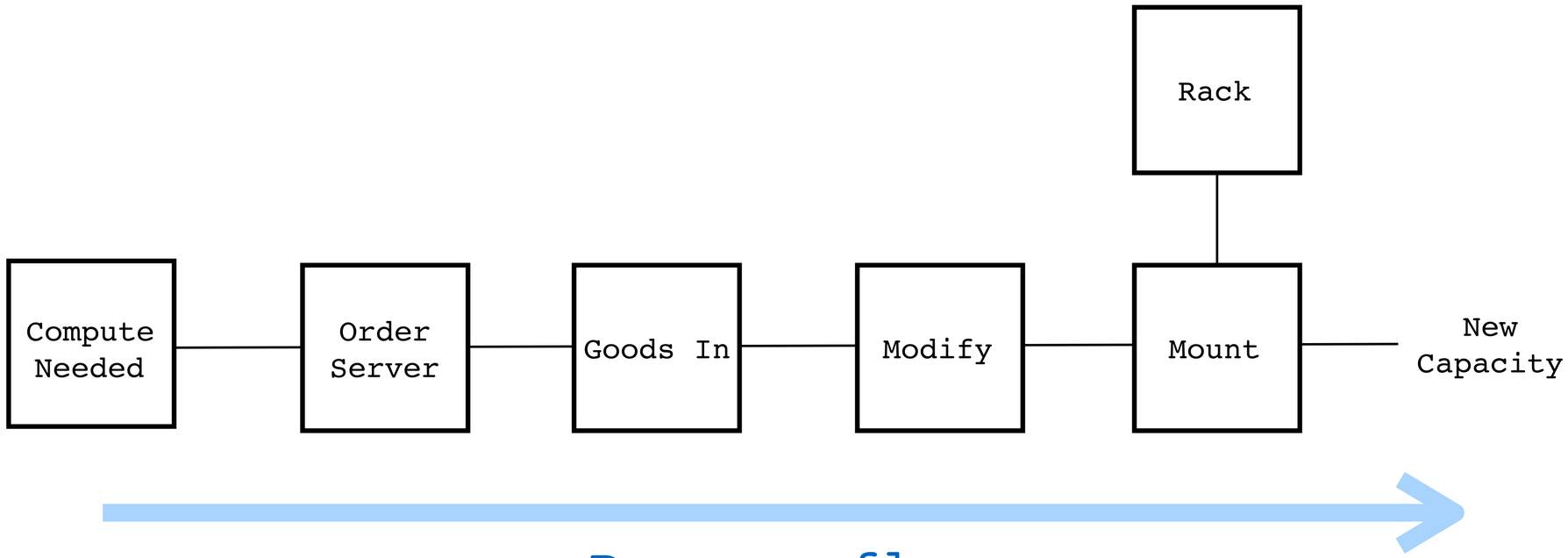


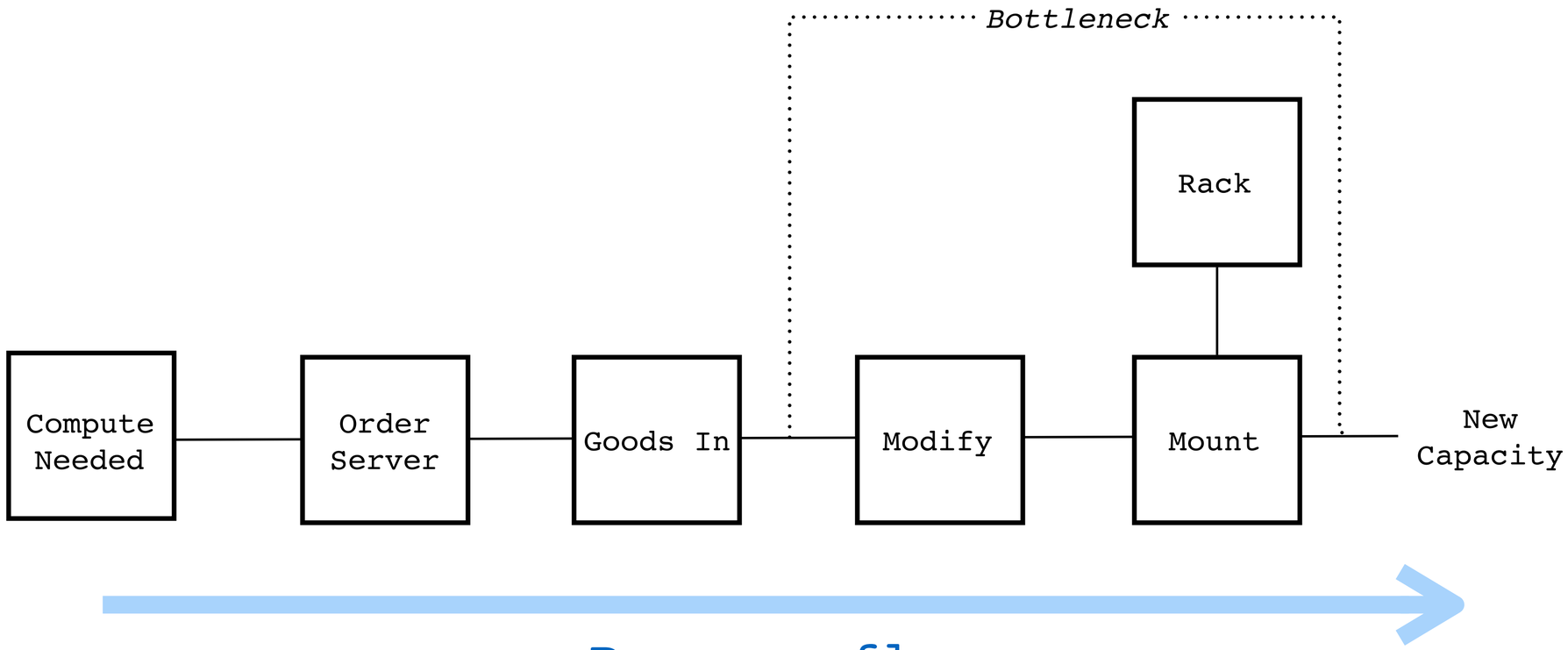
+ STORY

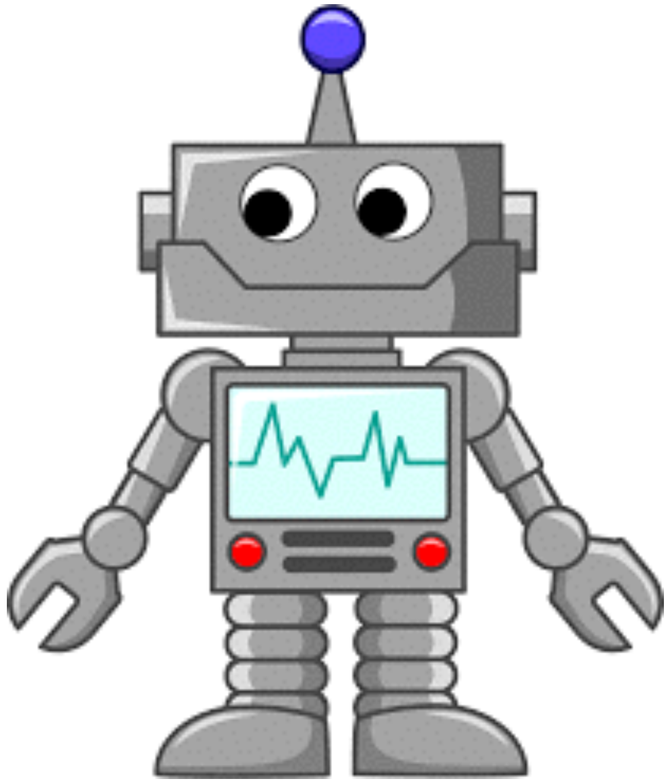
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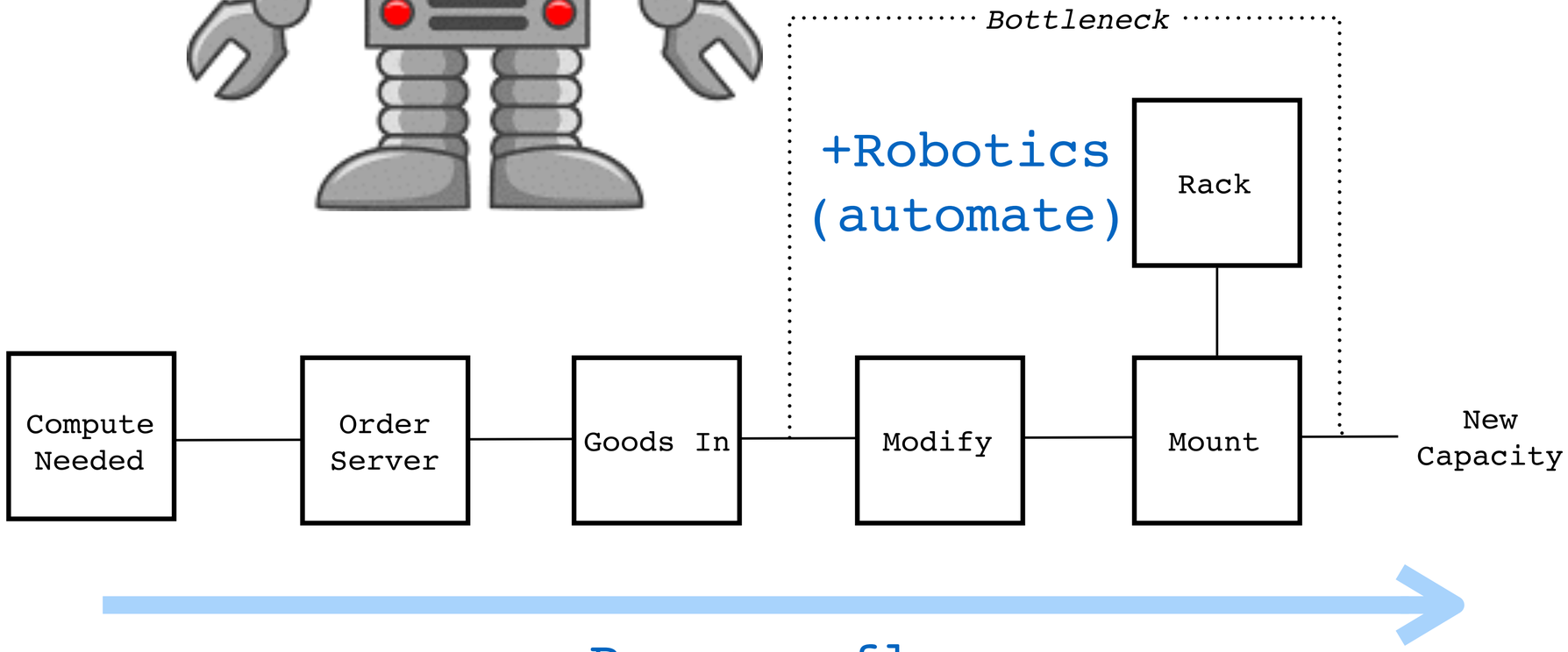
BUSINESS CASE


Insurance policy.
rsigned, pursuant to the
the above policy
urance Com

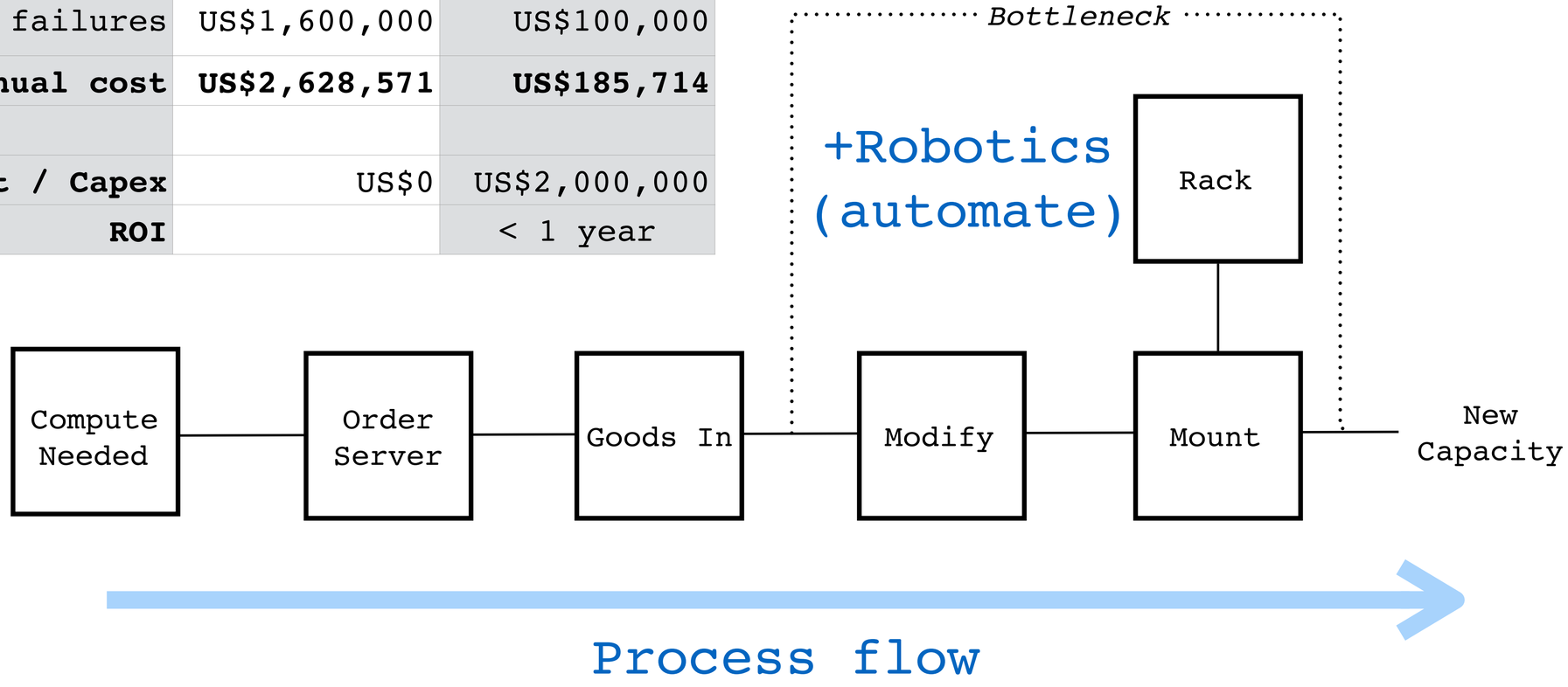

Rack
Compute Needed
Order Server
Goods In
Modify
Mount
New Capacity
Process flow

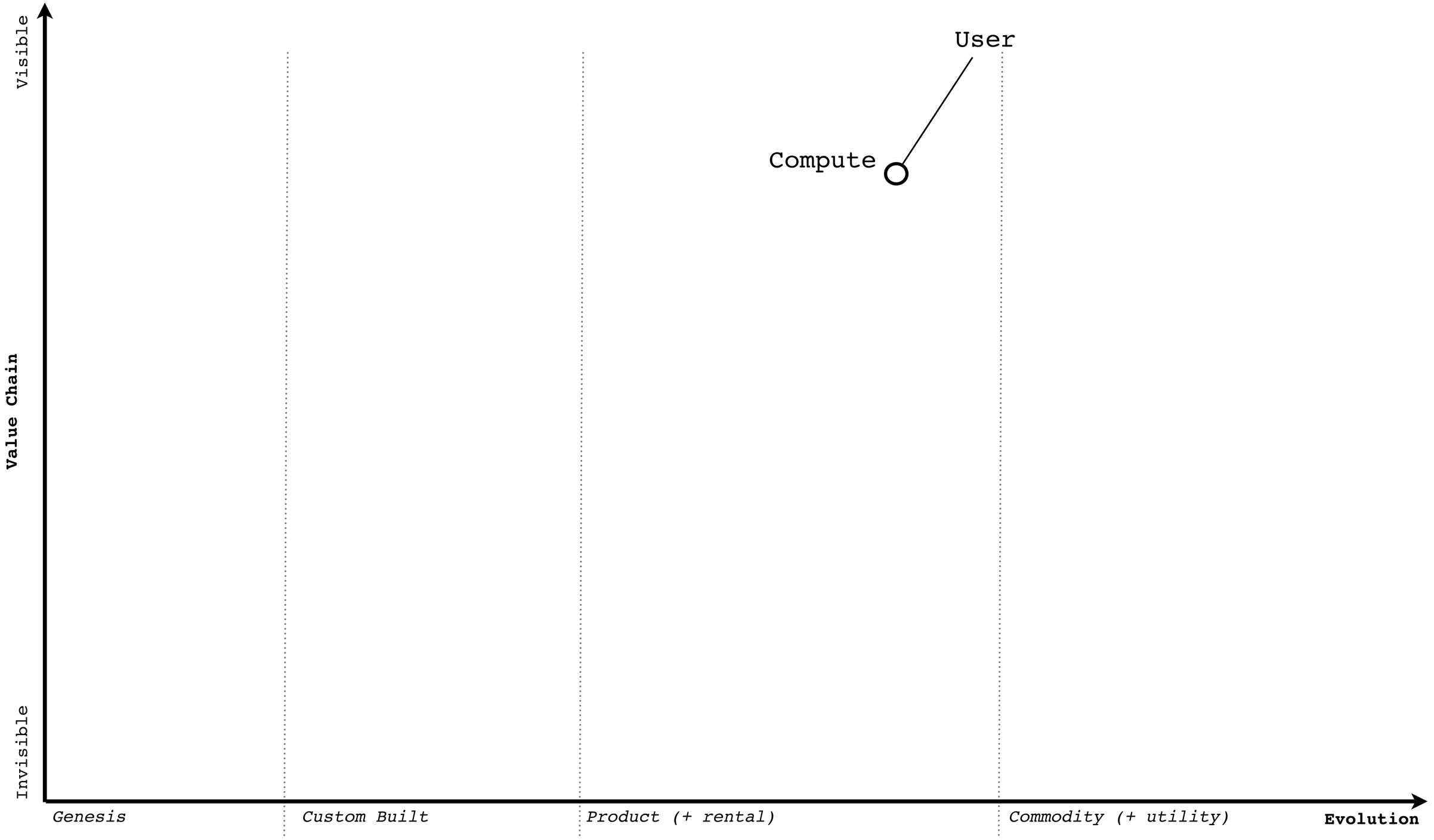

Bottleneck
Rack
Compute Needed
Order Server
Goods In
Modify
Mount
New Capacity
Process flow

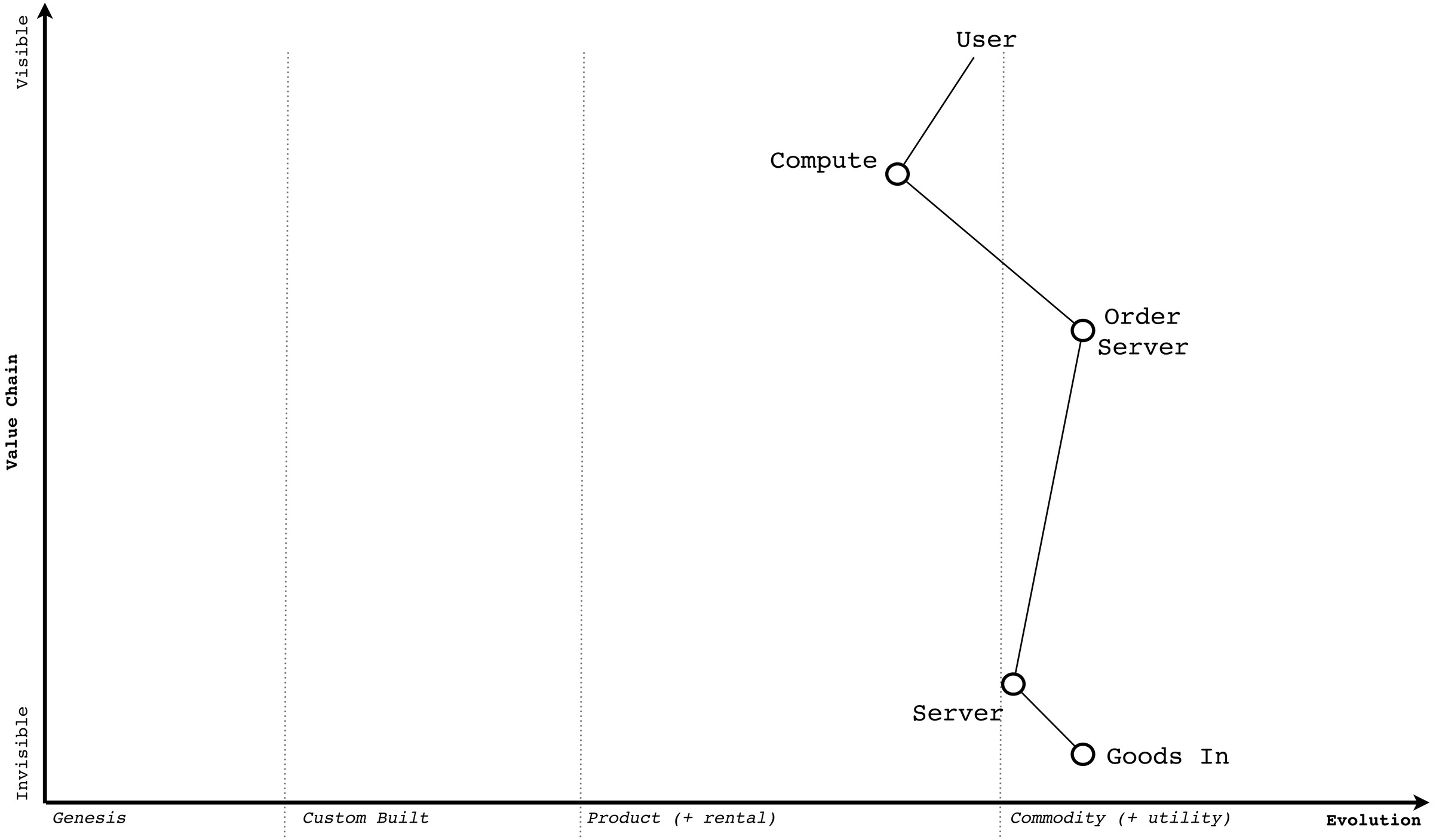


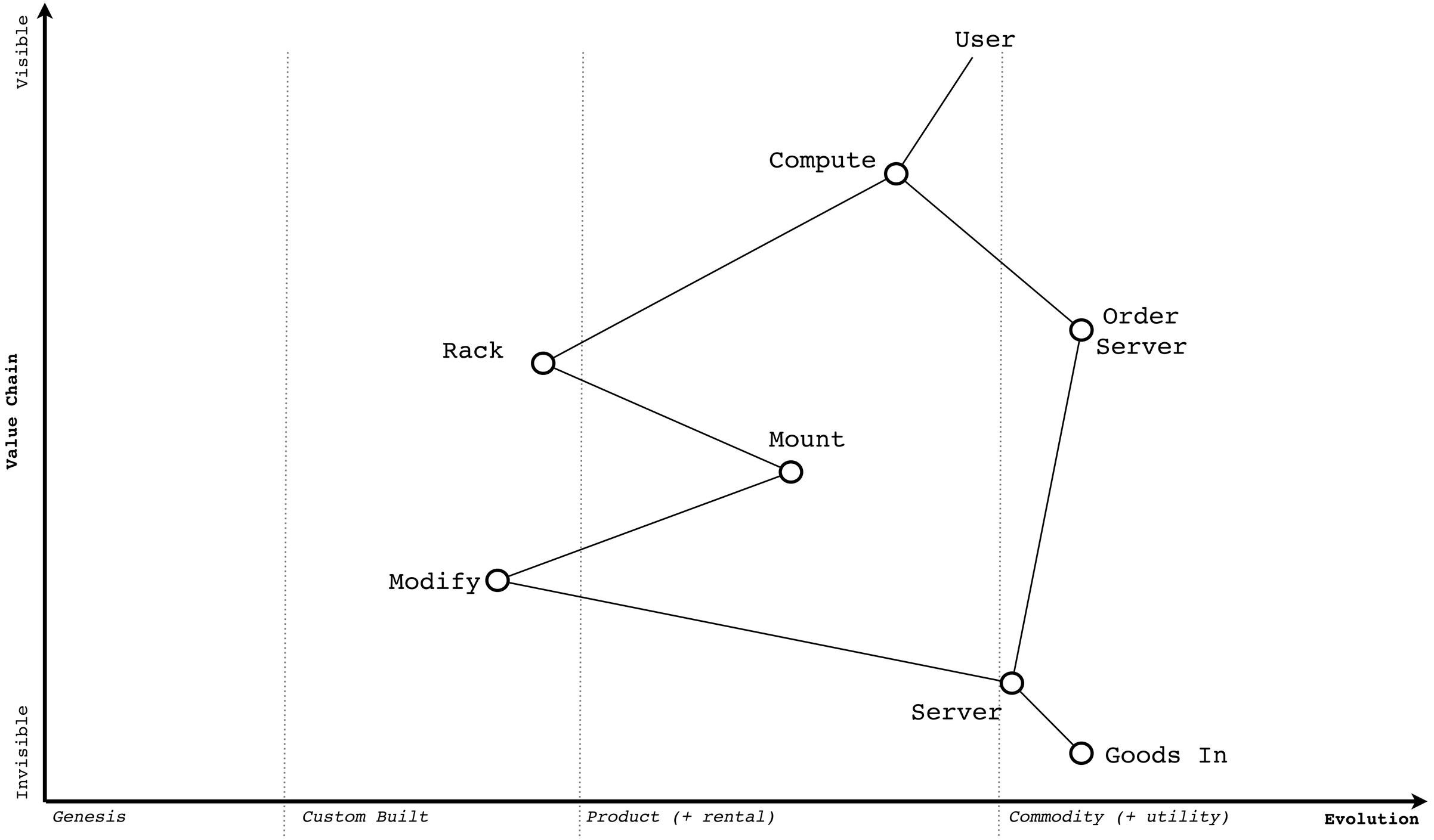

Bottleneck
+Robotics
(automate)
Rack
Compute Needed
Order Server
Goods In
Modify
Mount
New Capacity
Process flow

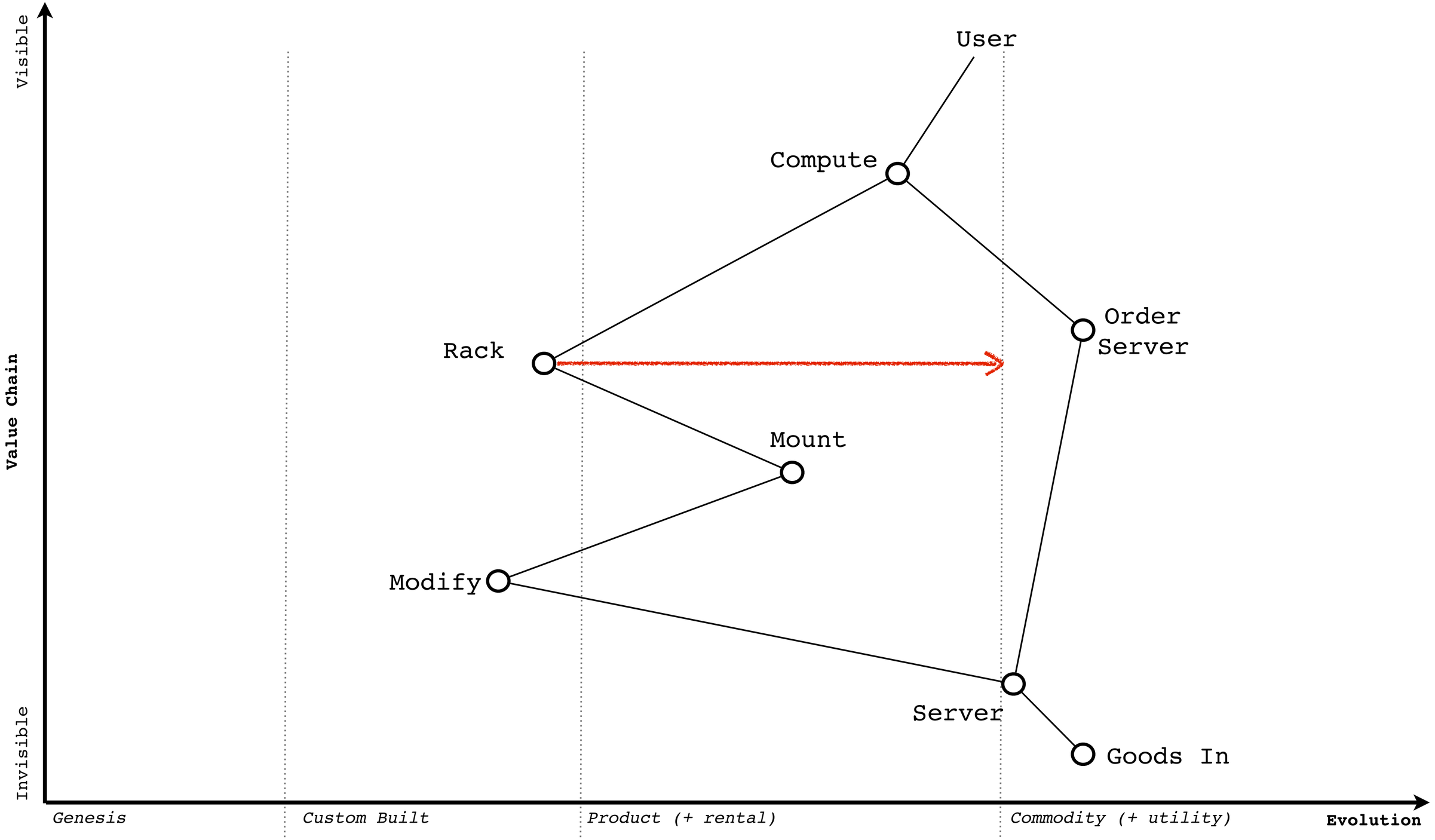
	Current	Robotic
Cost per install failure	US$2,500.00	US$2,500.00
% likelihood of failure	8.0%	0.5%
Avg cost of fail per install	US$200	US$13
Time to install (mins)	120	30
Labour cost per install	US$129	US$11
Annual number of install	8,000	8,000
Total annual cost of Install	US$1,028,571	US$85,714
Total annual cost of failures	US$1,600,000	US$100,000
Total annual cost	**US$2,628,571**	**US$185,714**
Investment / Capex	US$0	US$2,000,000
ROI		< 1 year

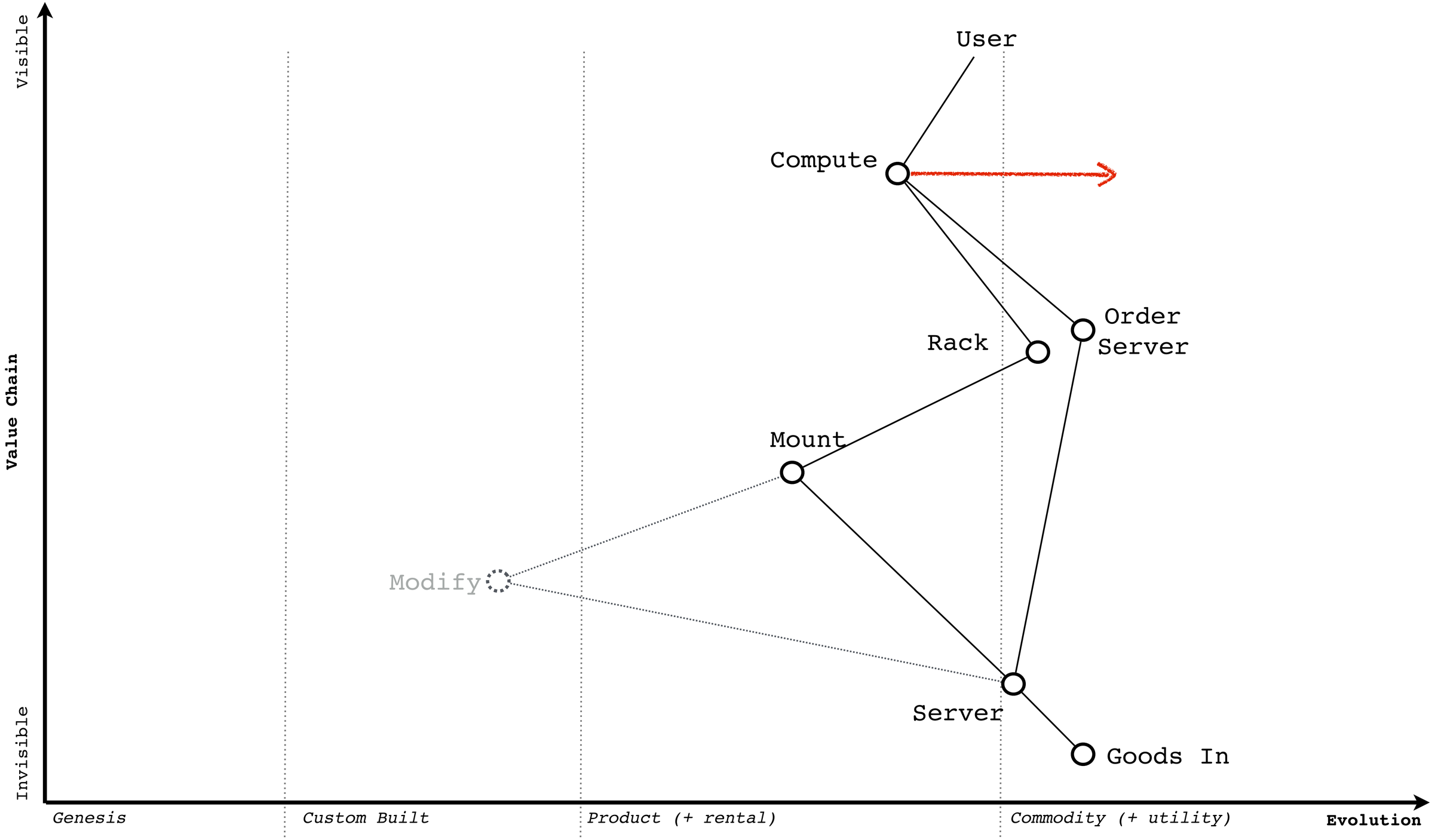


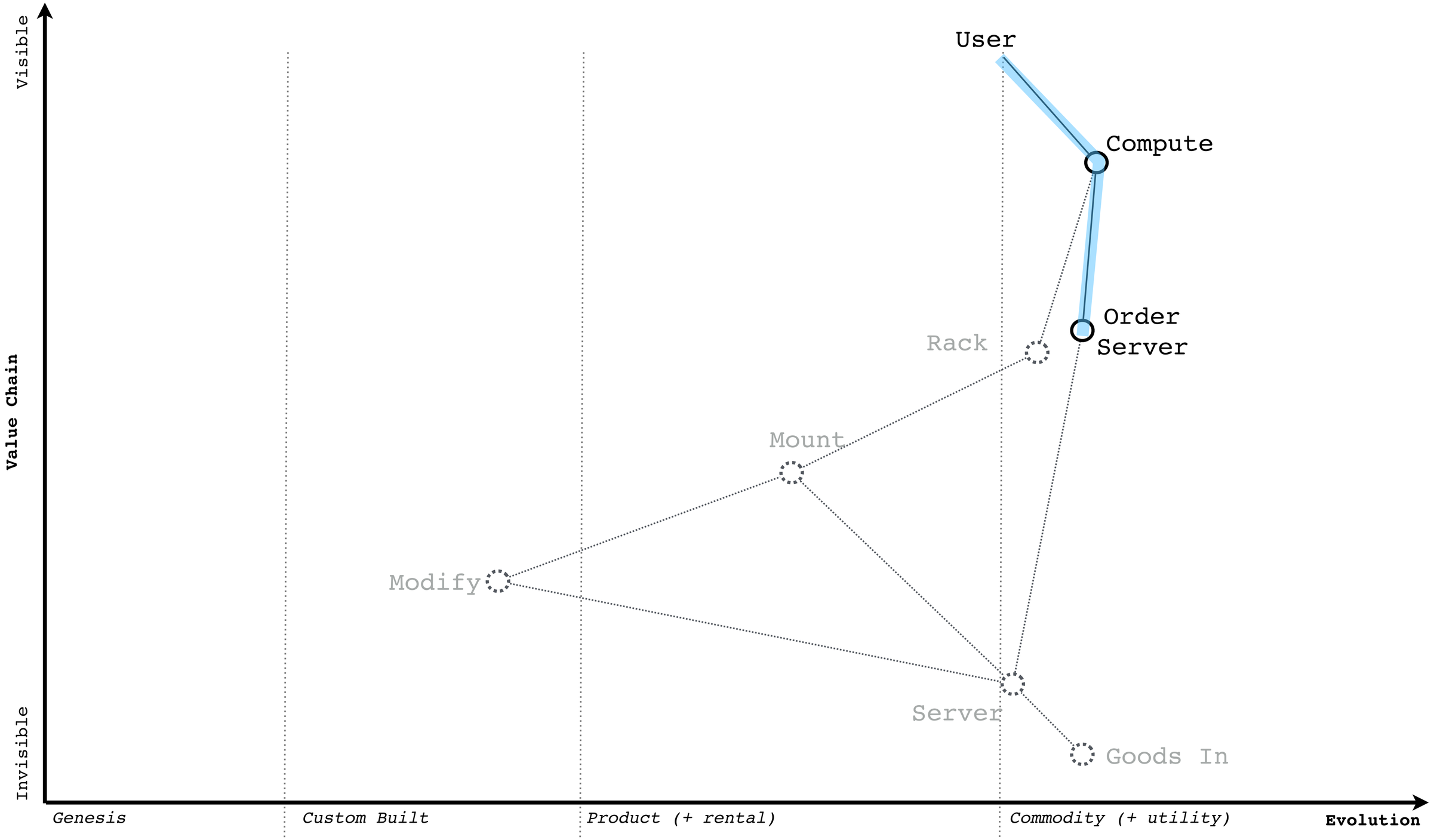

Visible
Value Chain
Invisible
User
Compute
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

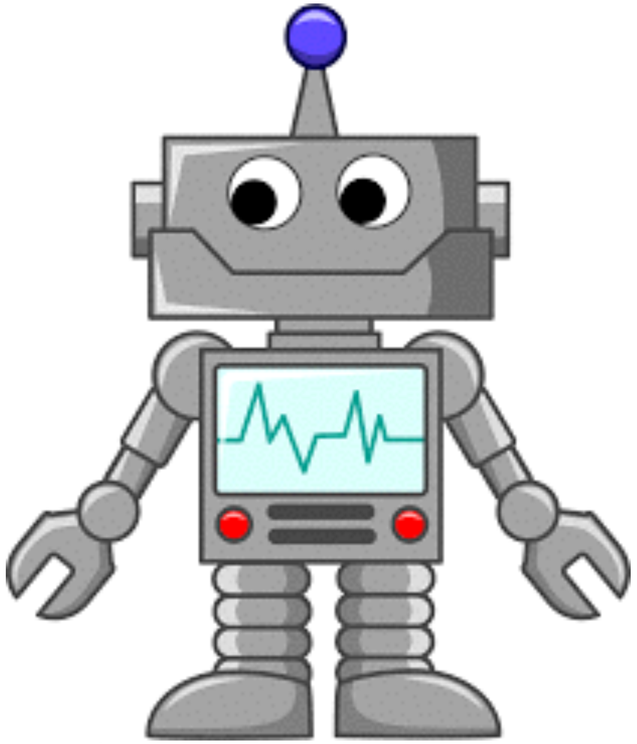

Visible
Value Chain
Invisible
User
Compute
Order
Server
Server
Goods In
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Visible
Value Chain
Invisible
User
Compute
Rack
Order
Server
Mount
Modify
Server
Goods In
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


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Product (+ rental)
Commodity (+ utility)
Evolution



User

Compute

Order Server

Cost of racks

Cost of mounting

Cost of modification

Capital cost of equipment

Cost of physical storage & handling

Visible

Value Chain

Invisible

Genesis

Custom Built

Product (+ rental)

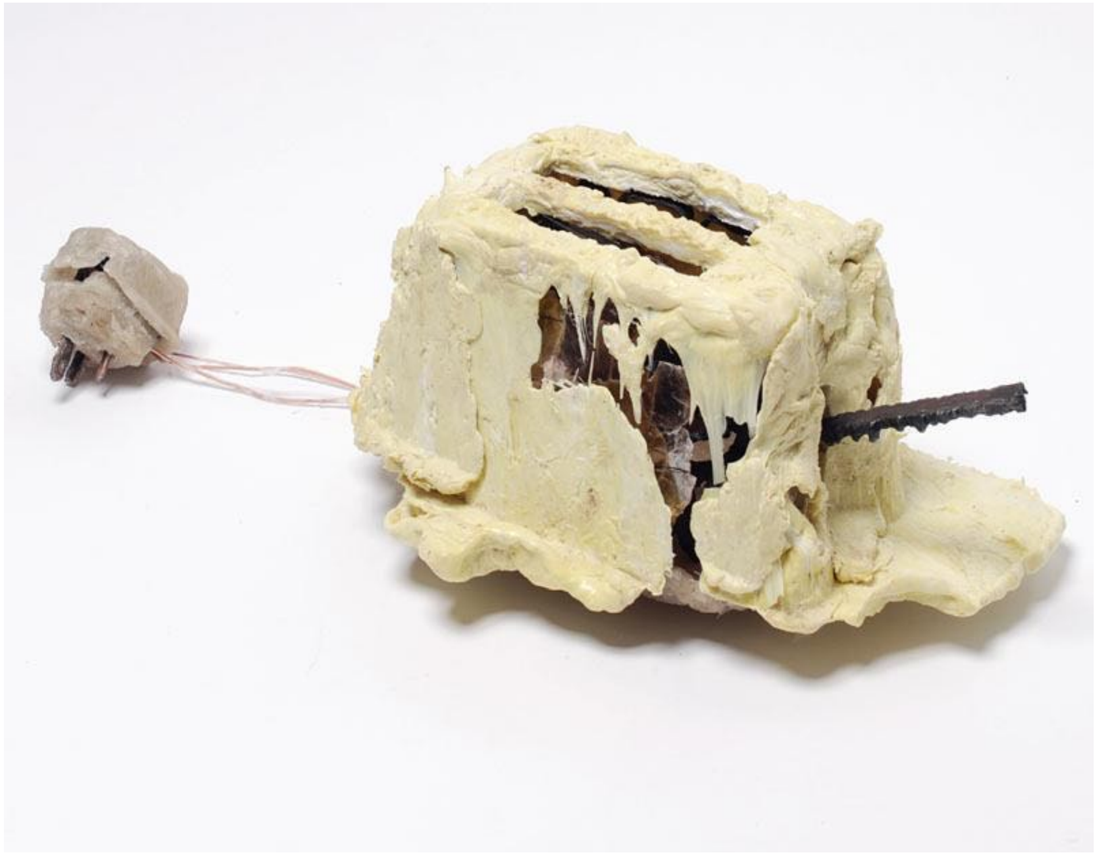
Commodity (+ utility)

Evolution

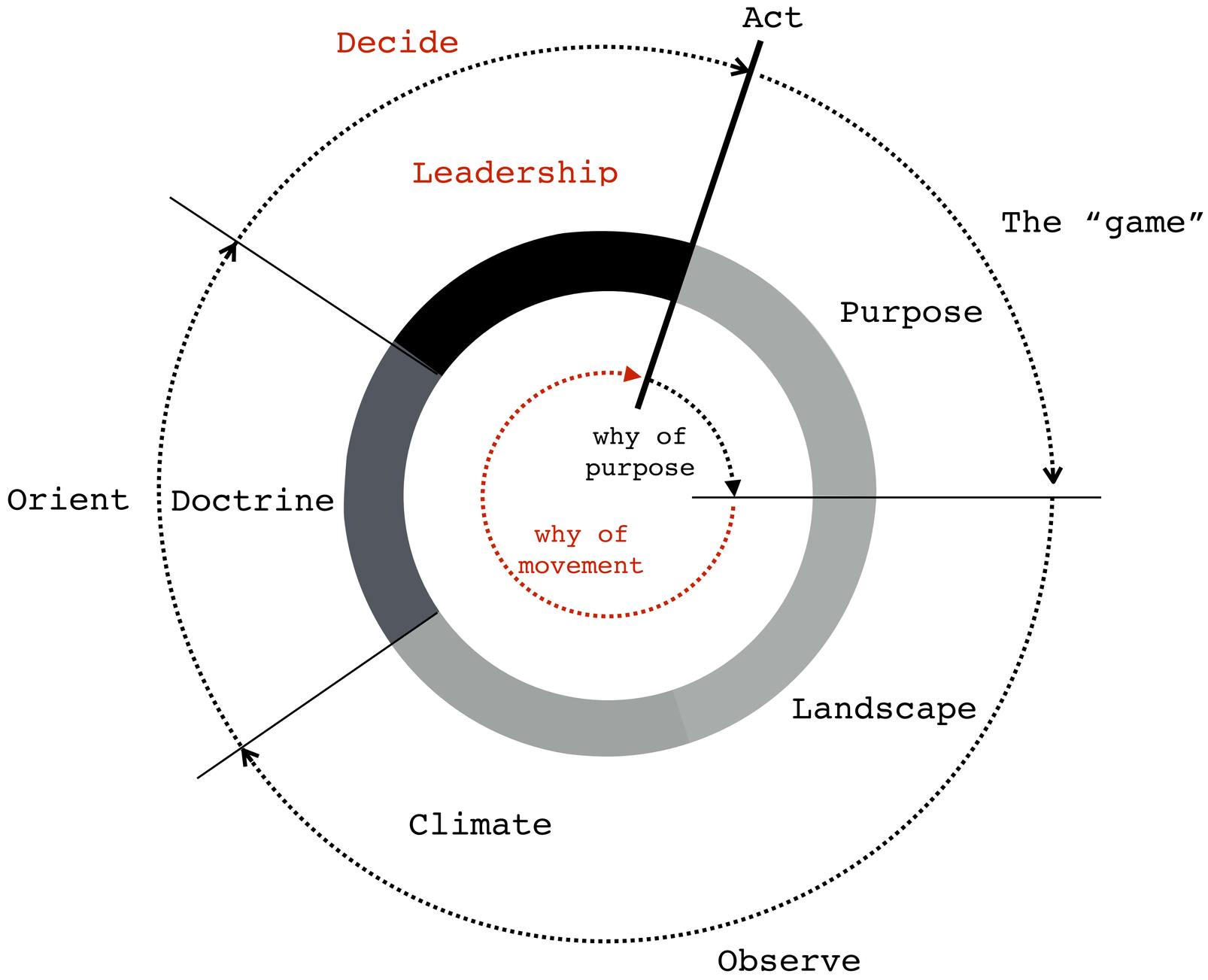
If the user needs some compute …



Use a compute utility like EC2 or GCP or Azure?

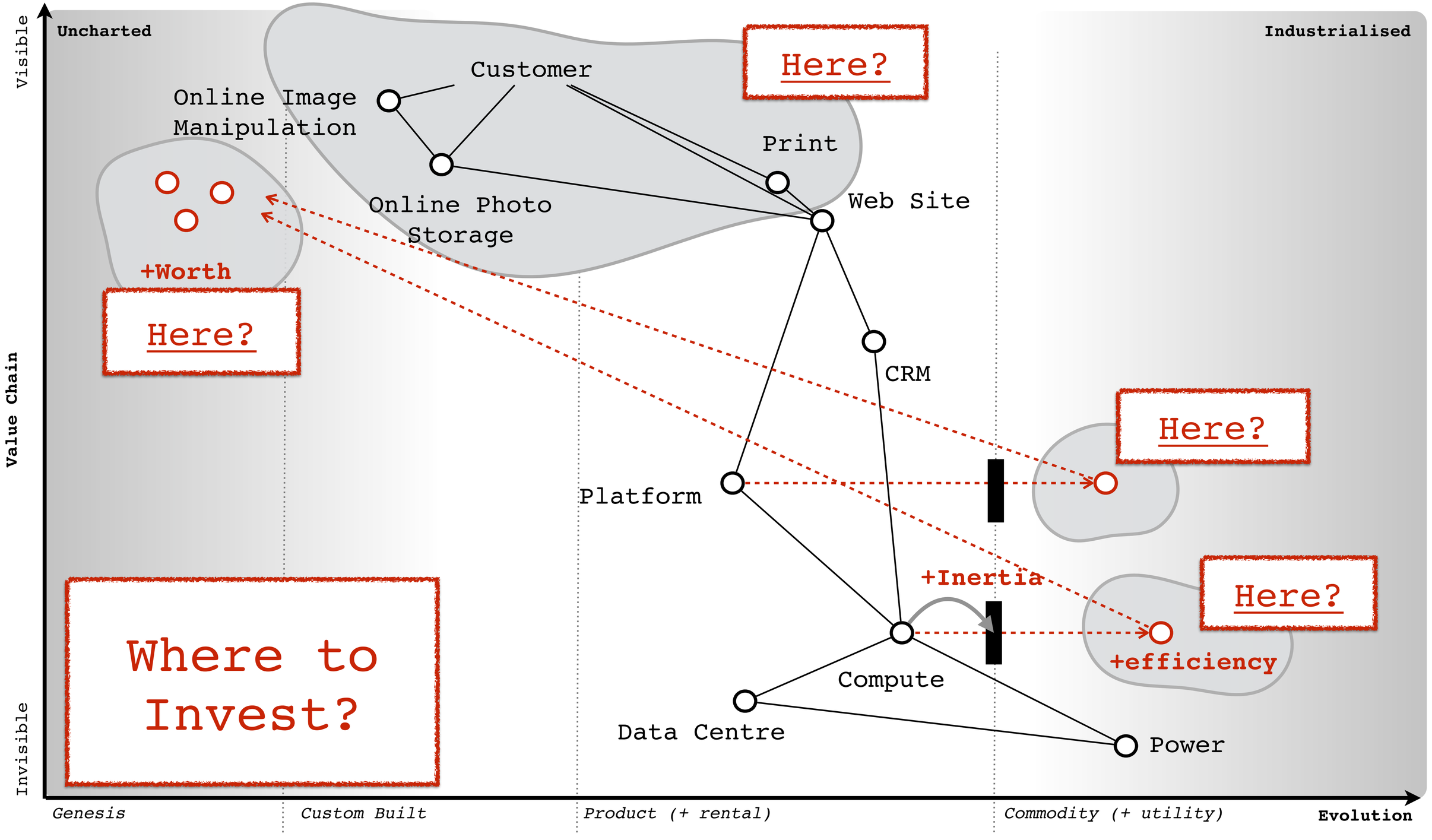


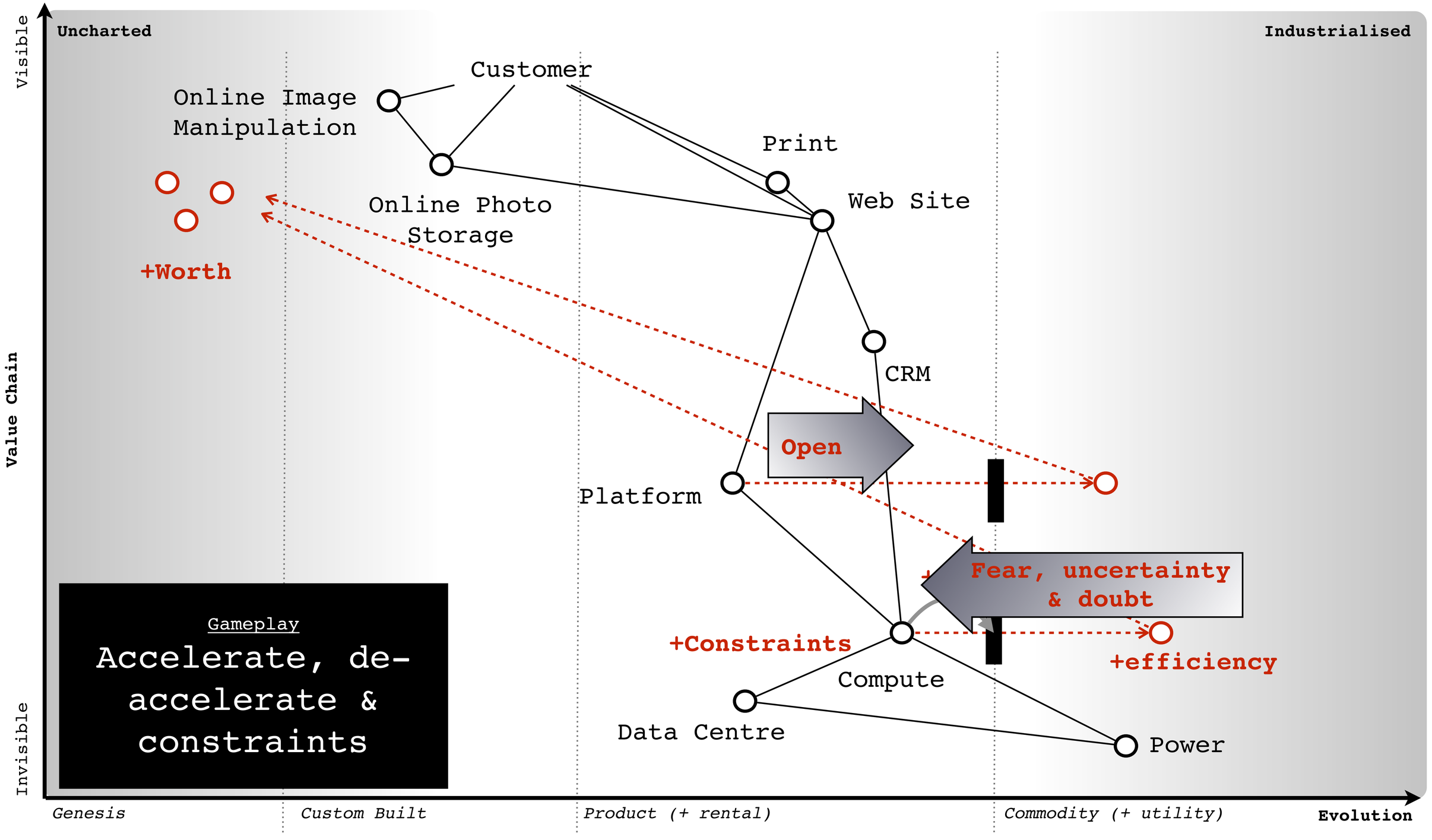
Spend years and millions of $$ lovingly building from raw materials?

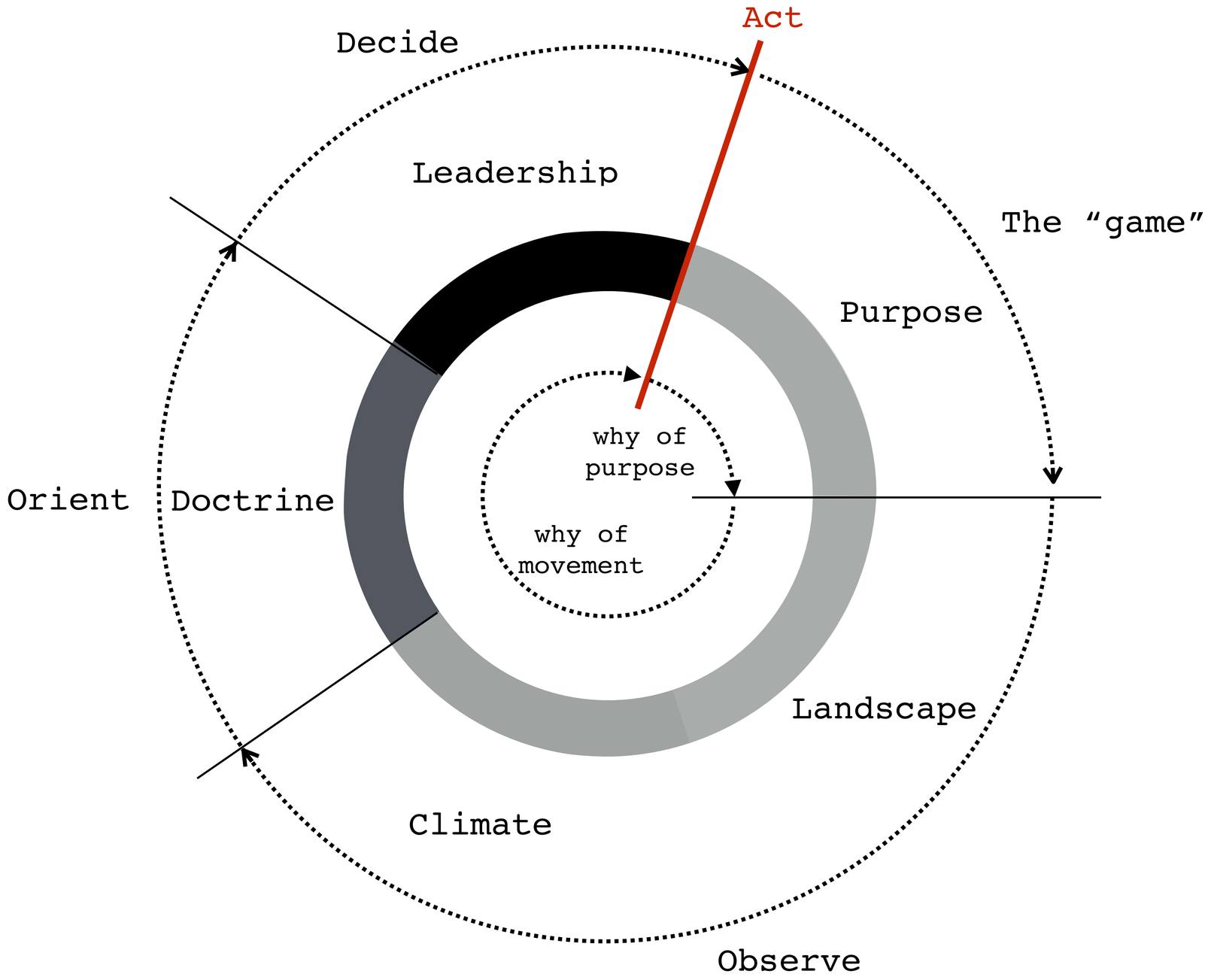

Act
Decide
Leadership
The “game”
Purpose
why of
purpose
why of
movement
Orient
Doctrine
Landscape
Climate
Observe

Strategy

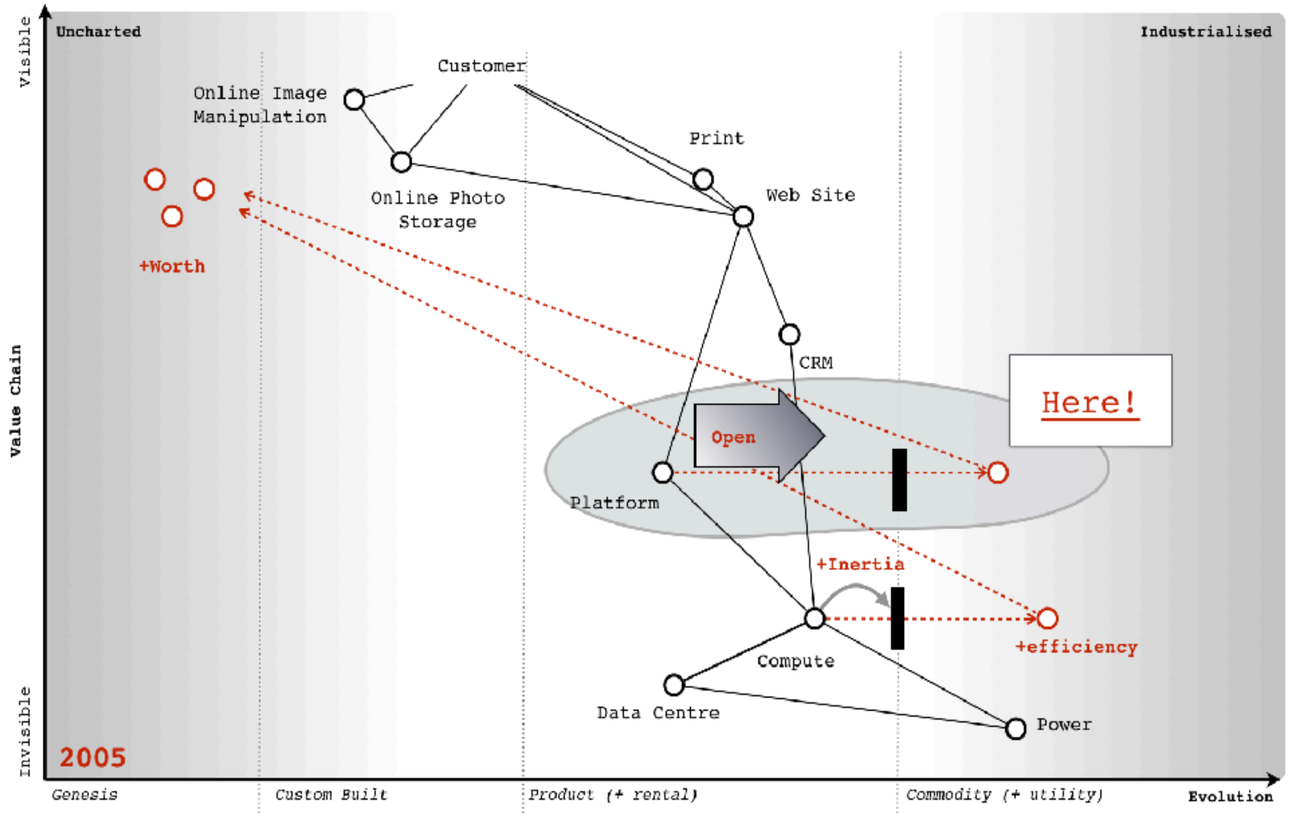
Context specific forms of gameplay


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Invisible
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Where to Invest?
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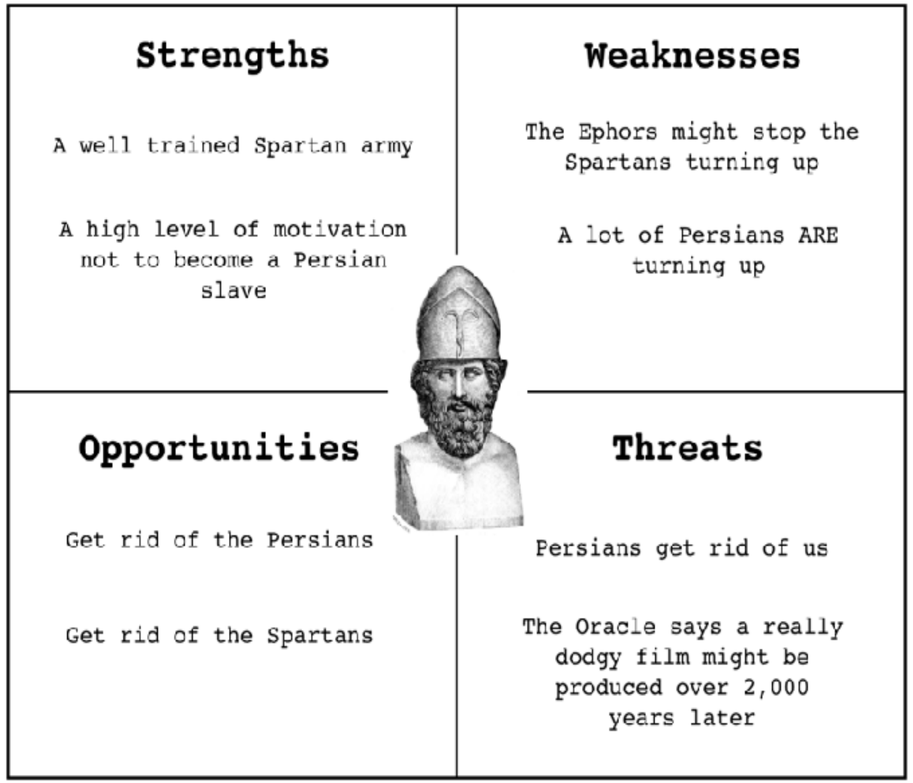

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Online Image Manipulation
Online Photo Storage
Print
Web Site
CRM
+Worth
Open
Platform
Fear, uncertainty & doubt
+Constraints
+efficiency
Compute
Data Centre
Power
Gameplay
Accelerate, de-accelerate & constraints
Genesis
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Evolution


Act
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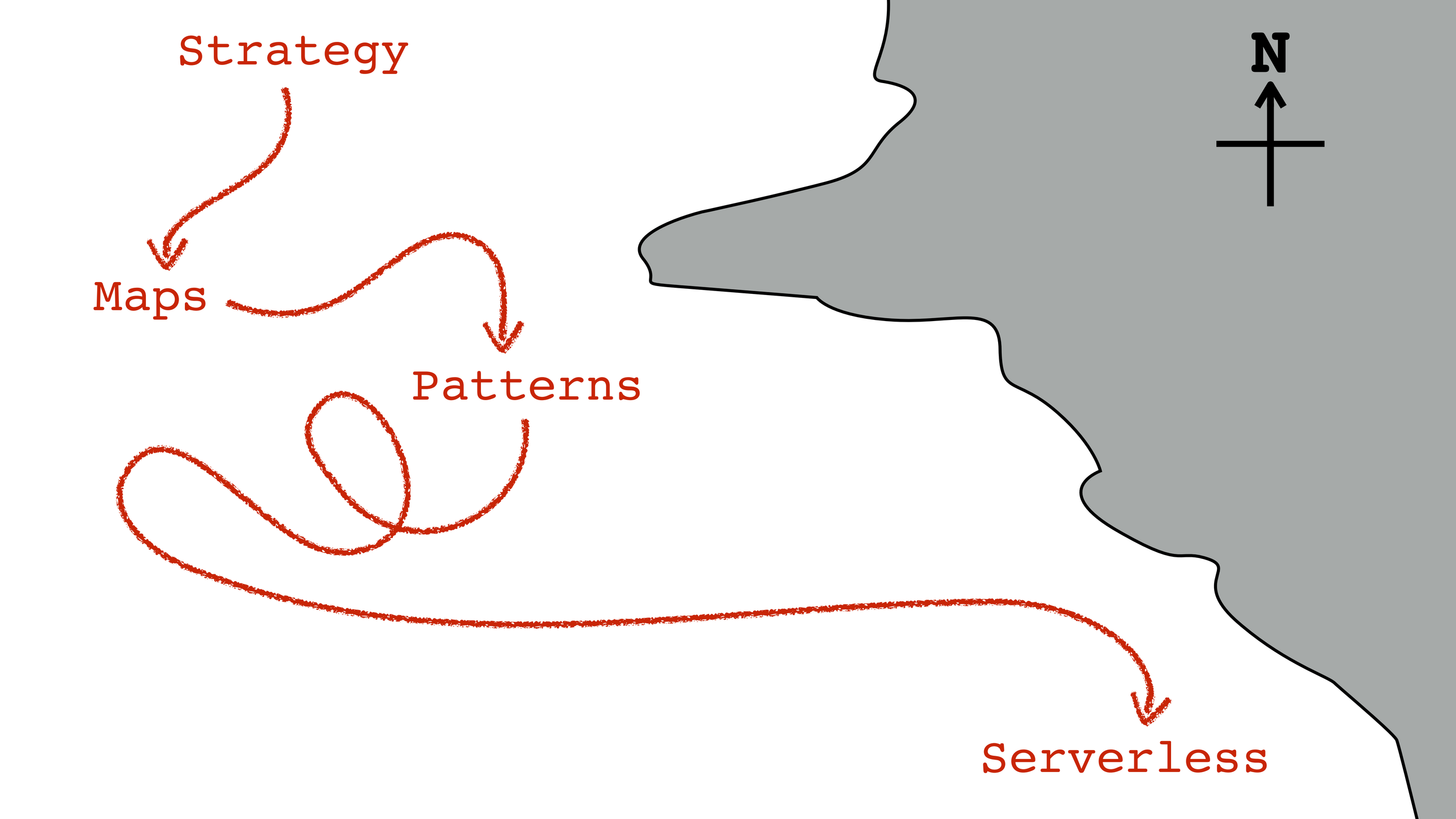
How many times have you ever learned from a past …

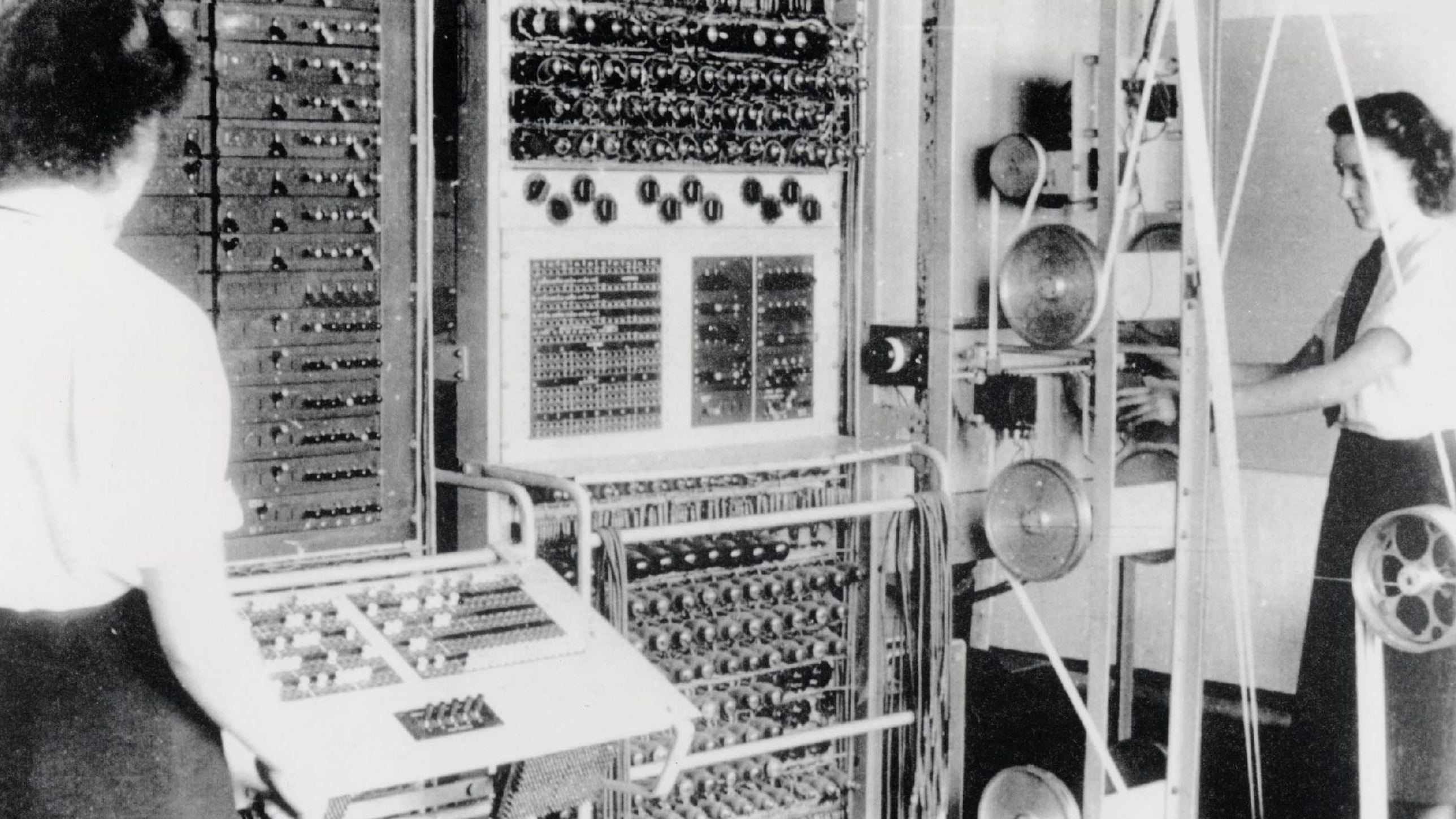


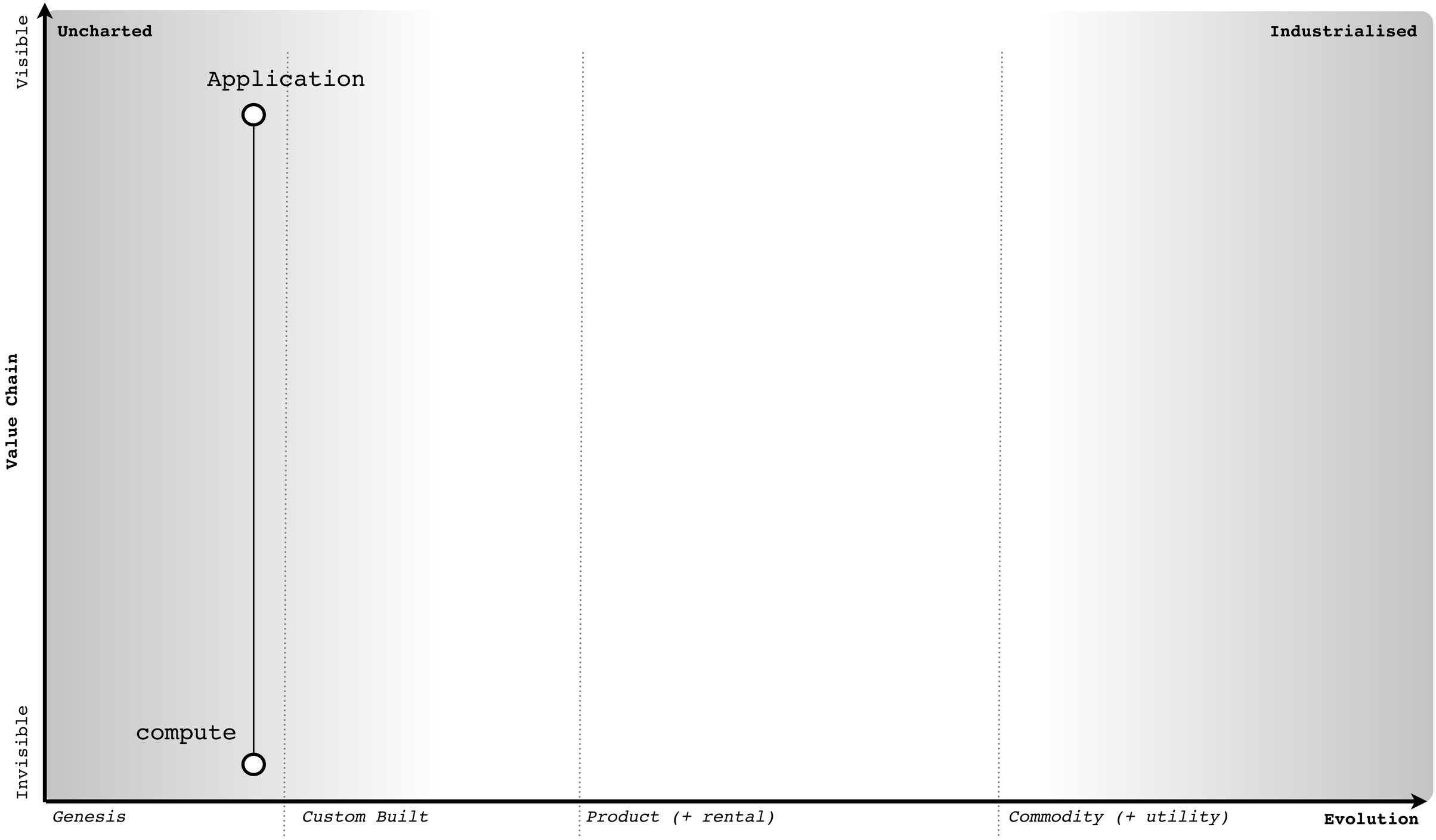
MAP

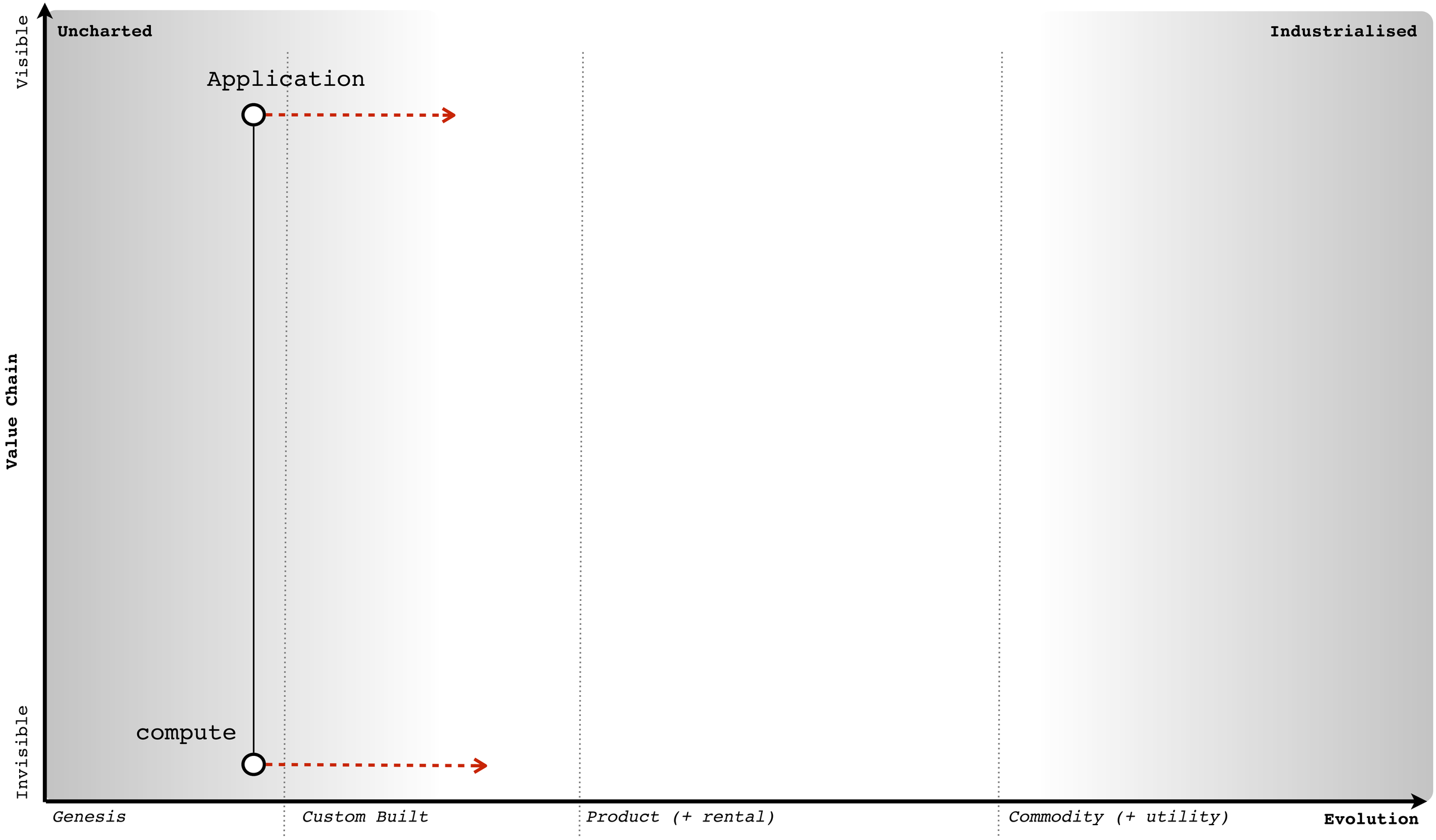


BUSINESS CASE

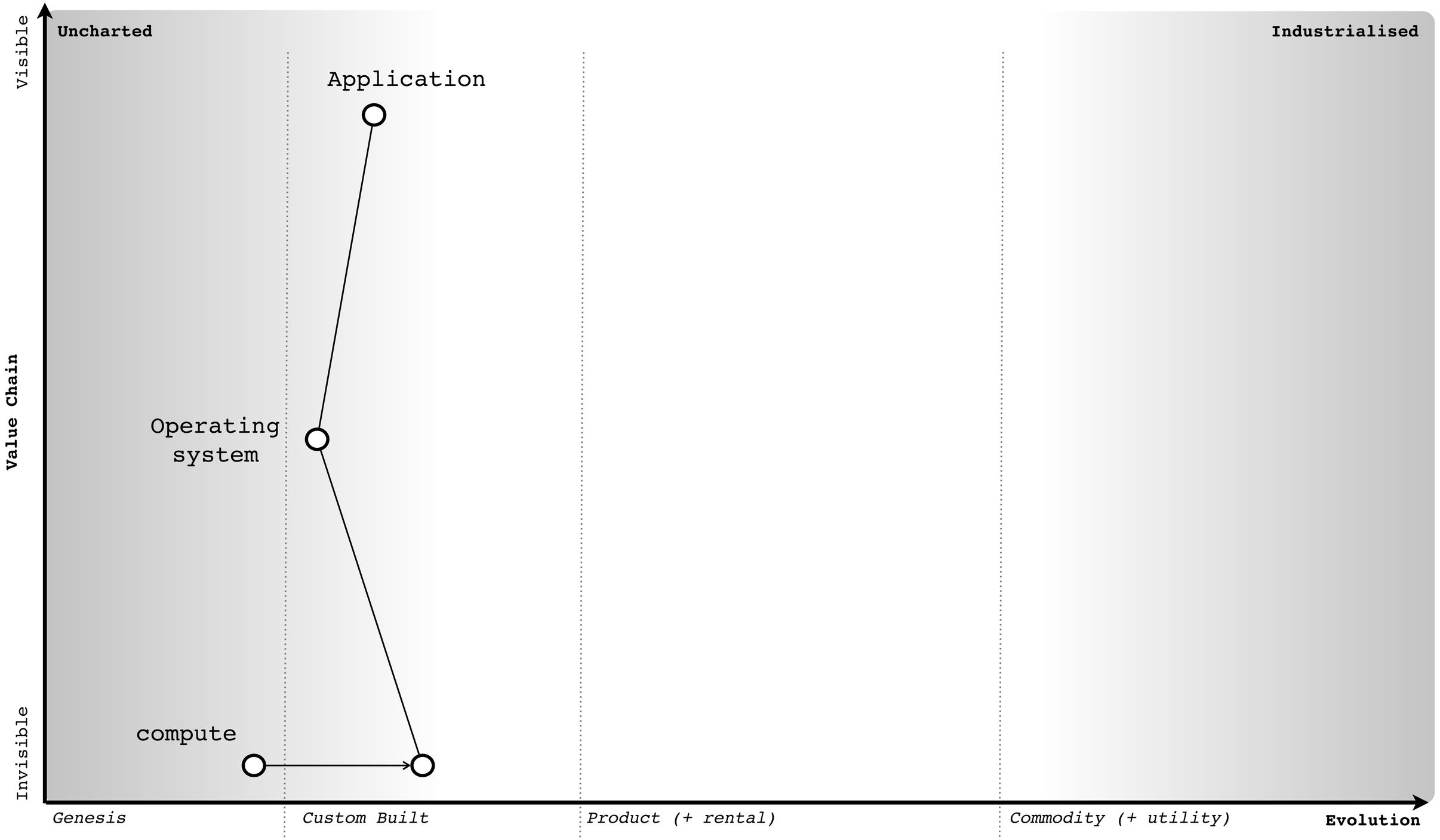

Strategy
Maps
Patterns
Serverless
N

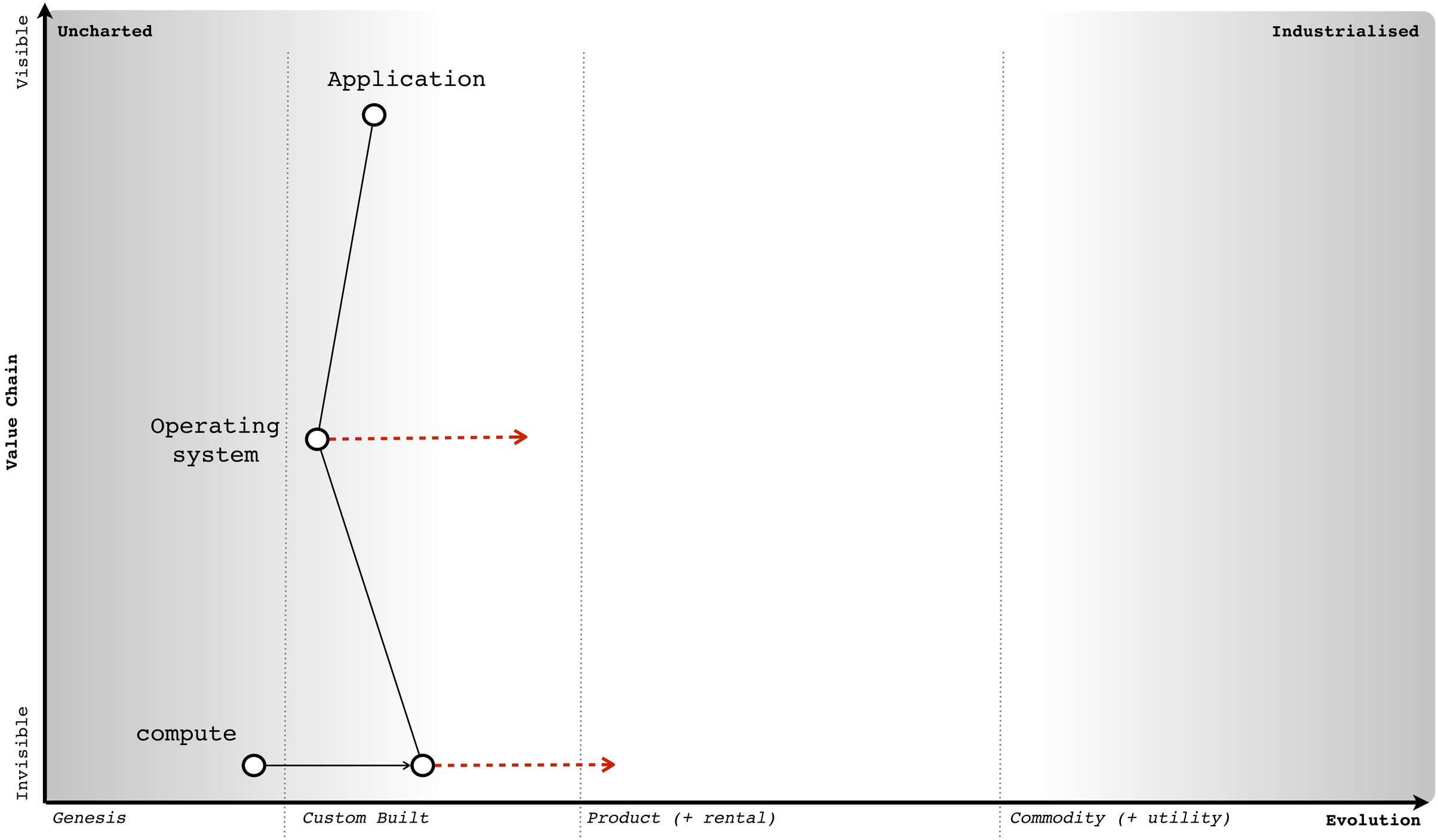



Uncharted
Industrialised
Visible
Application
Value Chain
compute
Invisible
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

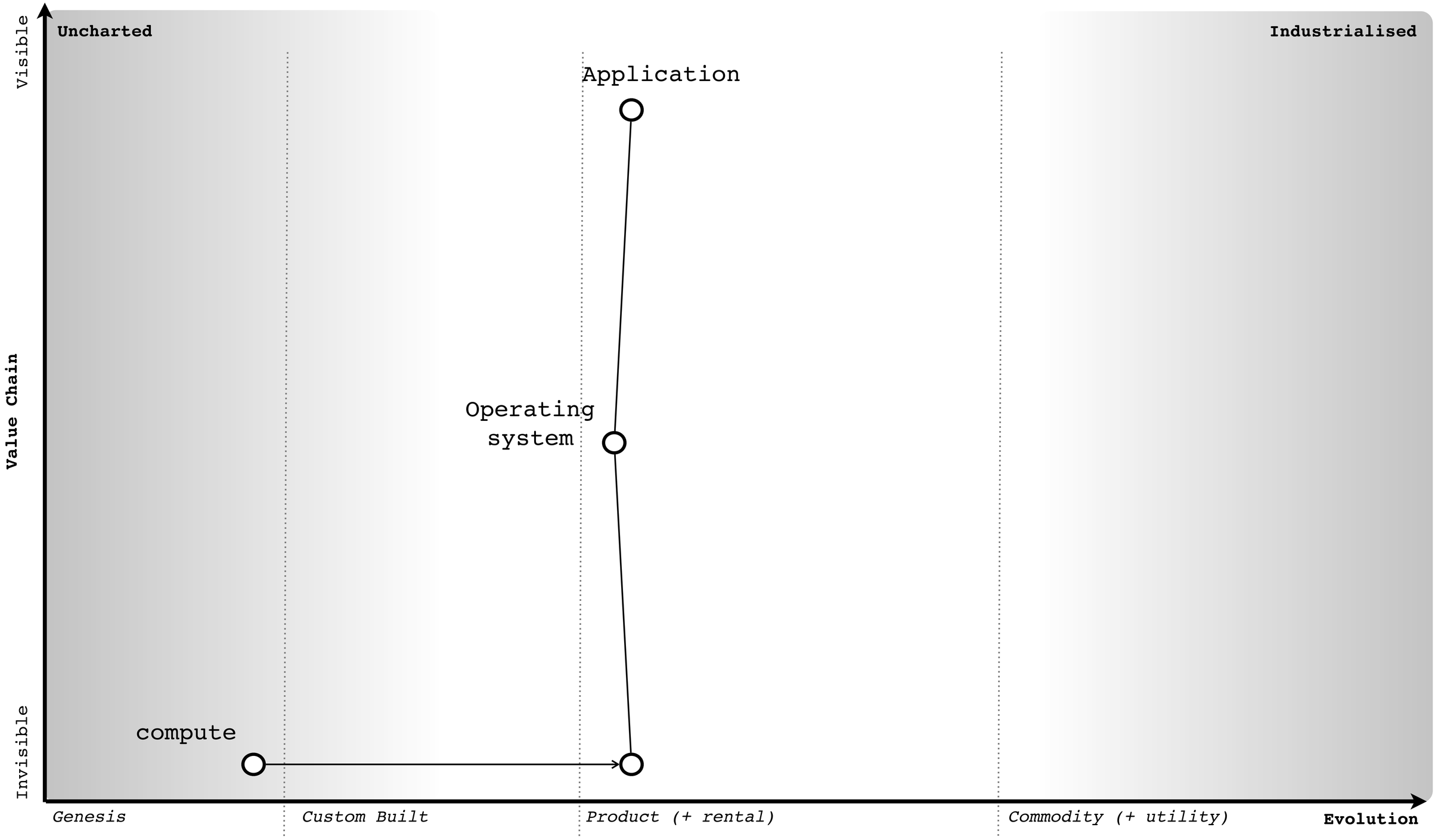

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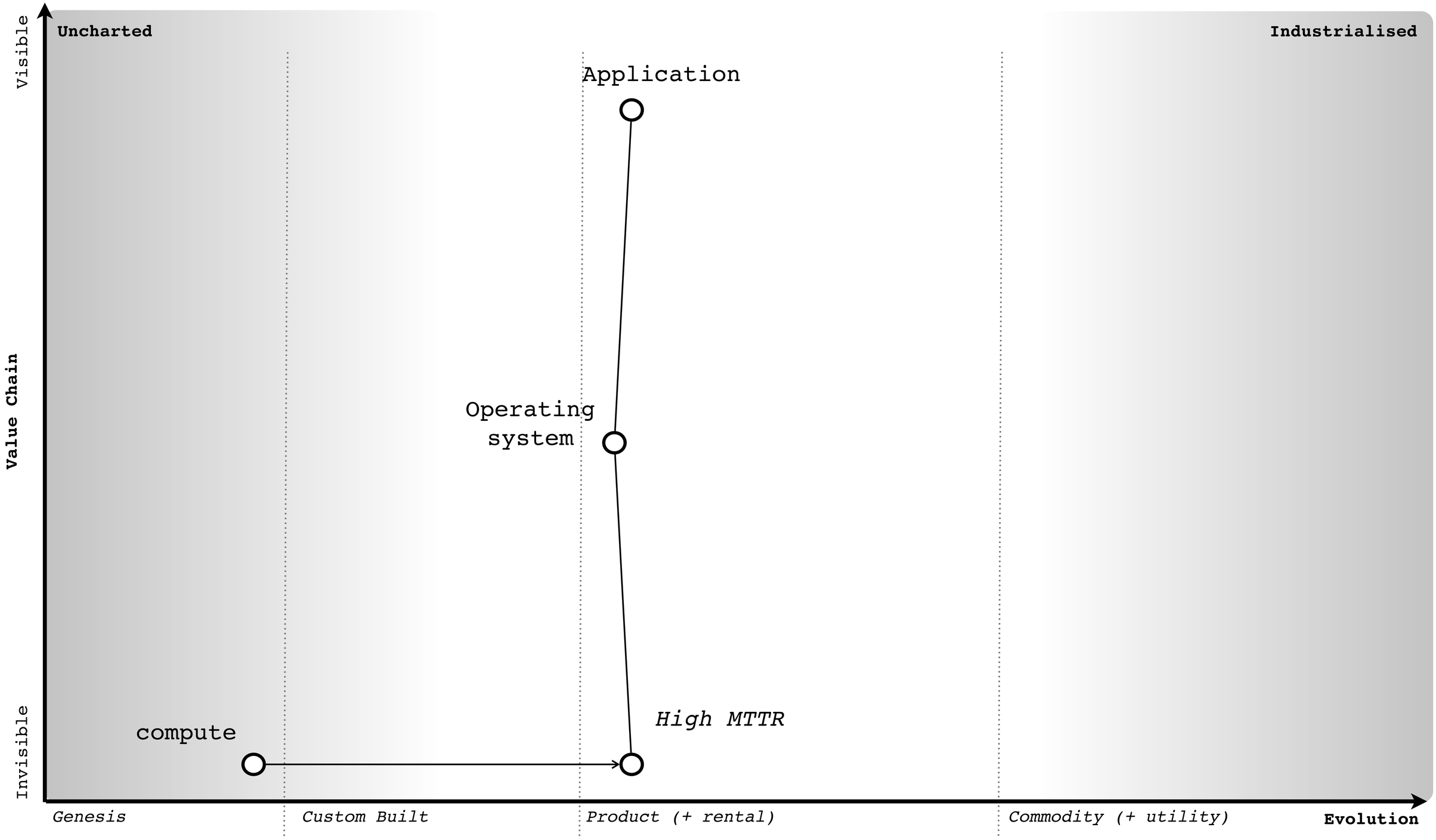

LEO

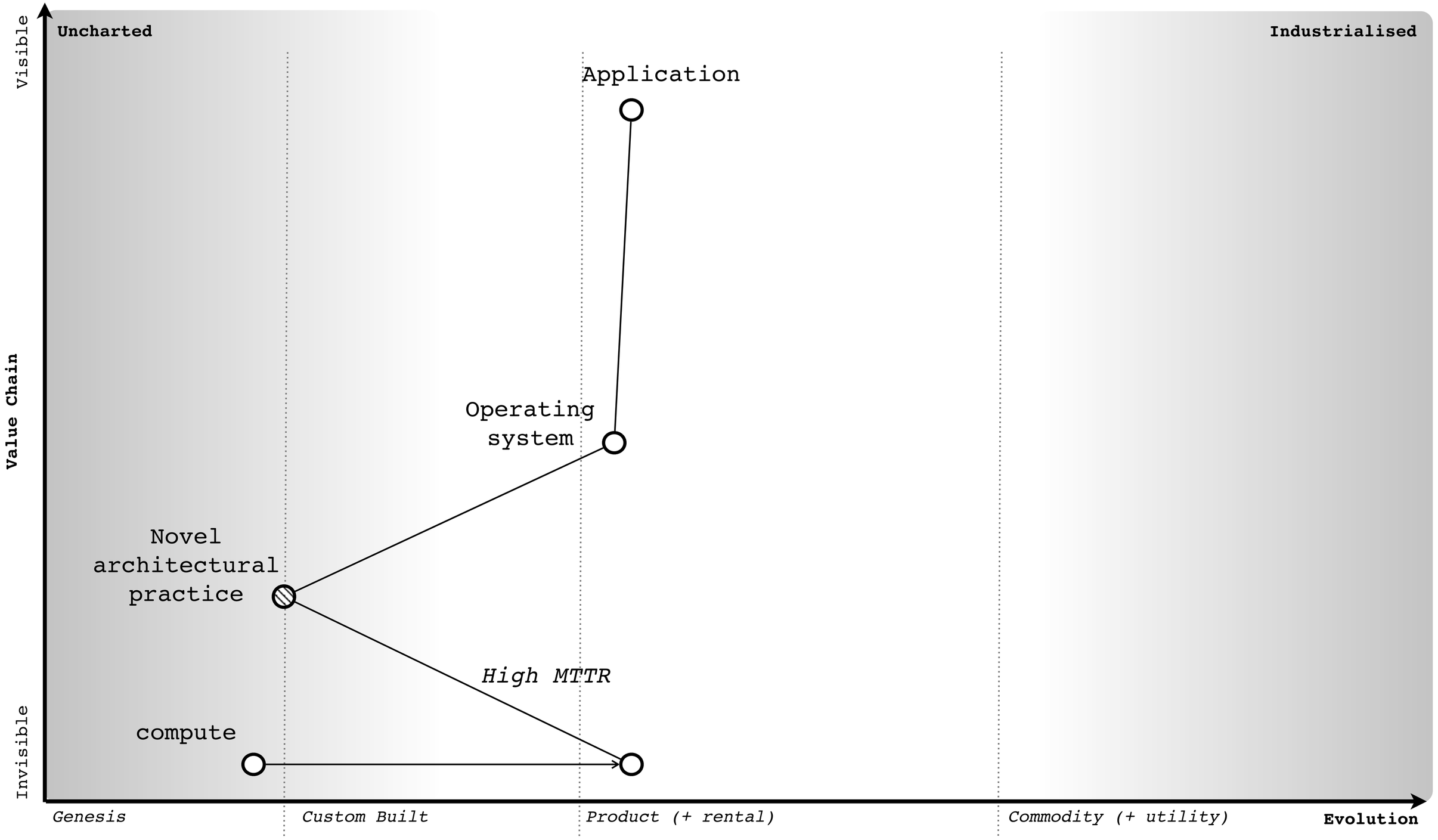

Uncharted
Industrialised
Visible
Value Chain
Invisible
Application
Operating system
compute
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

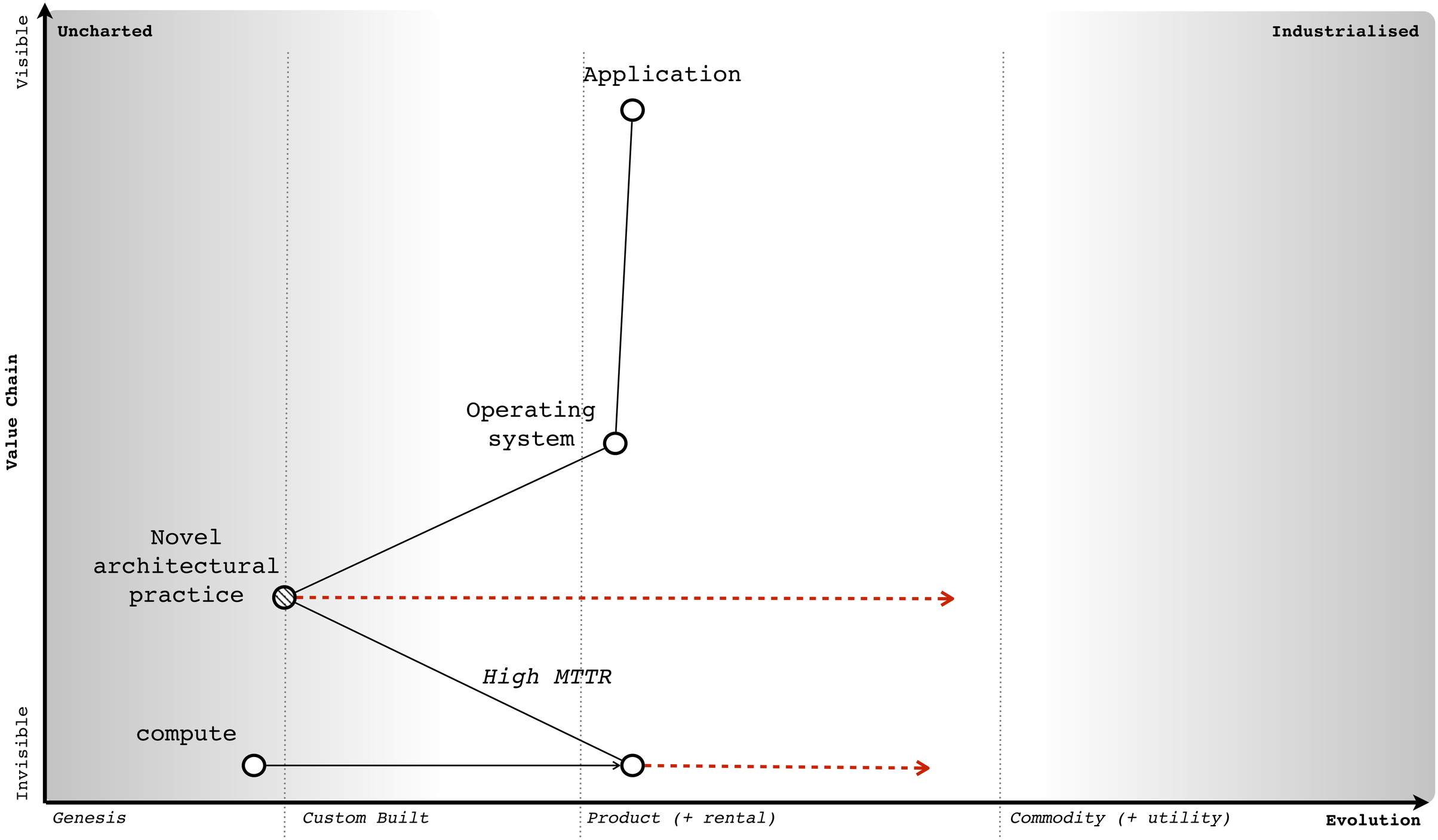

Visible
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Operating system
compute
Invisible
Value Chain
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

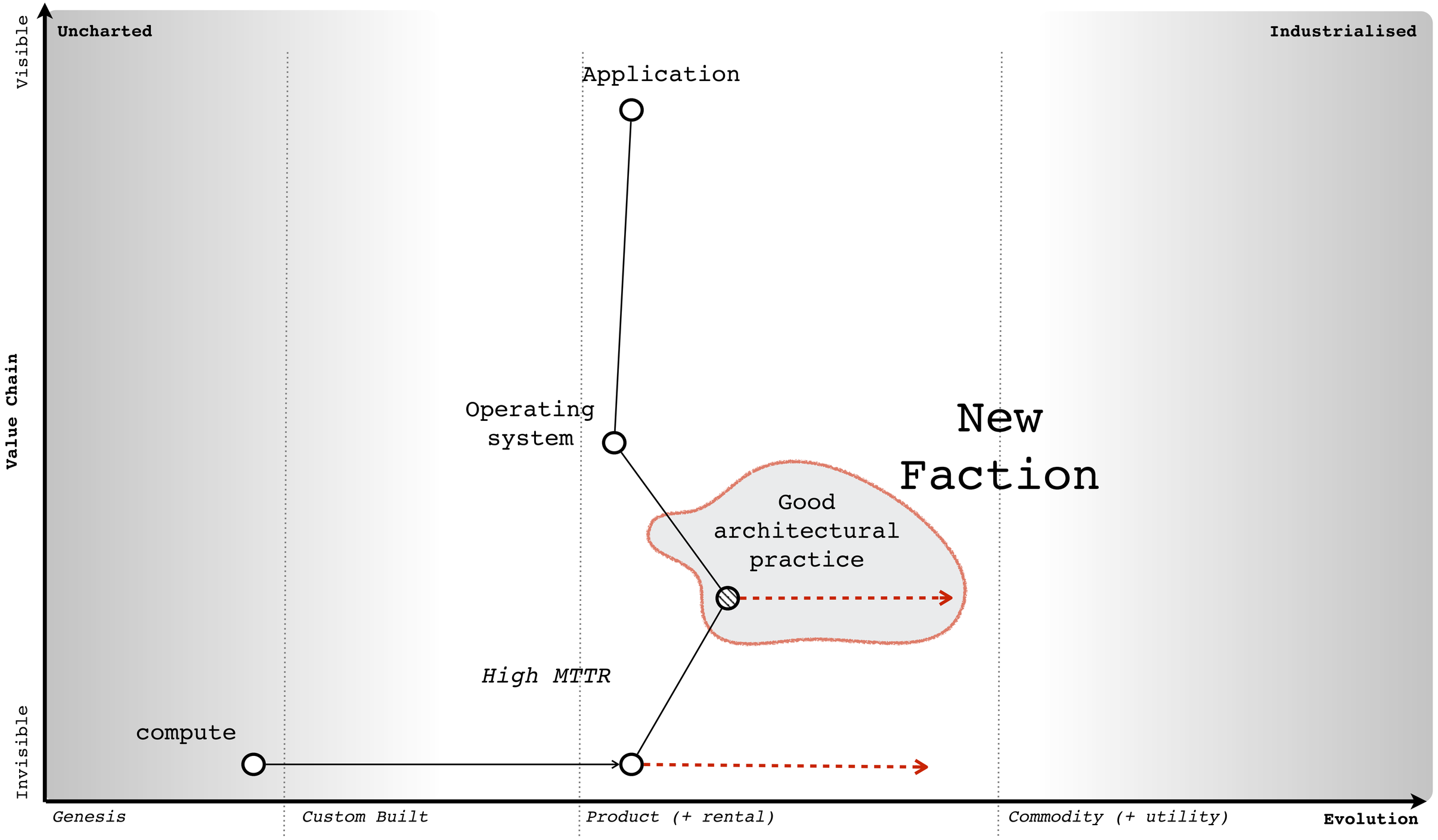



Uncharted
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Visible
Value Chain
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Application
Operating system
compute
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Visible
Uncharted
Industrialised
Application
Operating system
compute
High MTTR
Invisible
Value Chain
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

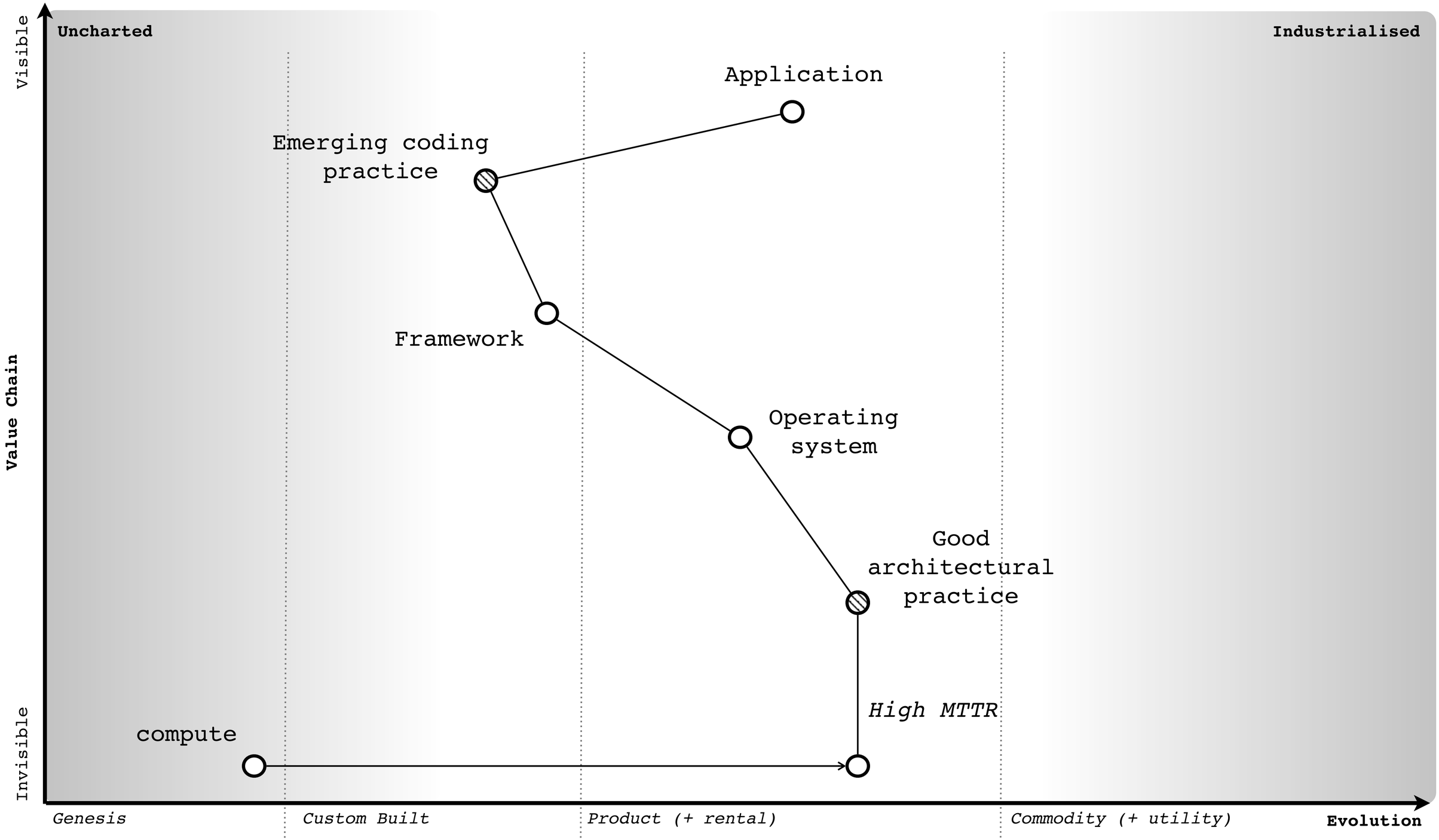

Uncharted
Industrialised
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Invisible
Value Chain
Application
Operating system
Novel architectural practice
High MTTR
compute
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

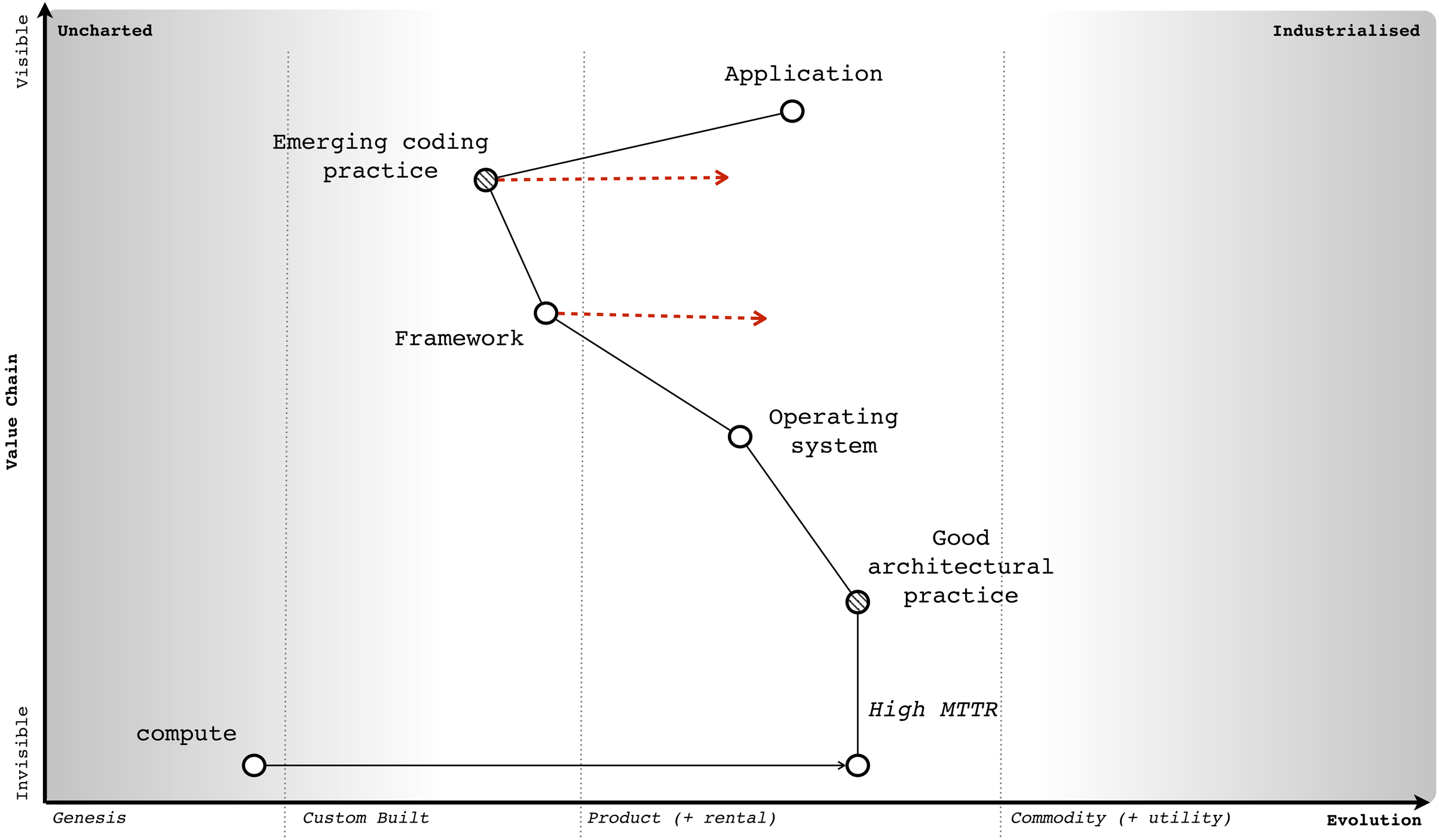

Uncharted
Industrialised
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Value Chain
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Application
Operating system
Novel architectural practice
High MTTR
compute
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

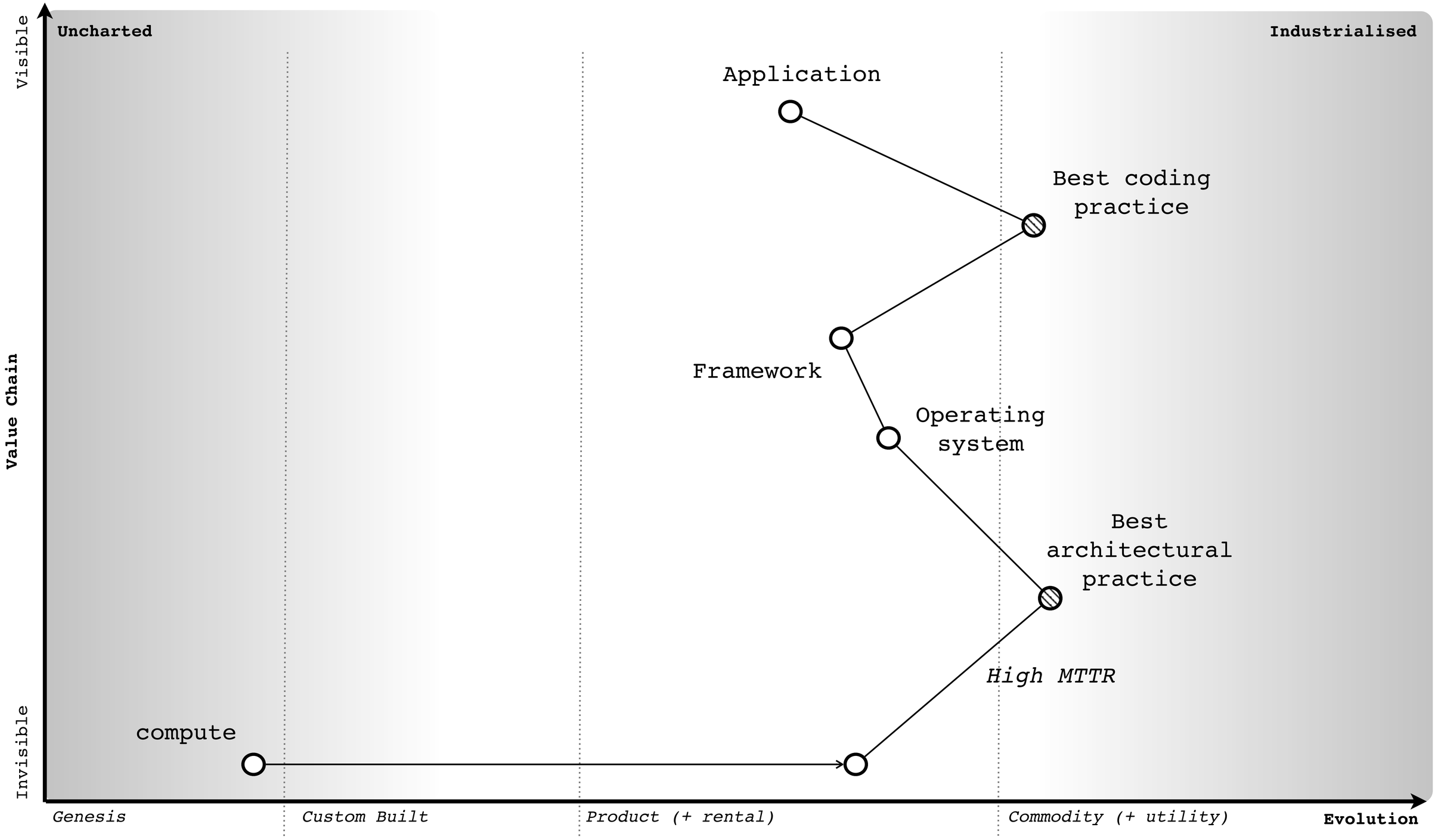

Visible
Uncharted
Industrialised
Application
Operating system
New Faction
Good architectural practice
High MTTR
compute
Invisible
Value Chain
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


LOLs, no capacity planning!

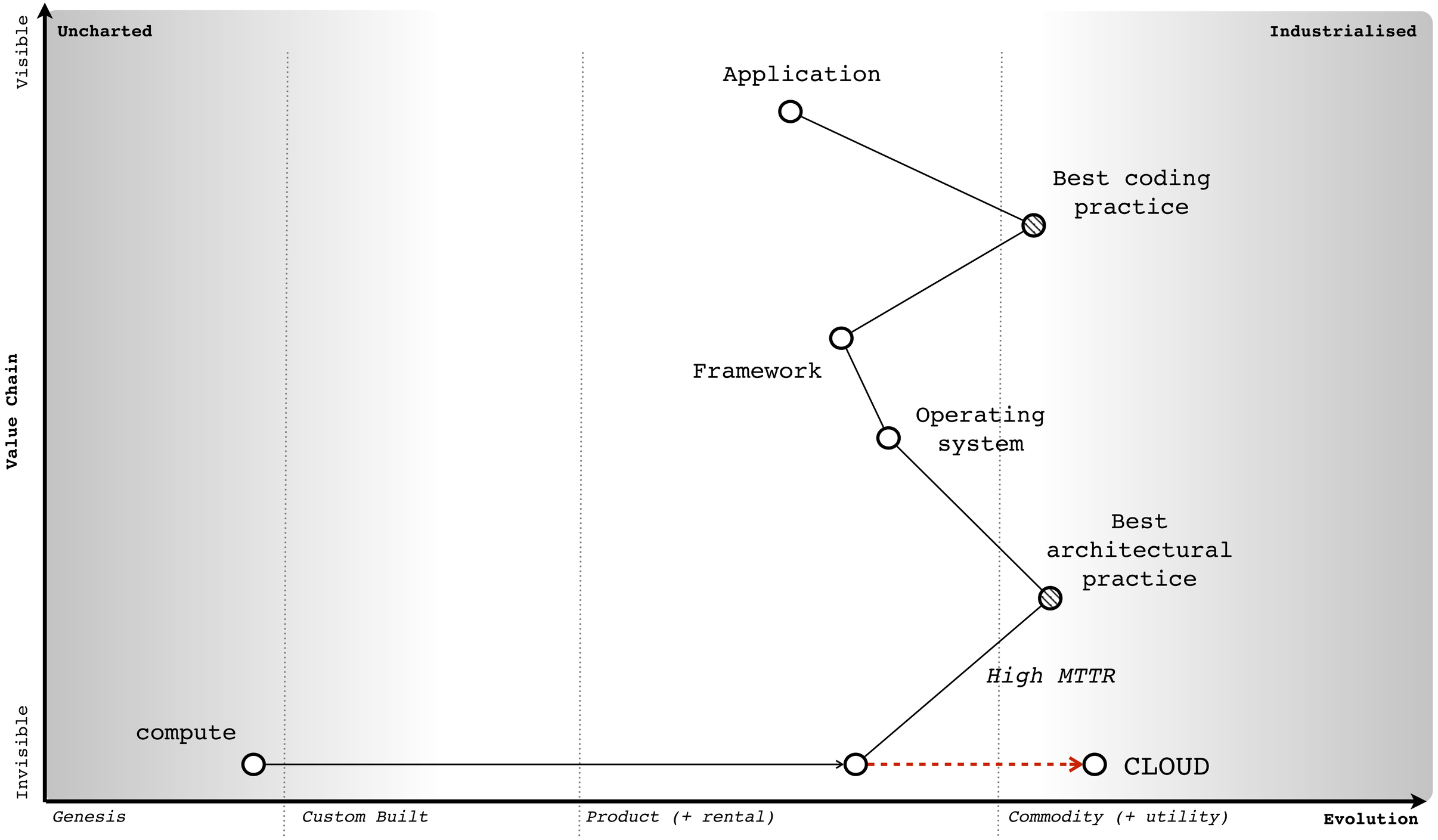

Java™

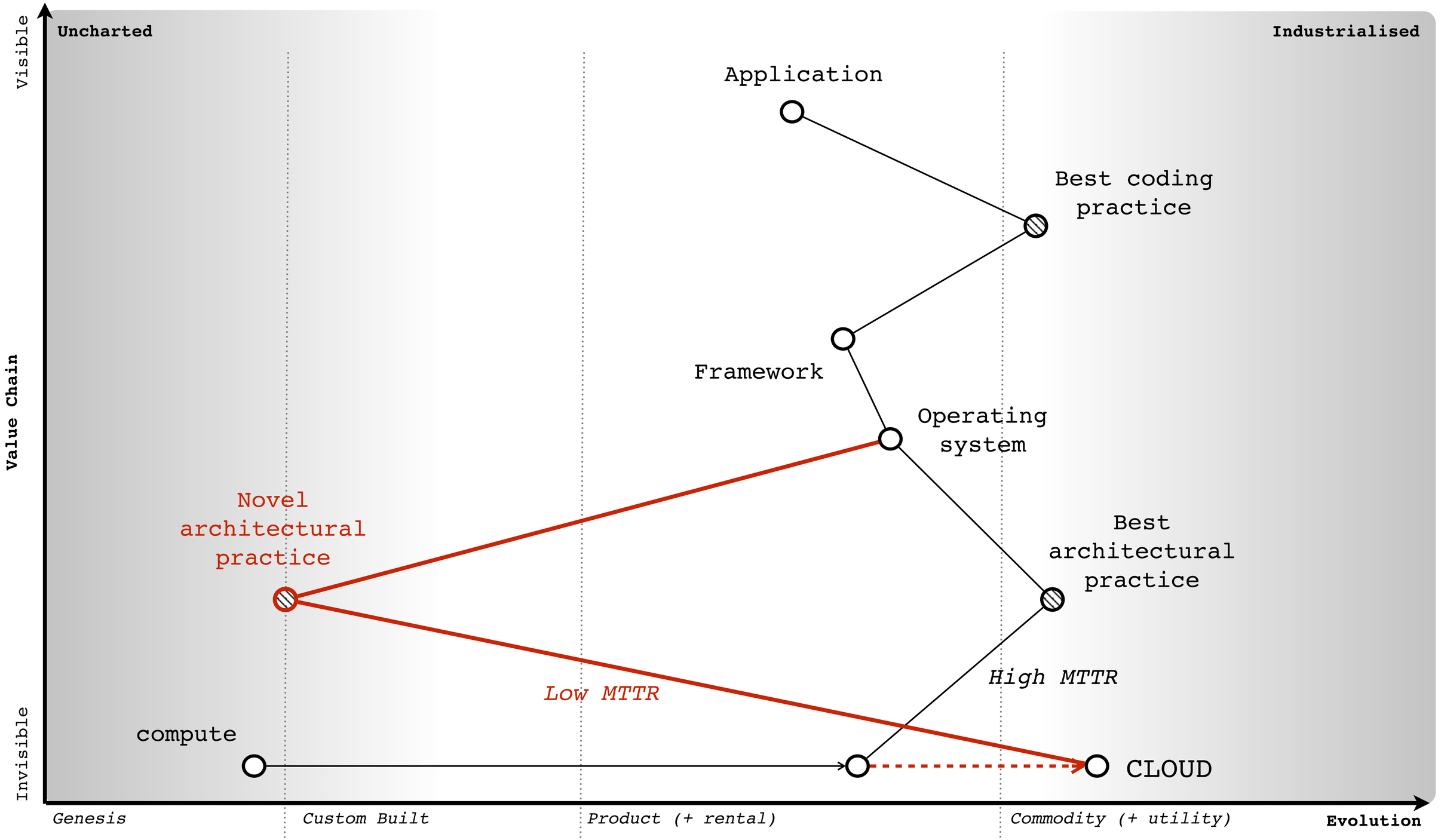

Uncharted
Industrialised
Visible
Invisible
Value Chain
Application
Emerging coding practice
Framework
Operating system
Good architectural practice
High MTTR
compute
Genesis
Custom Built
Product (+ rental)
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Evolution


Uncharted
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Visible
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Best coding practice
Framework
Operating system
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Best coding practice
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Best architectural practice
Low MTTR
High MTTR
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CLOUD
Genesis
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Product (+ rental)
Commodity (+ utility)
Evolution

Harvard Business Review

LEADERSHIP

CLOUD

How F[illegible]s Can Signify Leade[illegible]ship Potential

by Carl Senior, Robin Martin, Michael West, and Rowena M. Yeats

FROM THE NOVEMBER 2011 ISSUE

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Evolutionary biologists have learned that people with greater "genetic fitness," as manifested by a high degree of left-right body symmetry, are not just considered better looking but also tend to be healthier, more intelligent, and more dominant than others. They're the classic alphas who rise to the top of rigidly hierarchical organizations such as the military.

But our research shows that people with subtle asymmetries—for example, imbalances in ear or finger length—are often better "transformational" leaders, able to inspire followers to put self-interest aside for the good of the group. Furthermore, teams they lead outperform teams whose leaders have more-symmetrical bodies.


Make my
stuff
“cloudy”

Amazon Cloud Outage Aftermath: Questions, Concerns Linger

By Andrew R Hickey, CRN

May 11, 2011 1:33 PM ET

Amazon's cloud outage shook the cloud computing industry to its core last month, and at Interop Las Vegas 2011 a panel of cloud experts examined the fallout and the lasting impact of Amazon (NSDQ:AMZN)'s cloud outage.

Amazon's cloud services went down for several hours, and in some cases days, on April 21 after an issue with its Elastic Block Store (EBS) service got stuck in a "re-mirroring storm" in its North Virginia data center. The hiccup knocked several Amazon cloud users offline,

RECENT ARTICLES



Amazon's Not A
Outages In The
Amazon's cloud outag
last. Here we look at
within the last year.

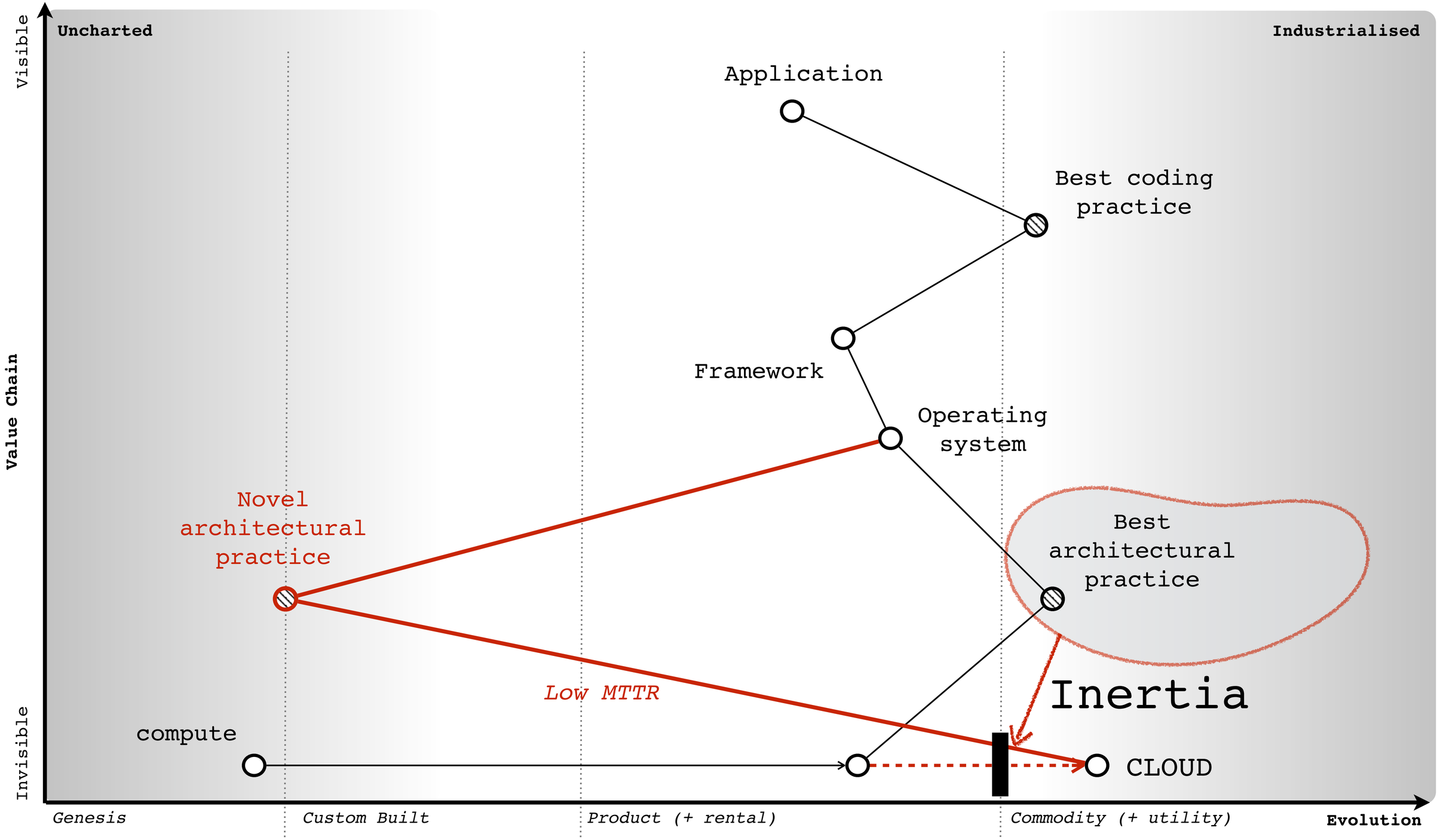


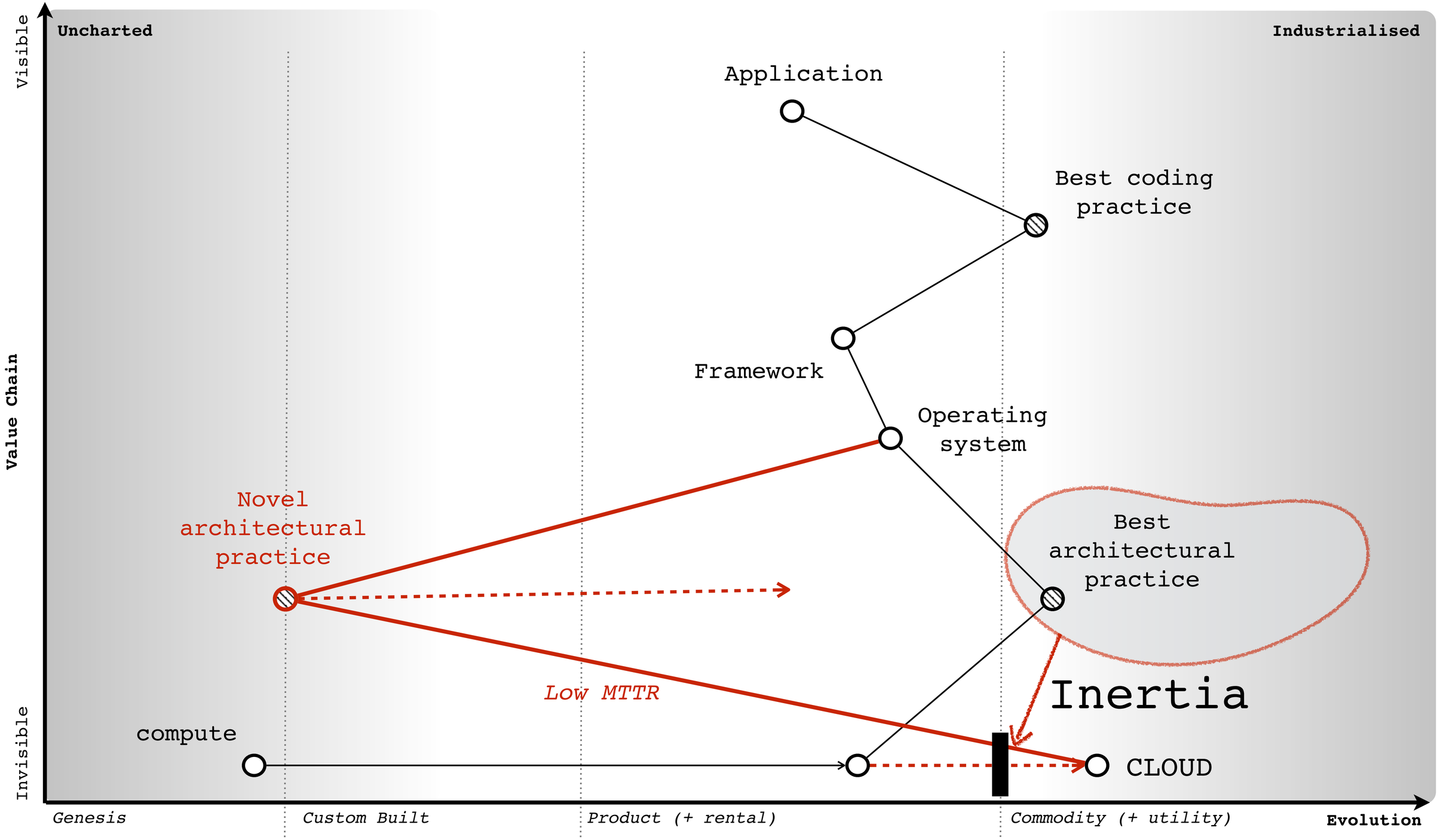
Amazon Cloud
Learned

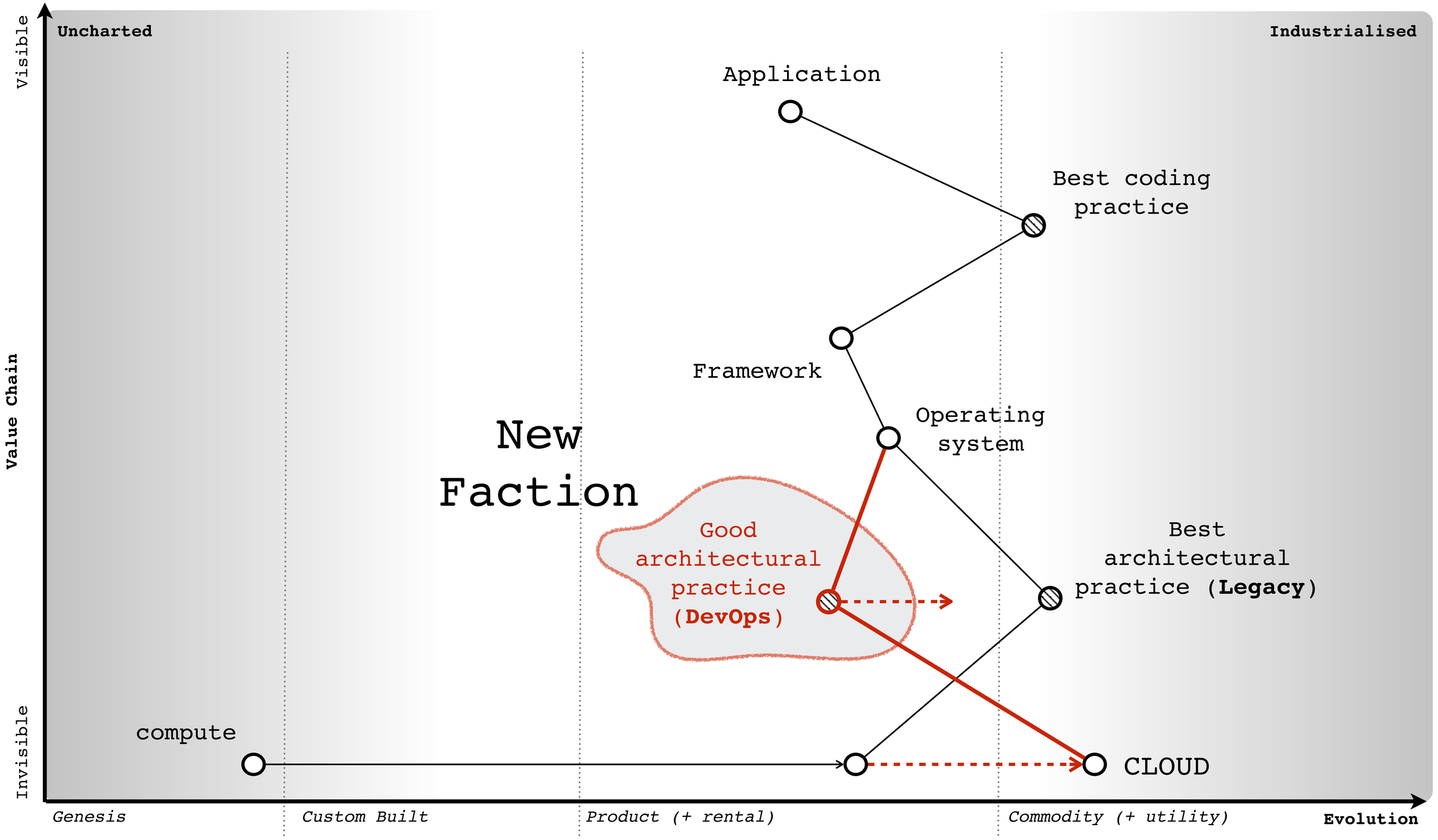

The end of cloud is nigh ...


Shouldn't our architecture evolve as well?


Burn him!
Heretic


Uncharted
Industrialised
Visible
Invisible
Value Chain
Application
Best coding practice
Framework
Operating system
Novel architectural practice
Best architectural practice
Low MTTR
Inertia
compute
CLOUD
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

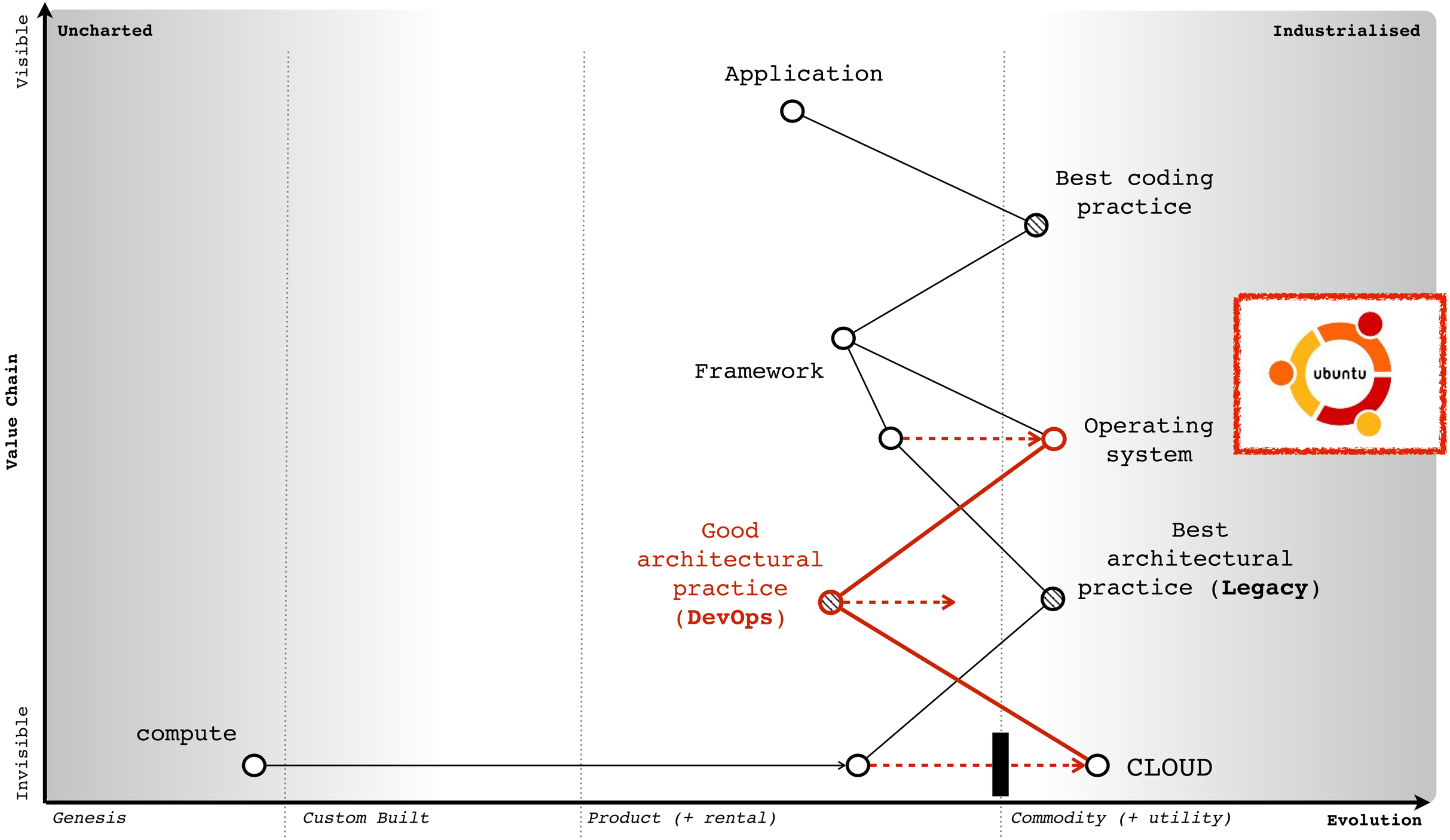

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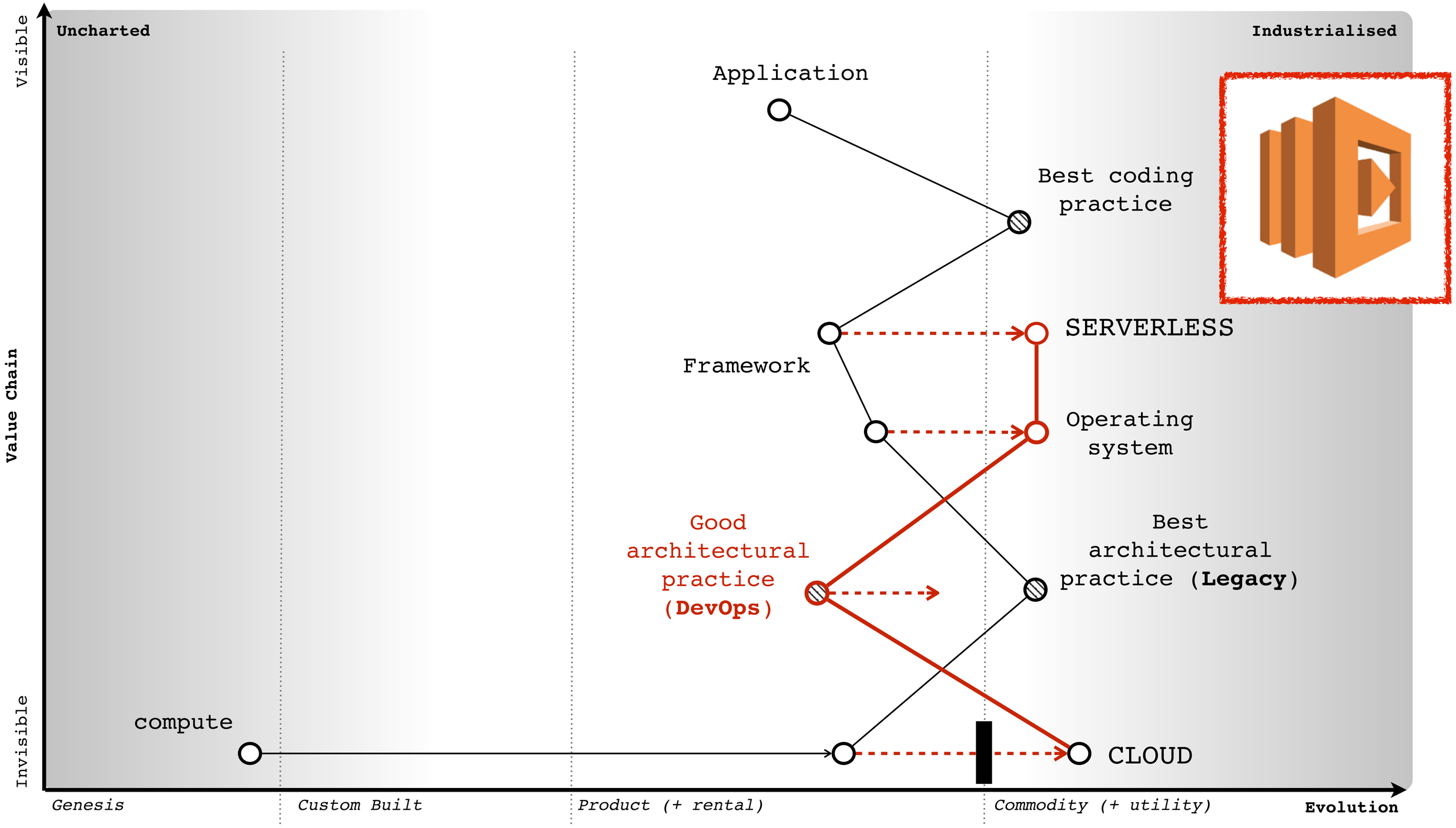

Uncharted
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Value Chain
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Best coding practice
Framework
Operating system
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Good architectural practice (DevOps)
Best architectural practice (Legacy)
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CLOUD
Genesis
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Evolution

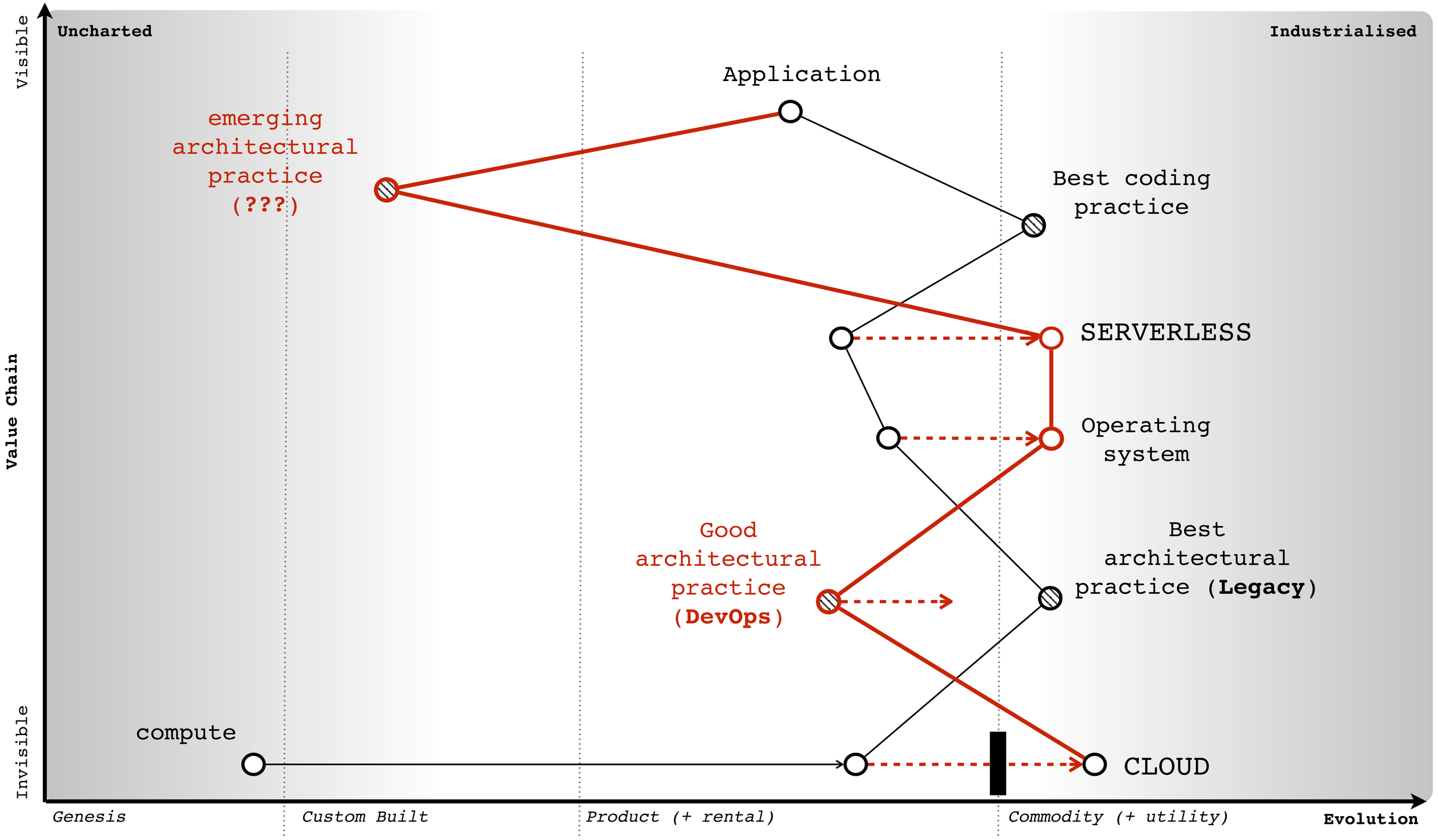

It’s all about user needs, iterative cycles, automation, feedback loops, …


So was ITIL

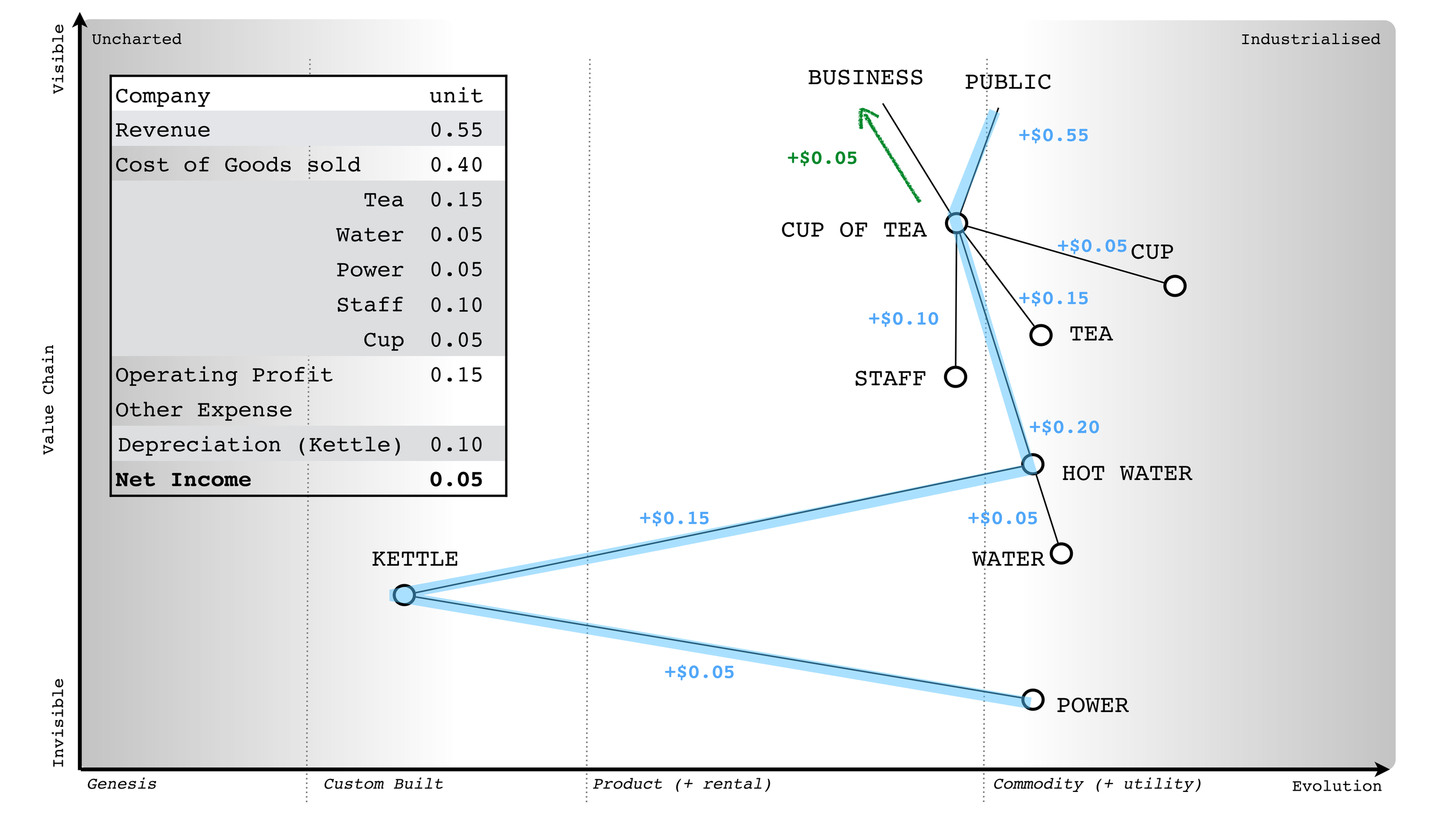

Burn him!
Heretic


Uncharted
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Value Chain
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Best coding practice
Framework
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Best architectural practice (Legacy)
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Commodity (+ utility)
Evolution

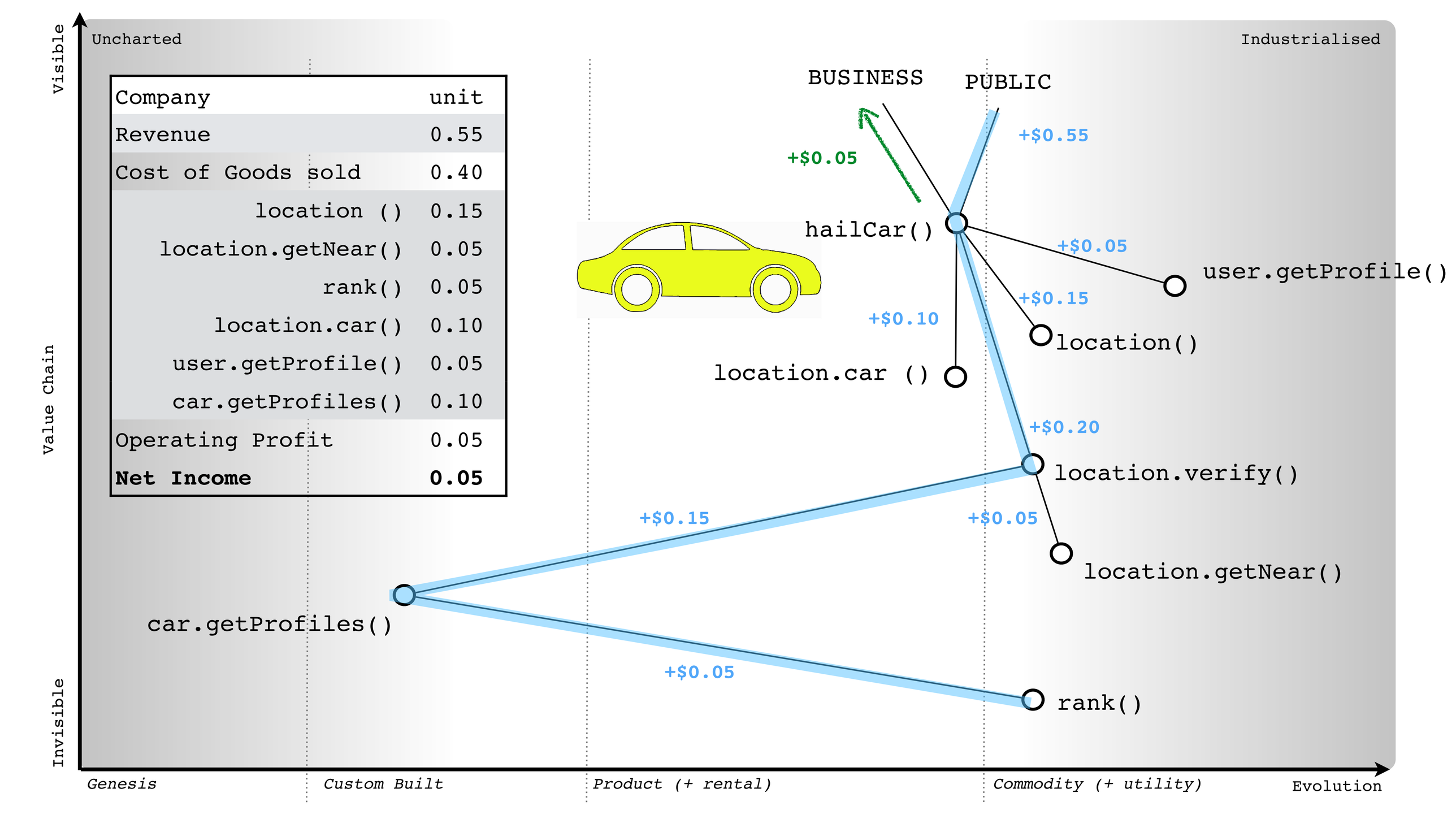

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Operating system
Good architectural practice (DevOps)
Best architectural practice (Legacy)
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Evolution


Visible
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(???)
Best coding
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SERVERLESS
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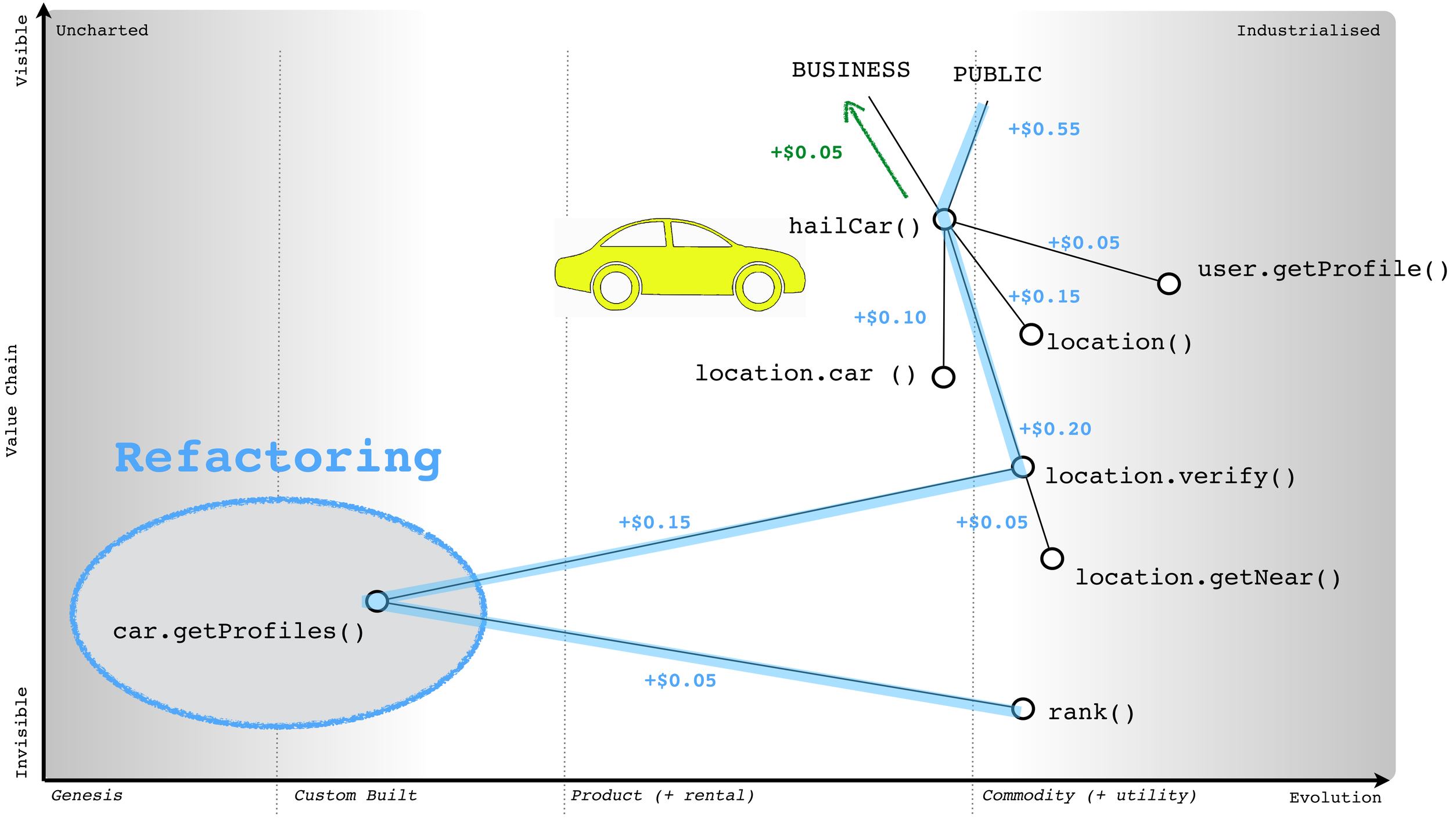
WHAT PRACTICES?



Company	unit
Revenue	0.55
Cost of Goods sold	0.40
Tea	0.15
Water	0.05
Power	0.05
Staff	0.10
Cup	0.05
Operating Profit	0.15
Other Expense	
Depreciation (Kettle)	0.10
Net Income	**0.05**



Company	unit
Revenue	0.55
Cost of Goods sold	0.40
location ()	0.15
location.getNear()	0.05
rank()	0.05
location.car()	0.10
user.getProfile()	0.05
car.getProfiles()	0.10
Operating Profit	0.05
Net Income	**0.05**


Visible
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Industrialised
BUSINESS
PUBLIC
+$0.05
+$0.55
hailCar()
+$0.05
user.getProfile()
+$0.15
location()
+$0.10
location.car ()
Value Chain
Refactoring
+$0.20
location.verify()
+$0.15
+$0.05
location.getNear()
car.getProfiles()
+$0.05
rank()
Invisible
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

Home / Functions / massive-calculation

Function Name: massive-calculation

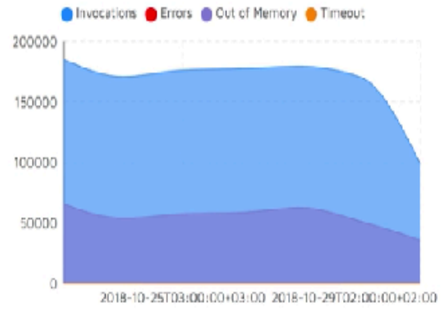
Open in AWS | Last Hour | 24 hours | 7 days

aws 147457102604 | python3.6 | us-east-1

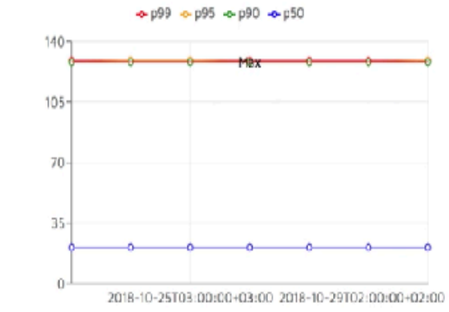
Memory Size: 128MB | Code Size: <0.01MB | Timeout: 20 seconds | Last Modified: 4 months ago

Description: *Demo environment: Out of memory*

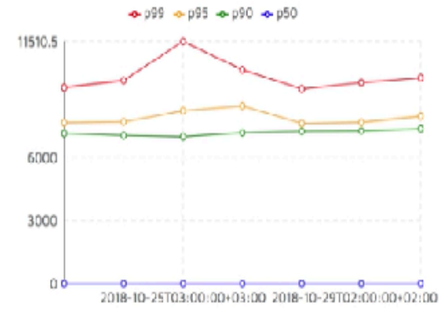
Invocations / Errors



Memory Usage (MB)



Duration Statistics (ms)



Functions (26)

Export as CSV | 24 hours | 7 days | Search by function name, region or runtime

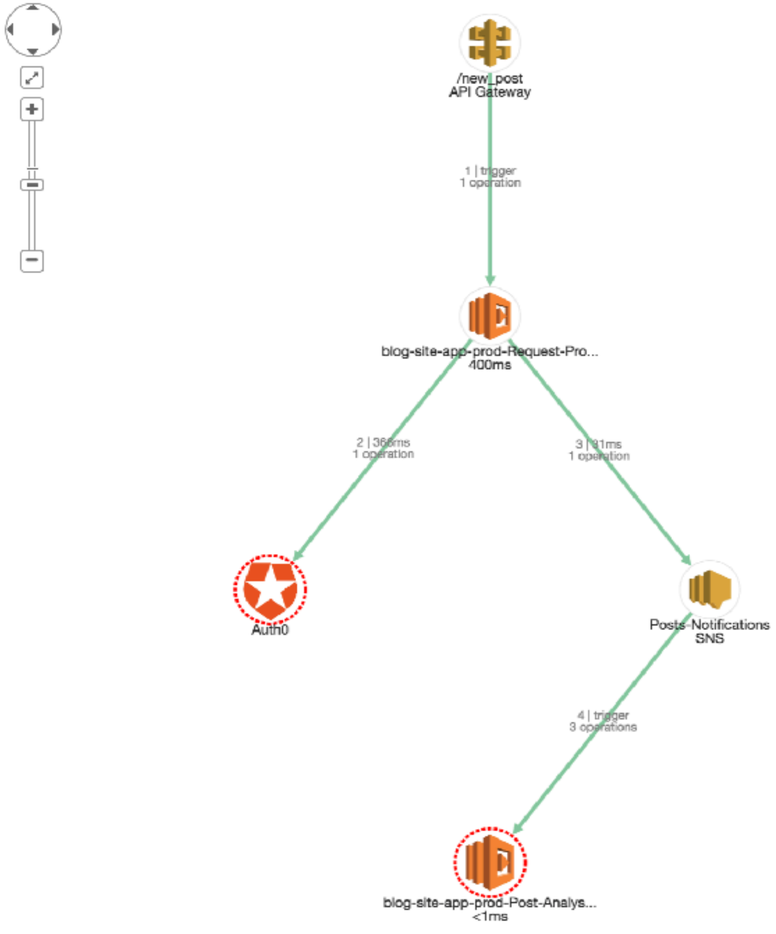
Function Name		Invocations	Errors	Timeouts	Out of Memory	Last Invocation	p50 Duration	Monthly Cost
blog-site-app-prod-Request-Processor	python3.6 us-east-1	9,605,316	1,894,445	3,990	0	13 hours ago	426.59ms	$3399.80
blog-site-app-prod-Post-Analysis	python3.6 us-east-1	8,318,982	5,737,123	0	0	13 hours ago	21.21ms	$383.89
blog-site-app-prod-DB-Update	python3.6 us-east-1	2,200,716	0	798	0	13 hours ago	52.88ms	$132.28
blog-site-app-prod-Post-Validation	python3.6 us-east-1	2,180,052	75,936	798	0	13 hours ago	82.56ms	$200.12
long-calculation	python3.6 us-east-1	2,044,014	0	641,592	0	13 hours ago	1.09ms	$218.25
massive-calculation	python3.6 us-east-1	2,010,435	0	0	646,261	13 hours ago	1.01ms	$394.50
blog-site-app-prod-Kinesis-Analysis	python3.6 us-east-1	1,897,644	0	0	0	13 hours ago	15.07ms	$48.63
massive-calculation-2	python3.6 us-east-1	1,403,430	0	0	0	13 hours ago	0.36ms	$22.32
long-calculation-2	python3.6 us-east-1	1,400,847	0	0	0	13 hours ago	0.41ms	$144.22
process-pipeline-prod-analyze	nodejs8.10 eu-west-1	1,389,654	0	0	0	13 hours ago	19.65ms	$38.96
process-pipeline-prod-store	nodejs8.10 eu-west-1	1,383,627	0	0	0	13 hours ago	76.13ms	$155.71
process-pipeline-prod-ingest	nodejs8.10 eu-west-1	1,382,766	0	0	0	13 hours ago	245.10ms	$334.27
process-pipeline-prod-initiator	nodejs8.10 eu-west-1	1,382,766	0	0	0	13 hours ago	128.83ms	$176.33
blog-site-app-prod-Operator	python3.6 us-east-1	690,522	0	0	0	13 hours ago	20187.66ms	$10801.20

< 1 2 >

Home / Transactions / 76ef5dac-58c3-4055-8fb5-beabe3c81797

Transaction ID: 76ef5dac-58c3-4055-8fb5-beabe3c81797

Architecture View



epsagon



SRV315 - Alexa, Ask Jarvis to Create a Serverless App for Me

Today, we can build and deploy a serverless application in minutes without having to write a line of code using pre-built AWS CloudFormation templates, or services such as the AWS Serverless Application Repository. But can we push the limits even more? In this workshop, we use the Serverless Application Repository combined with Amazon Alexa to create Iron Man's Jarvis look-a-like skill. You learn hands-on with Alexa, Amazon Lex, Amazon SageMaker, and the AWS Serverless Application Repository.

Aleksandar Simovic - Senior Software Engineer, ScienceExchange

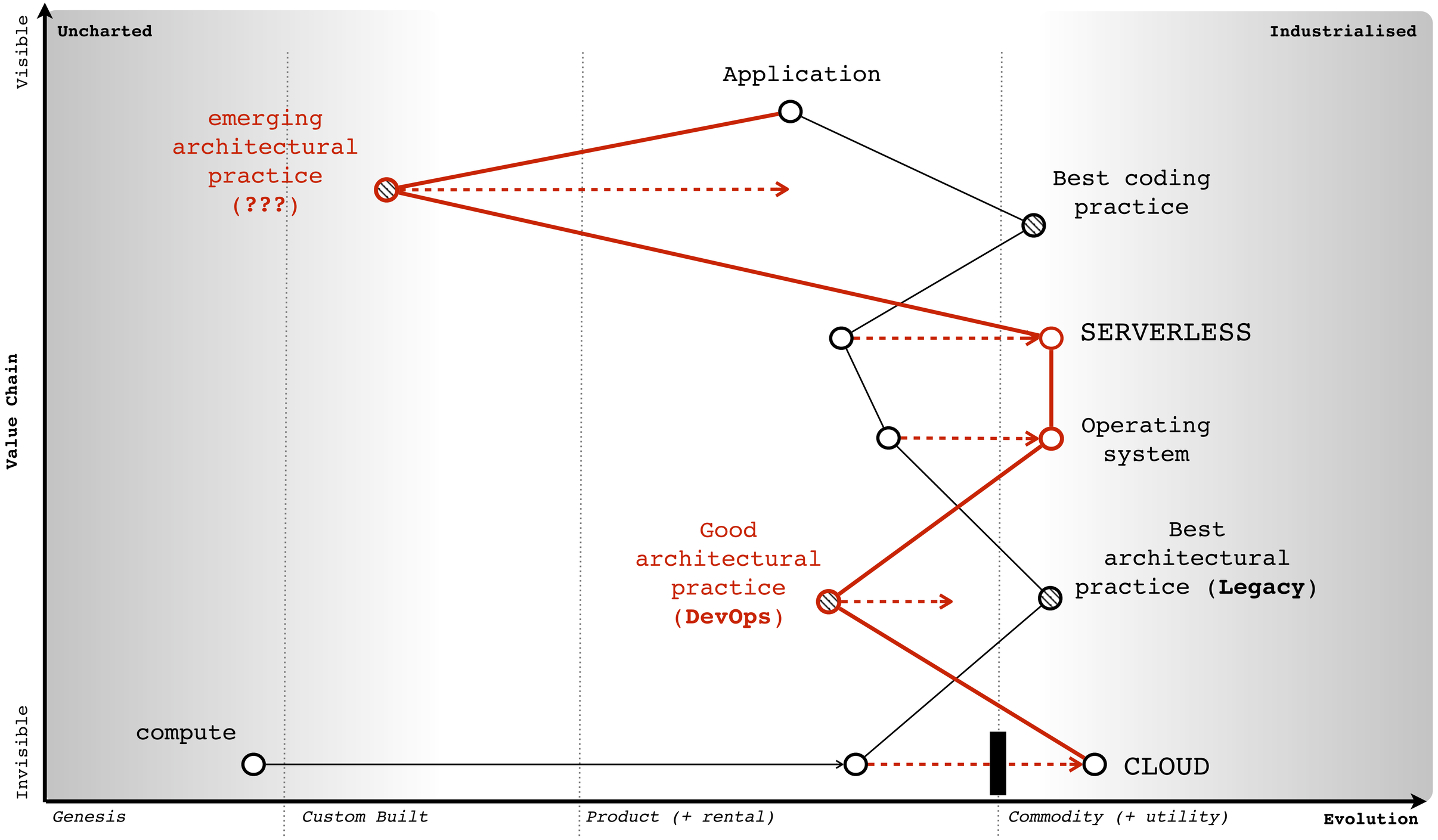
Slobodan Stojanovic - CTO @ Cloud Horizon, Cloud Horizon

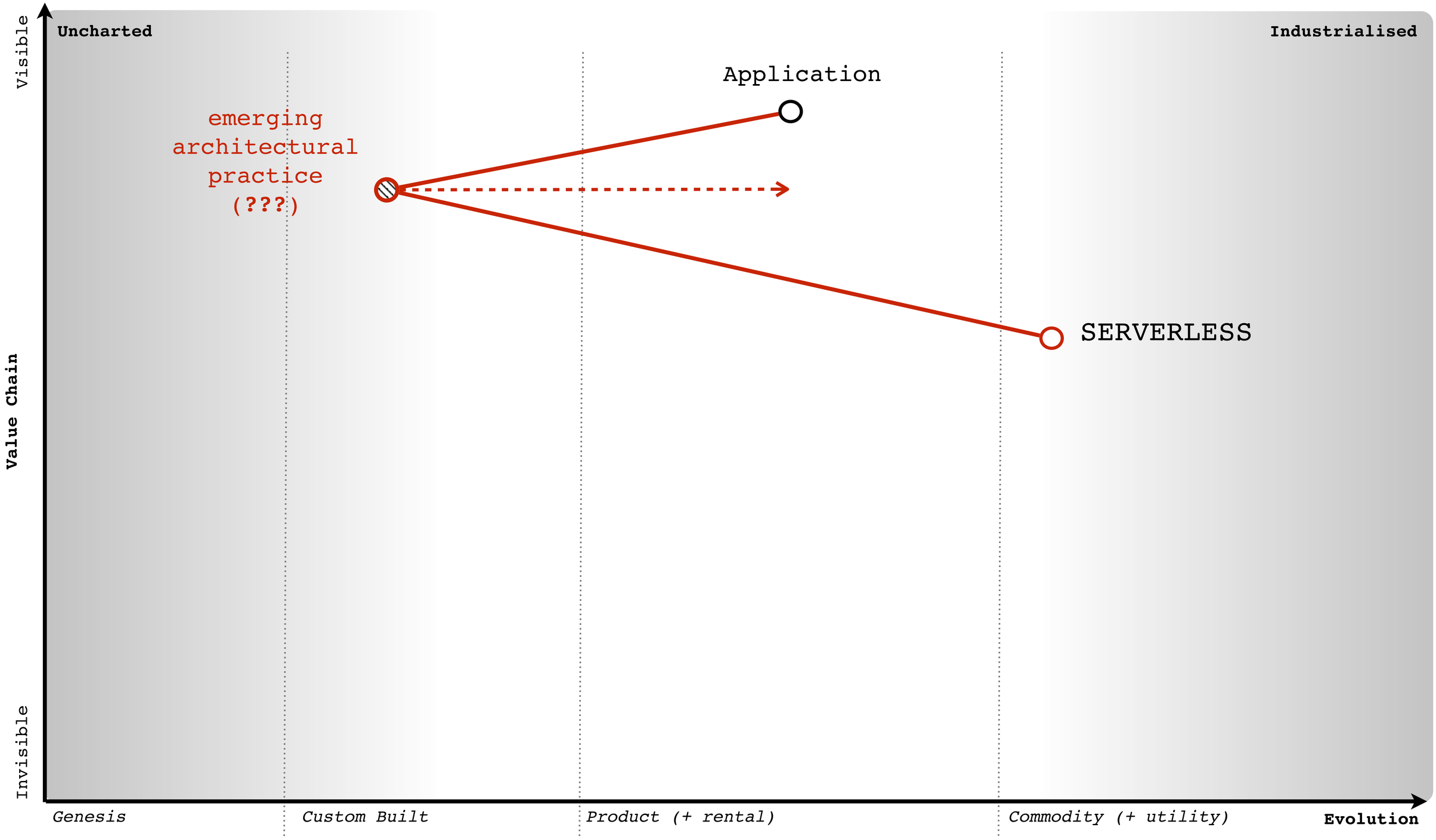
Additional Information

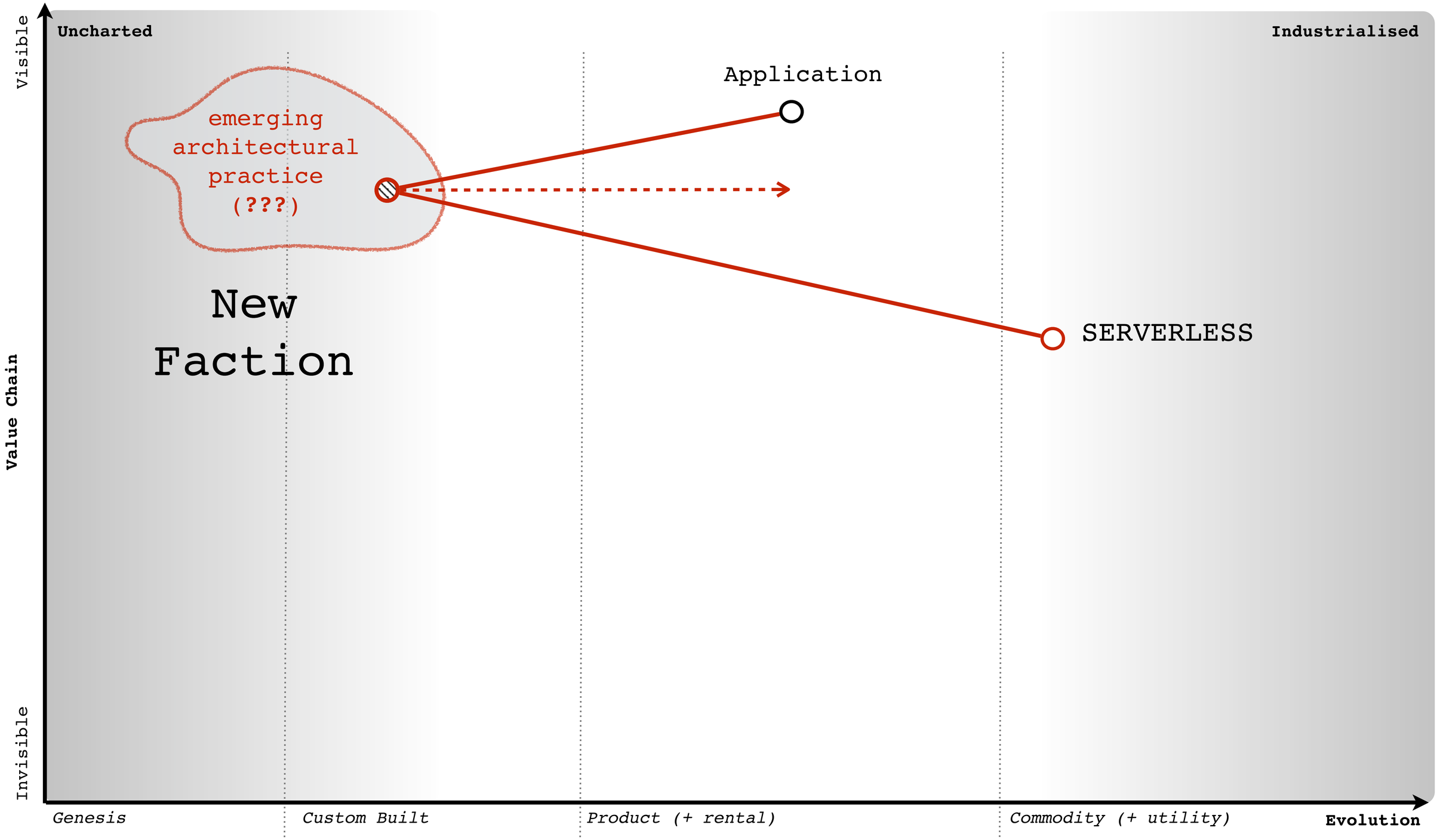
Session Type: Workshop

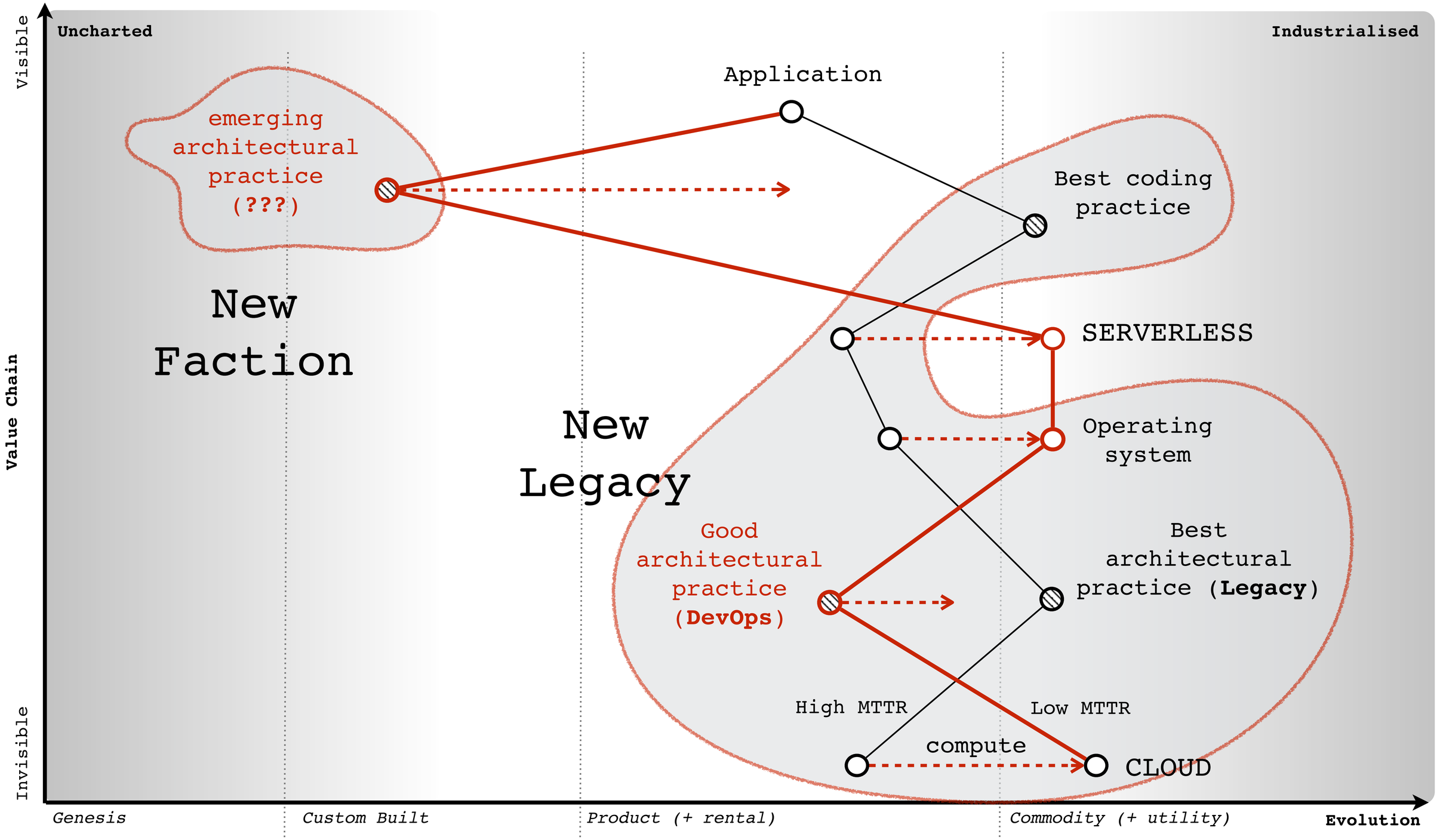
Meet your future data centre, head of operations and lead developer …




Visible
Invisible
Value Chain
Uncharted
Industrialised
Application
emerging
architectural
practice
(???)
Best coding
practice
SERVERLESS
Operating
system
Good
architectural
practice
(DevOps)
Best
architectural
practice (Legacy)
compute
CLOUD
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


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Value Chain
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Uncharted
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emerging
architectural
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New
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Value Chain
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Commodity (+ utility)
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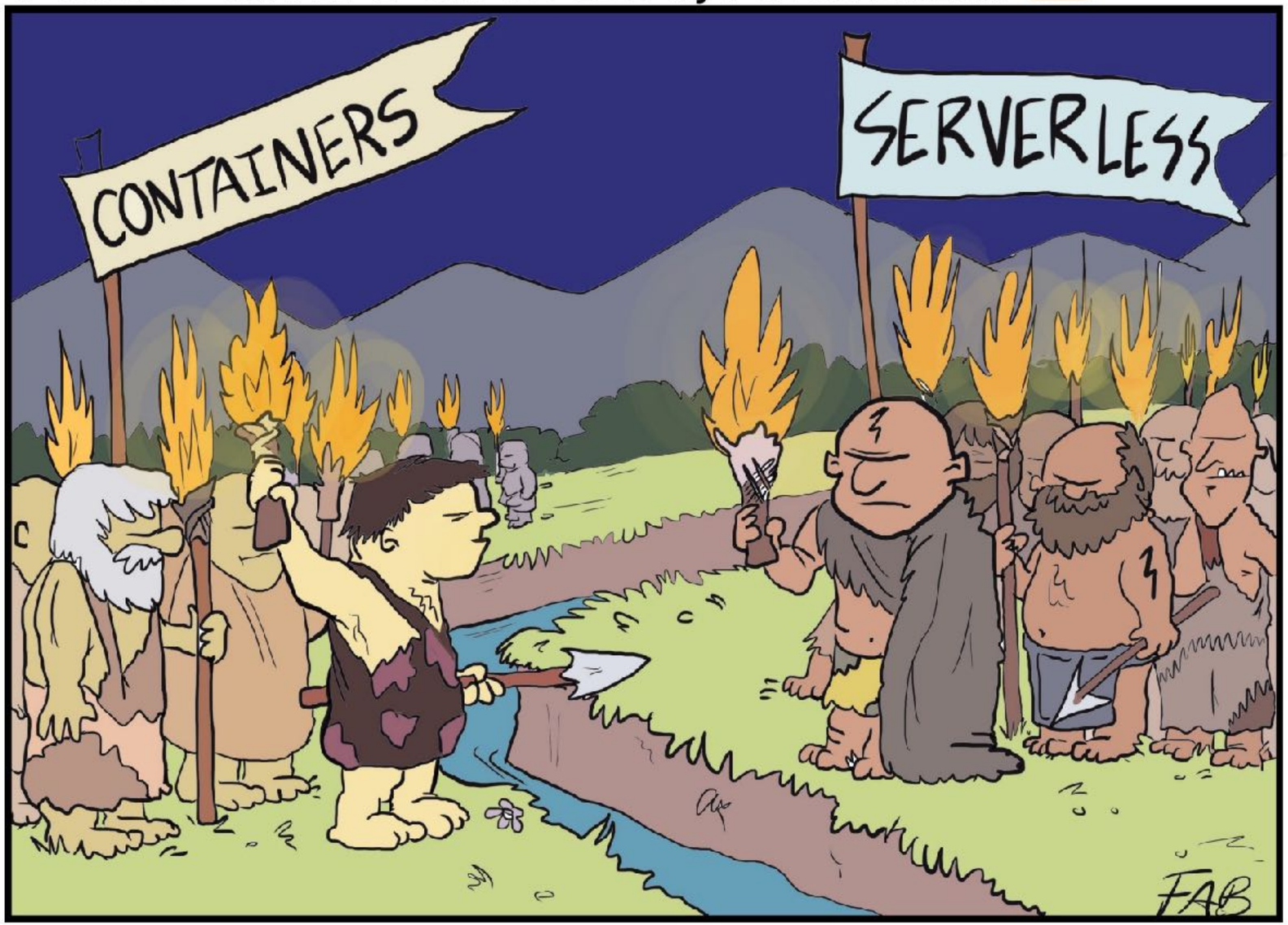

Visible
Invisible
Value Chain
Uncharted
Industrialised
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution
emerging architectural practice (???)
New Faction
Application
Best coding practice
SERVERLESS
Operating system
New Legacy
Good architectural practice (DevOps)
Best architectural practice (Legacy)
High MTTR
Low MTTR
compute
CLOUD


DevOps is the new legacy?

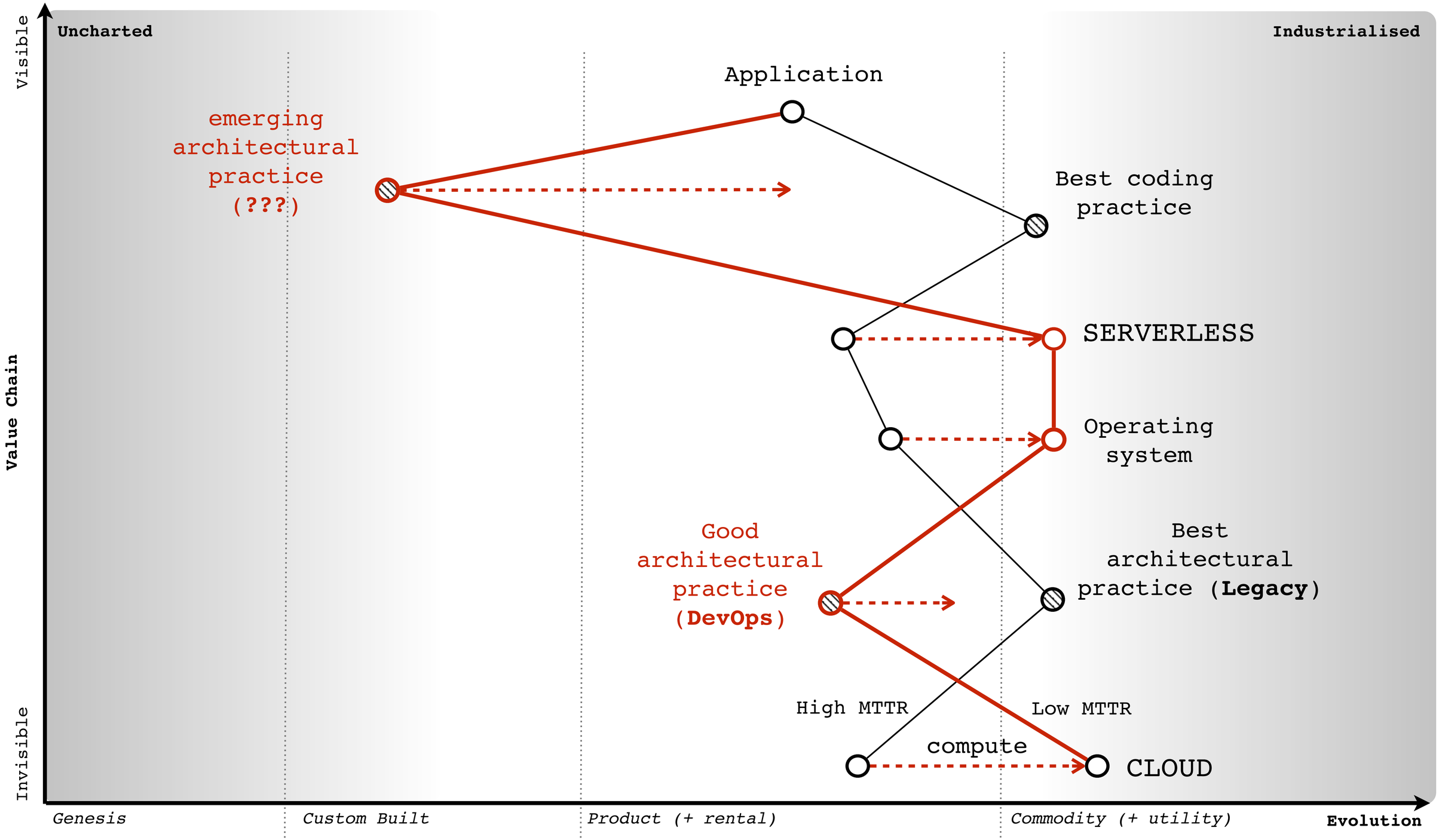

Burn him!
Containers FTW

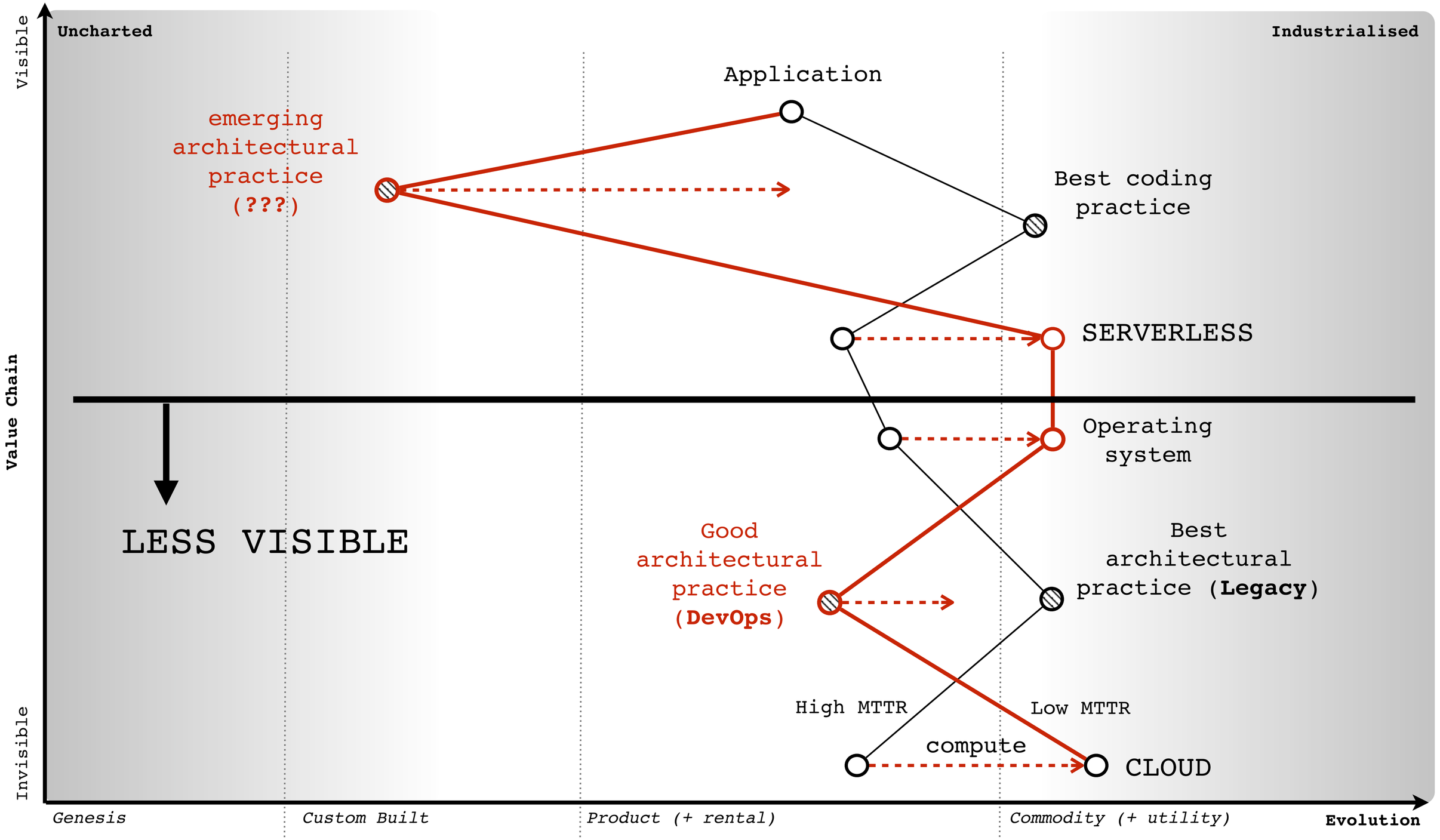
FaaS and Furious by Forrest Brazeal

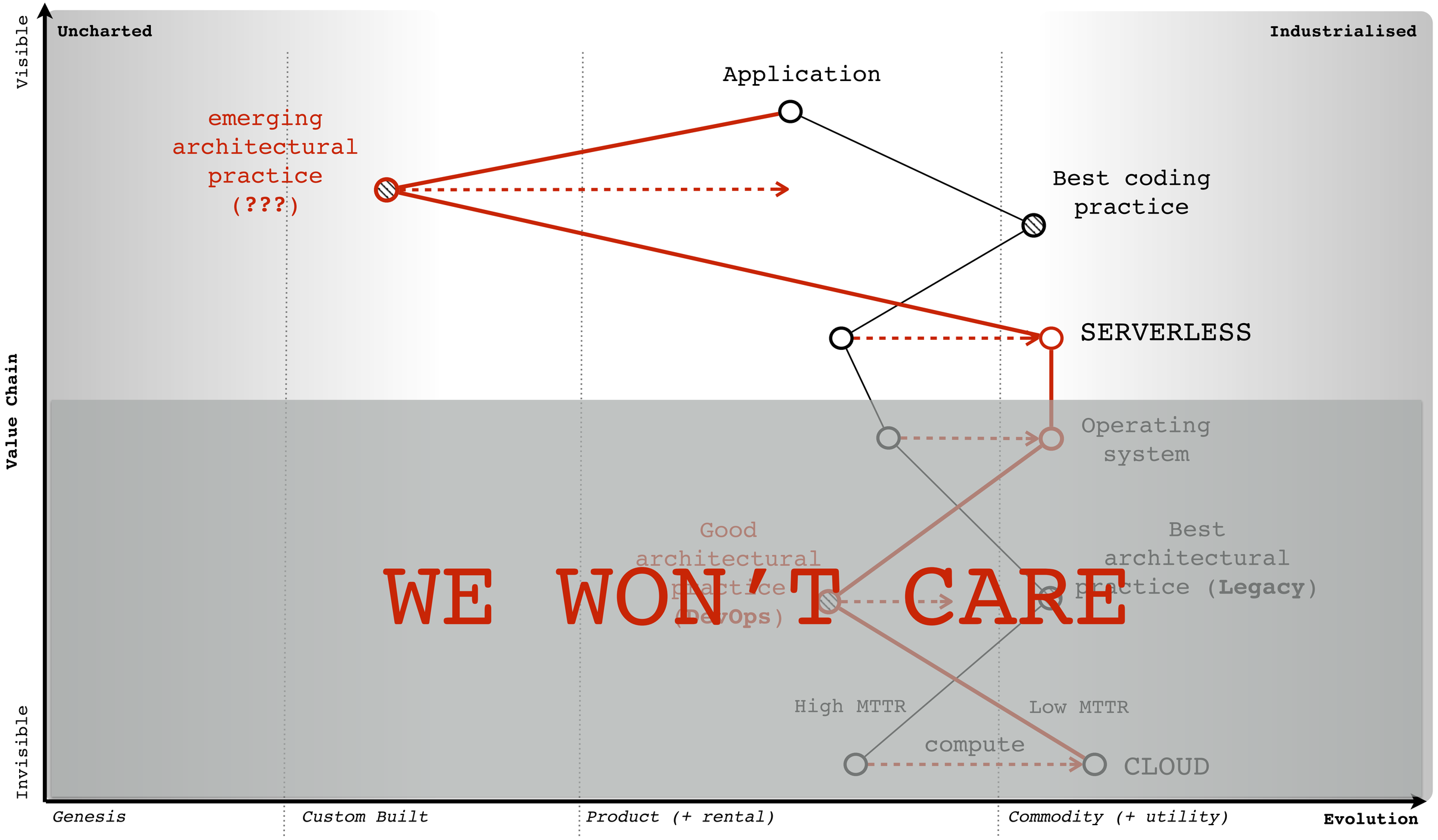
A CLOUD GURU

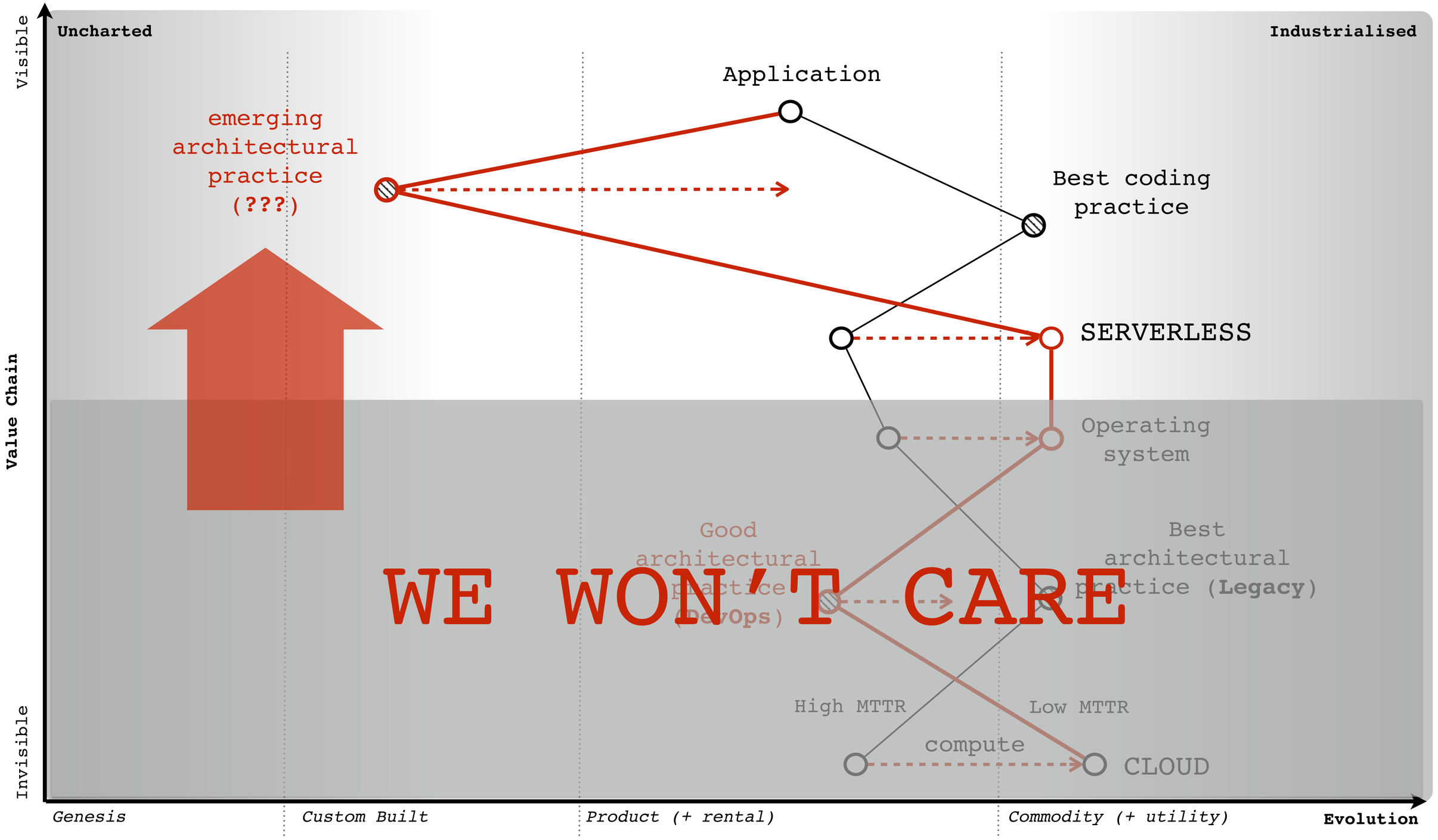


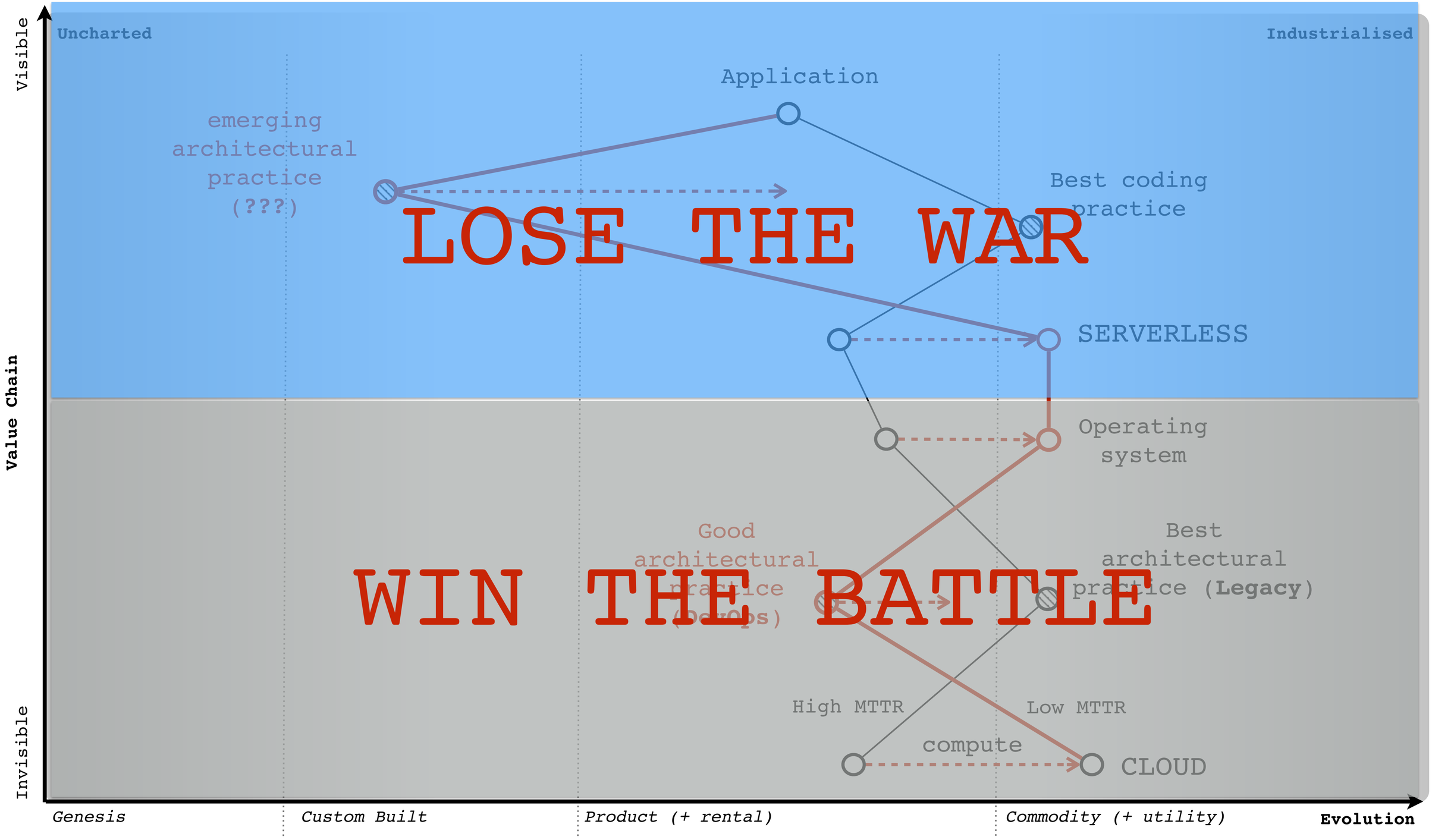
The two tribes regarded each other suspiciously in the glow of their brightly blazing production environments.


Visible
Invisible
Value Chain
Uncharted
Industrialised
Application
emerging
architectural
practice
(???)
Best coding
practice
SERVERLESS
Operating
system
Good
architectural
practice
(DevOps)
Best
architectural
practice (Legacy)
High MTTR
Low MTTR
compute
CLOUD
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

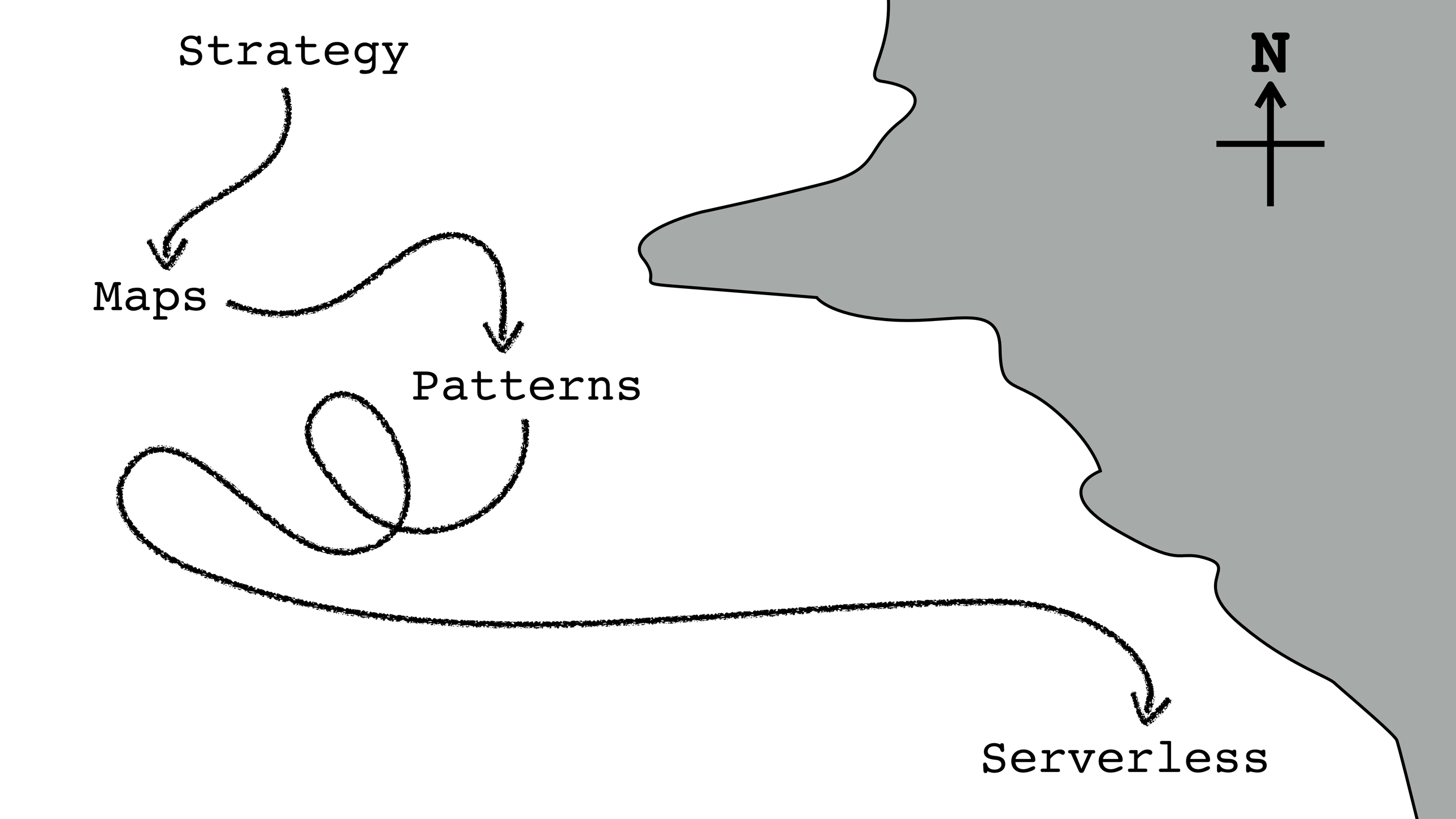

Visible
Uncharted
Industrialised
Application
emerging
architectural
practice
(???)
Best coding
practice
SERVERLESS
Value Chain
Operating
system
LESS VISIBLE
Good
architectural
practice
(DevOps)
Best
architectural
practice (Legacy)
High MTTR
Low MTTR
compute
CLOUD
Invisible
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

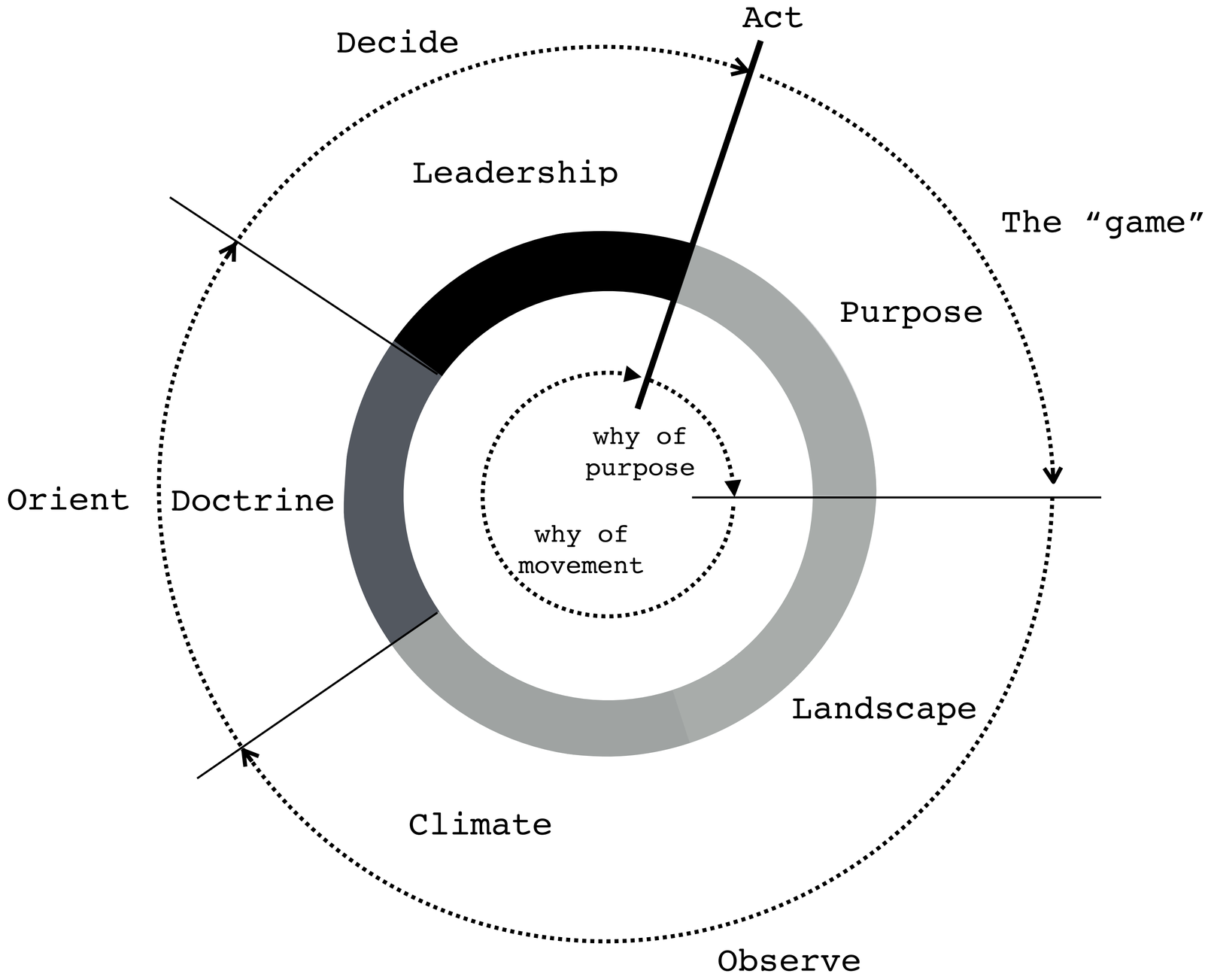

Uncharted
Industrialised
Visible
Invisible
Value Chain
Application
emerging architectural practice (???)
Best coding practice
SERVERLESS
Operating system
Good architectural practice (DevOps)
Best architectural practice (Legacy)
WE WON'T CARE
High MTTR
Low MTTR
compute
CLOUD
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

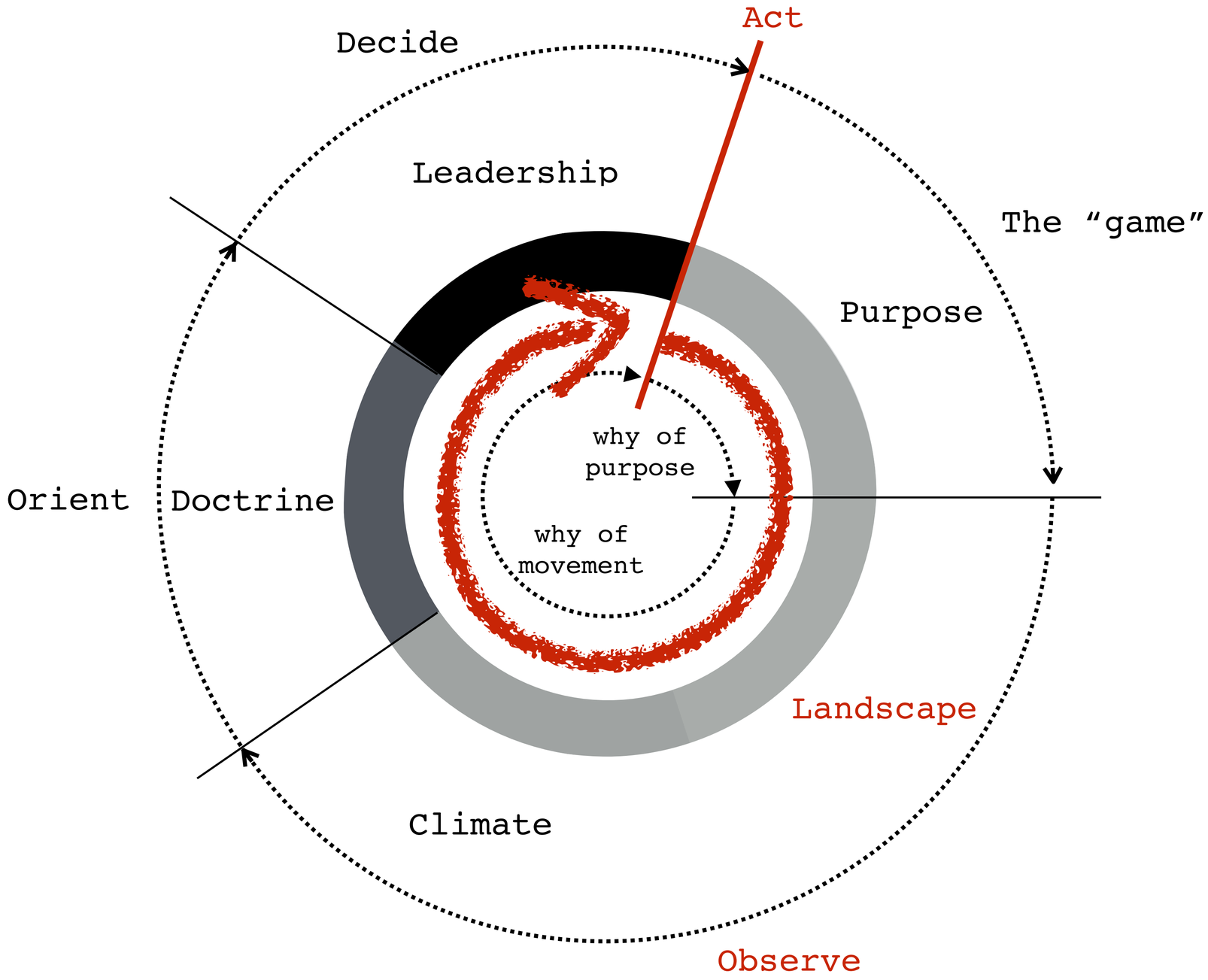

Visible
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Value Chain
Uncharted
Industrialised
Application
emerging
architectural
practice
(???)
Best coding
practice
SERVERLESS
Operating
system
Good
architectural
practice
(DevOps)
Best
architectural
practice (Legacy)
WE WON'T CARE
High MTTR
Low MTTR
compute
CLOUD
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Visible
Invisible
Value Chain
Uncharted
Industrialised
Application
emerging architectural practice (???)
Best coding practice
LOSE THE WAR
SERVERLESS
Operating system
Good architectural practice (DevOps)
Best architectural practice (Legacy)
WIN THE BATTLE
High MTTR
Low MTTR
compute
CLOUD
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

SUMMARY


Strategy
Maps
Patterns
Serverless
N


Act
Decide
Leadership
The “game”
Purpose
why of
purpose
why of
movement
Orient
Doctrine
Landscape
Climate
Observe


Act
Decide
Leadership
The “game”
Purpose
why of
purpose
why of
movement
Orient
Doctrine
Landscape
Climate
Observe



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https://www.flickr.com/photos/13476480@N07/26020947416/

LEADING EDGE FORUM

Thank you

@swardley
medium.com/wardleymaps
leadingedgeforum.com
simon.wardley@leadingedgeforum.com

MAP MAPPING?

ORGANISATION

THE PROBLEM WITH DOCTRINE

WEAK SIGNALS

POLICY

BREXIT

MAP MAPPING?

ORGANISATION

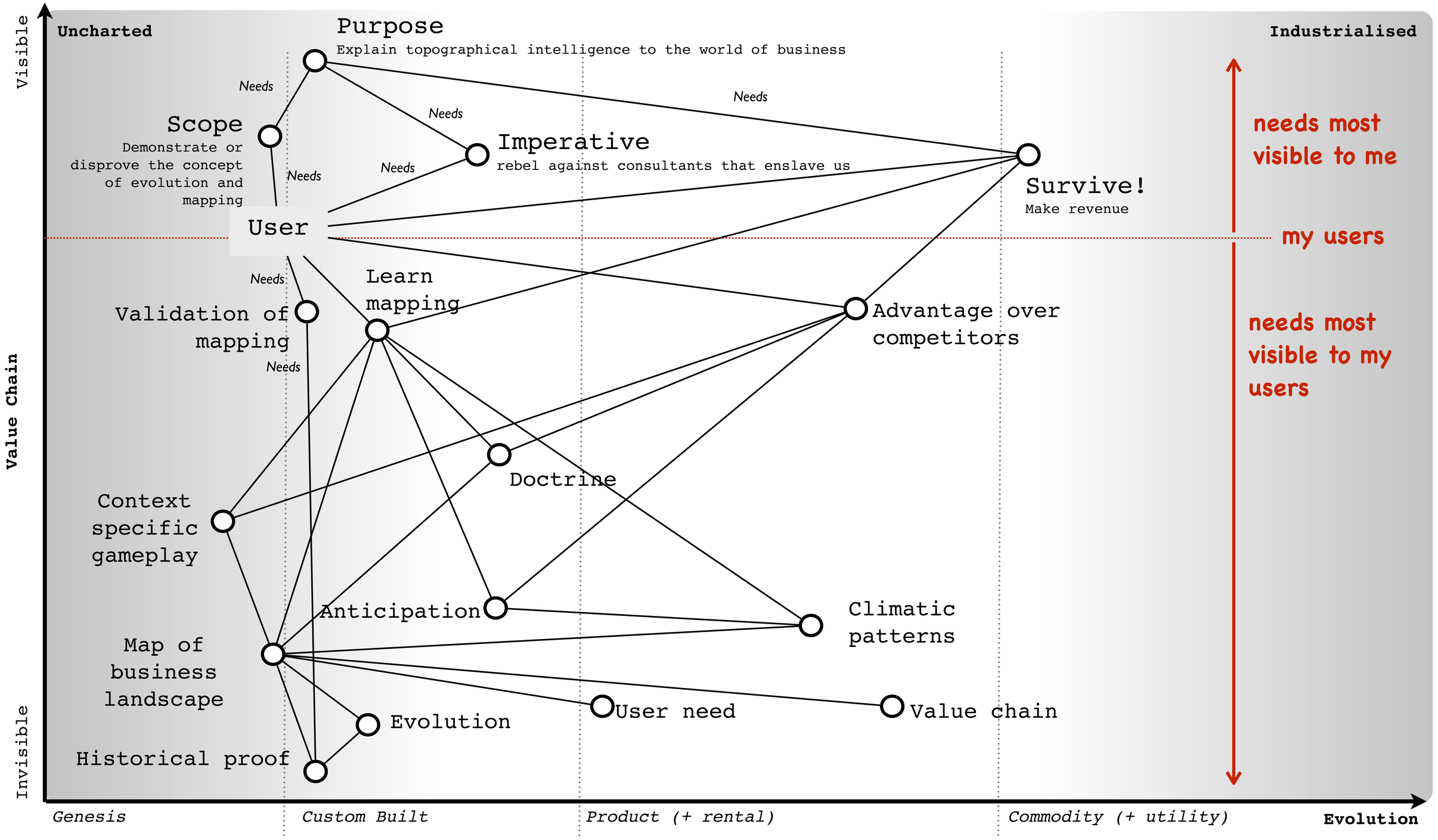
THE PROBLEM WITH DOCTRINE

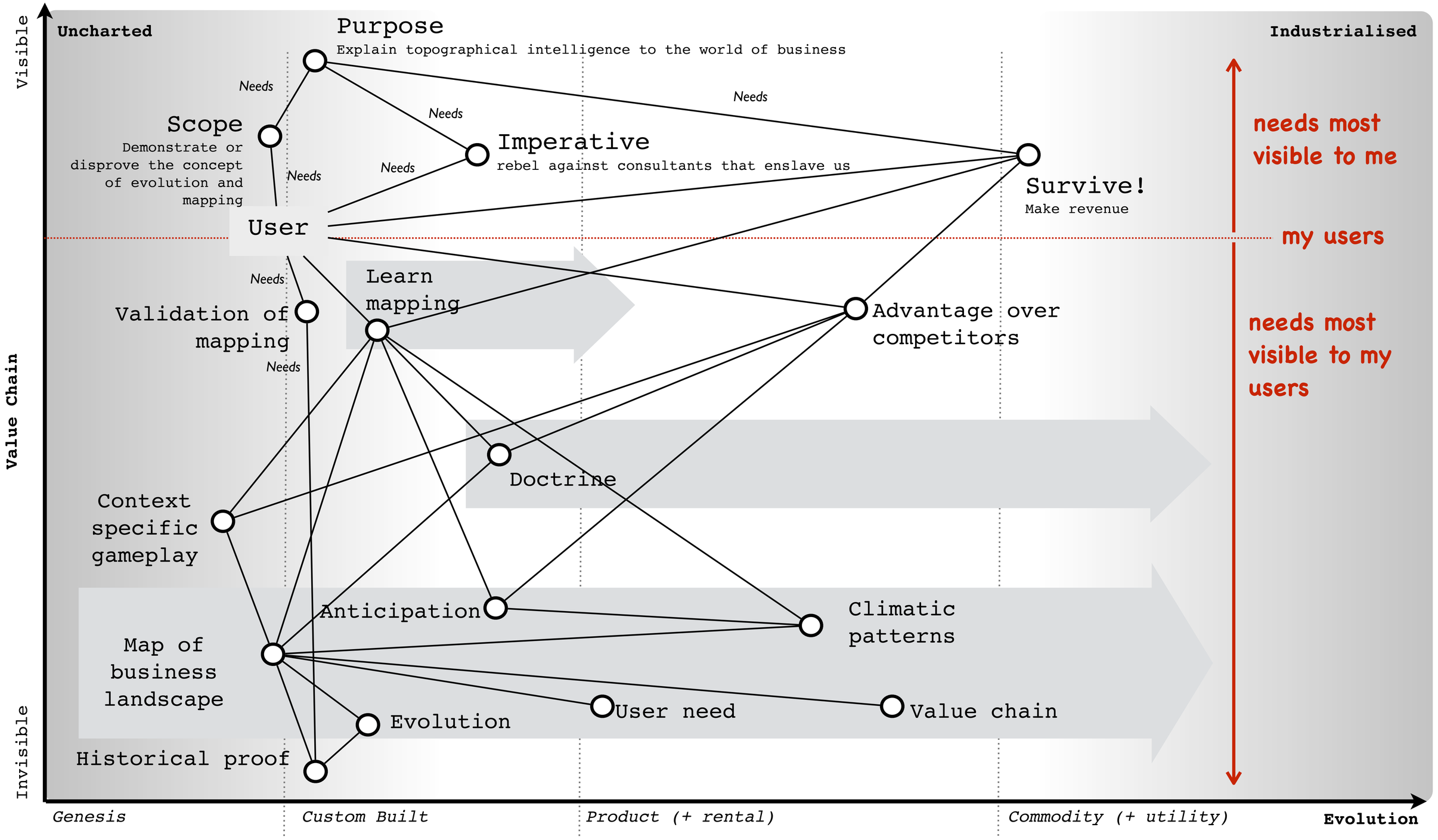
WEAK SIGNALS

POLICY

BREXIT


GALLIA ANTIQUA.
OCEANUS
ALLICUS
ITALIA
BELGICA
Belgæ
Treviri
Mediomatrici
Leuci
Lingones
Sequani
Helvetii
Allobroges
Ædui
Bituriges Cubi
Bituriges
Pictones
Santones
Arverni
Rutheni
Volcæ Tectosages
Volcæ Arecomici
Cadurci
Petrocorii
Nitiobriges
Lemovices
Aulerci Eburovices
Aulerci Cenomani
Aulerci Diablintes
Aulerci Brannovices
Parisii
Senones
Carnutes
Redones
Arvii
Veneti
Osismi
Lexovii
Caletes
Veliocasses
Catalauni
Remi
Suessiones
Nervii
Treviri
Vangiones
Nemetes
Rauraci
Sequani
Helvetii
Allobroges
Vocontii
Salyes
Ligures
Ligures Oxybii
Ligures Deciates
Ligures Vediantii
Ligures Suelteri
Ligures Albienses
Ligures Intemelii
Ligures Ingauni
Ligures Statielli
Ligures Taurini
Ligures Salassi
Ligures Lepontii
Ligures Viberi
Ligures Veragri
Ligures Nantuates
Ligures Centrones
Ligures Graioceli
Ligures Medulli
Ligures Caturiges
Ligures Brigiani
Ligures Ambrones
Ligures Edenates
Ligures Esubiani
Ligures Quariates
Ligures Veamini
Ligures Salluvii
Ligures Oxybii
Ligures Deciates
Ligures Vediantii
Ligures Suelteri
Ligures Albienses
Ligures Intemelii
Ligures Ingauni
Ligures Statielli
Ligures Taurini
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Ligures Viberi
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Ligures Nantuates
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Ligures Medulli
Ligures Caturiges
Ligures Brigiani
Ligures Ambrones
Ligures Edenates
Ligures Esubiani
Ligures Quariates
Ligures Veamini
Ligures Salluvii


Visible
Invisible
Value Chain
Uncharted
Industrialised
Purpose
Explain topographical intelligence to the world of business
Needs
Needs
Needs
Needs
Needs
Needs
Needs
Scope
Demonstrate or disprove the concept of evolution and mapping
Imperative
rebel against consultants that enslave us
Survive!
Make revenue
User
needs most visible to me
my users
needs most visible to my users
Learn mapping
Validation of mapping
Advantage over competitors
Doctrine
Context specific gameplay
Anticipation
Climatic patterns
Map of business landscape
User need
Value chain
Evolution
Historical proof
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


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Invisible
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MAP MAPPING?

ORGANISATION

THE PROBLEM WITH DOCTRINE

WEAK SIGNALS

POLICY

BREXIT

FOTANGO

help | prices | about us | contact us | public gallery



Top quality prints and a *FREE* online photo service

- **Digital and film**
  Easy upload for digital pictures and film rolls
- **Create online albums** FREE
  Unlimited secure space for your pictures
- **Photo upload software** FREE
  Upload your images from your desktop
- **Share your photos** FREE
  Friends, family, workmates, share the moment
- **Buy prints and gifts**
  Turn your favourite photos into great gifts

username

password

Login

forgotten password?

Take the Tour

Create an account

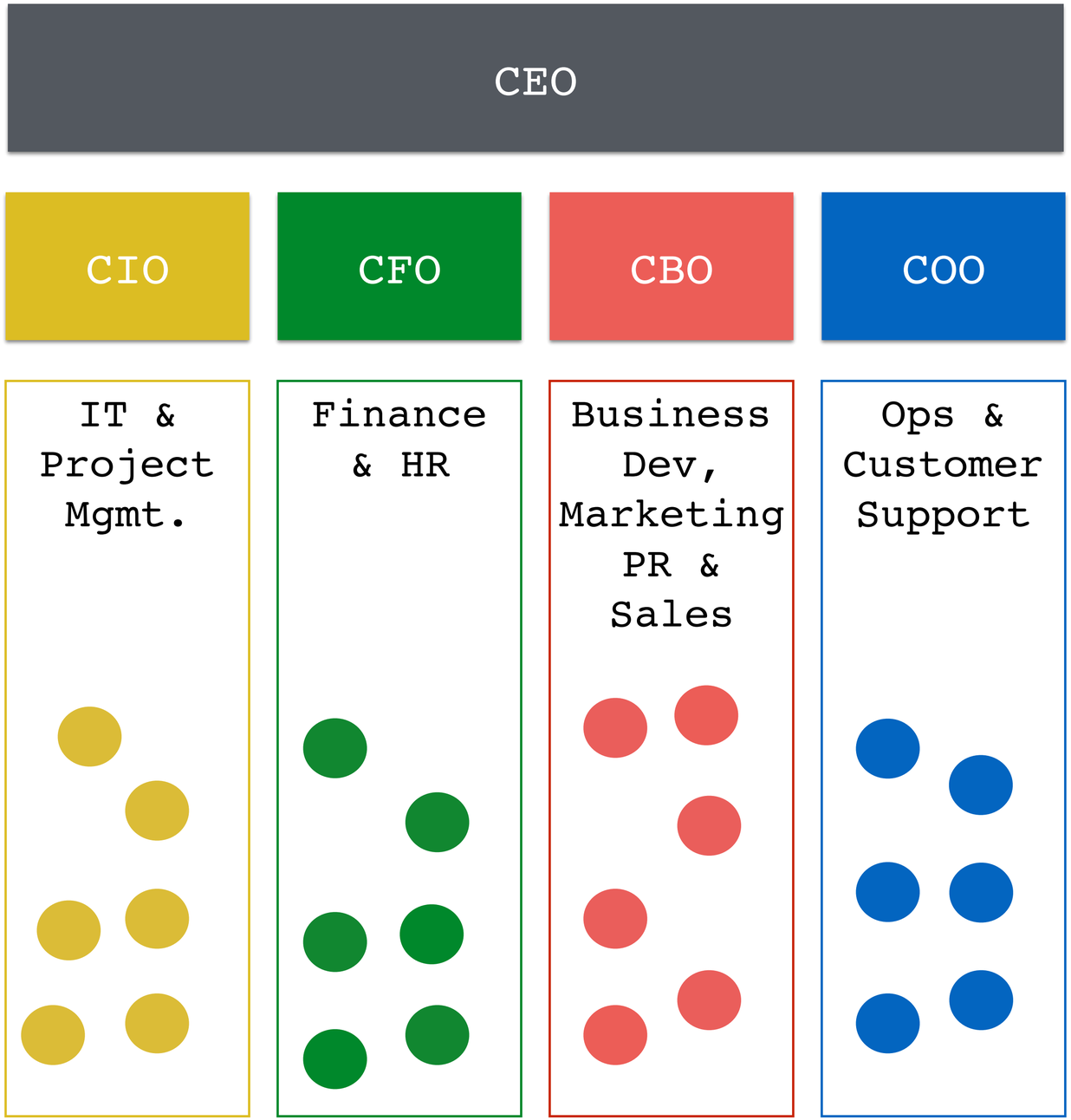
Gifts Gallery
Turn your photos into great gifts!



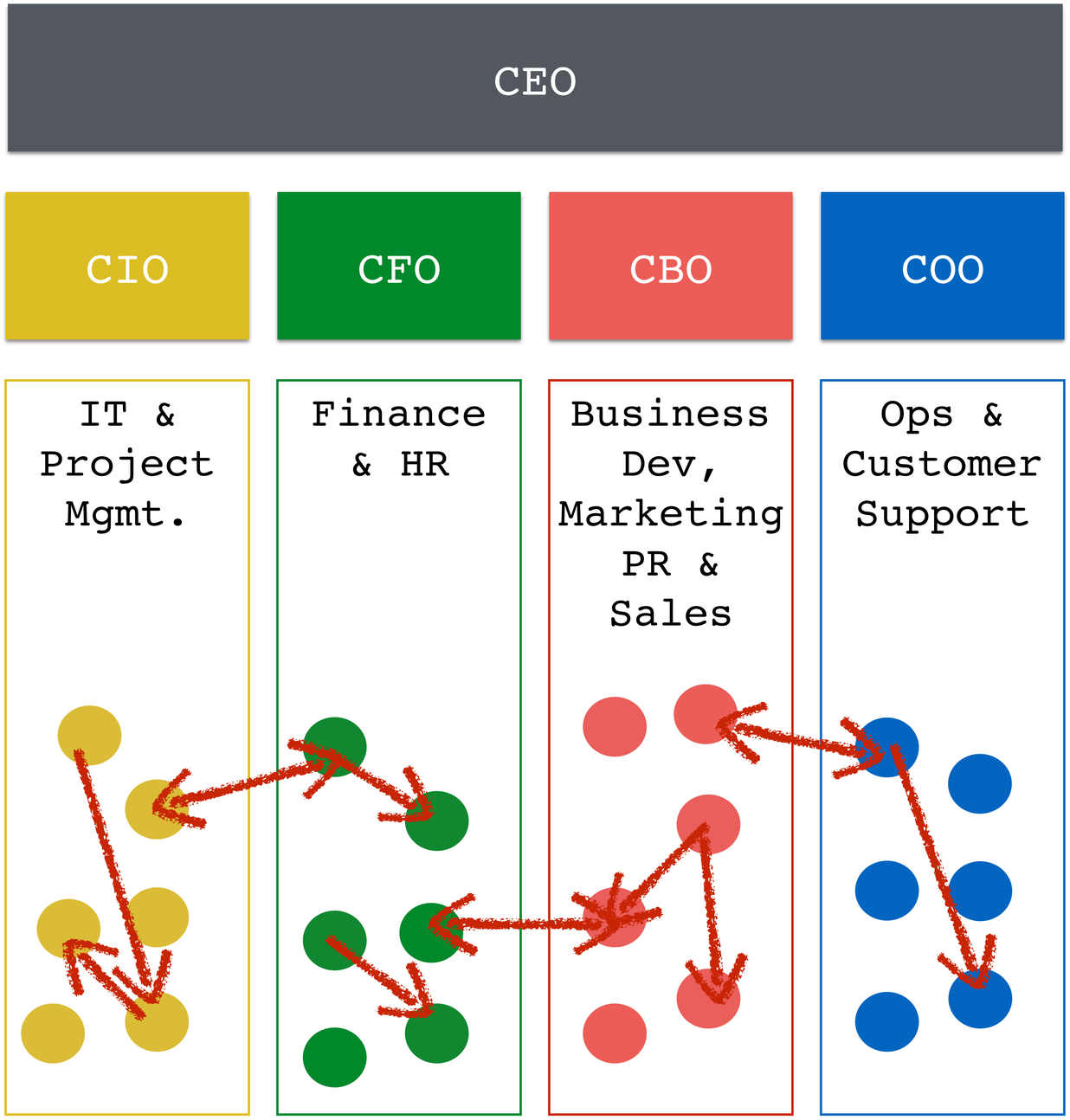
Promotions
Share pictures & when friend registers, you both get 3 free 6x4 prints.

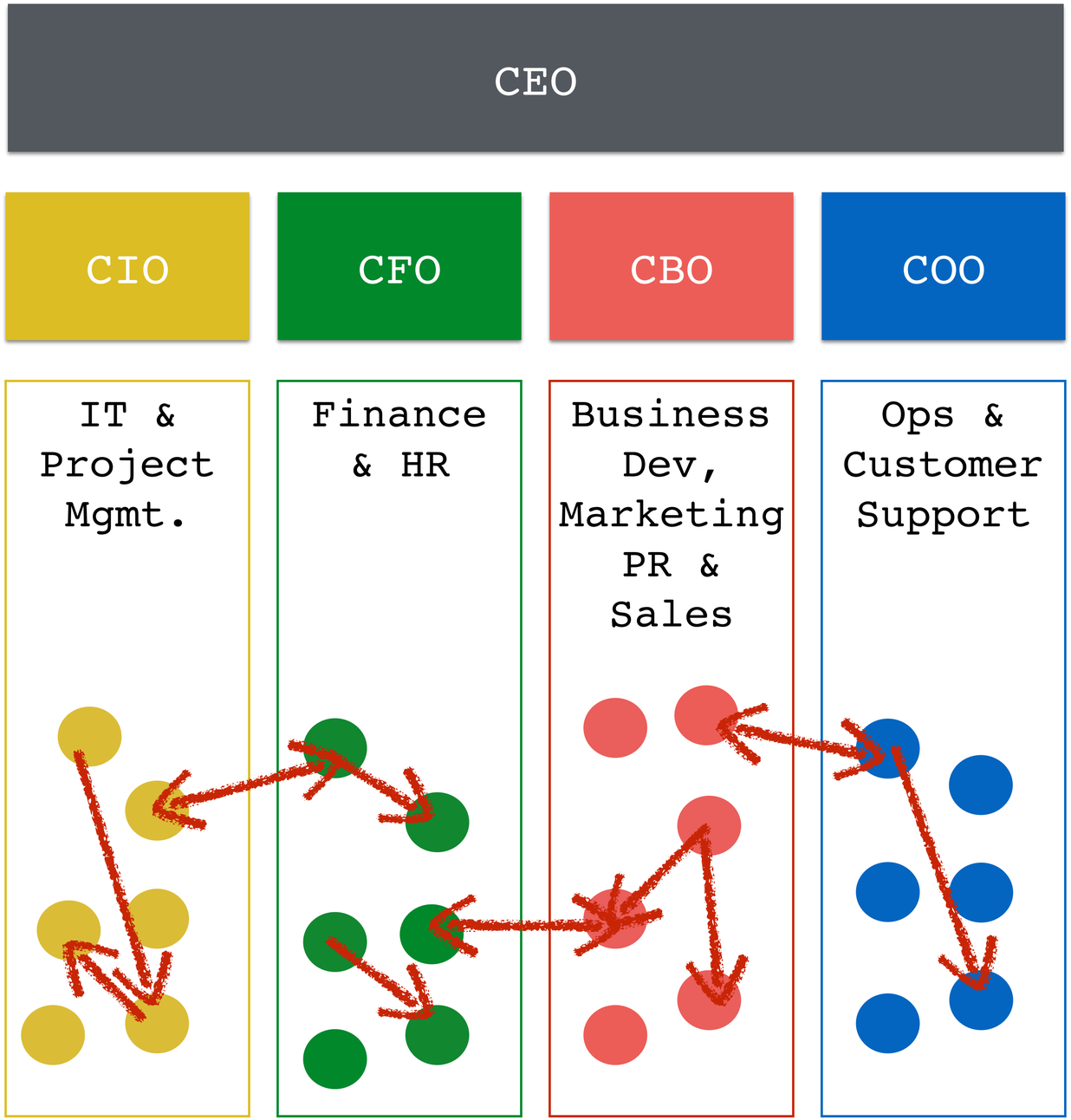


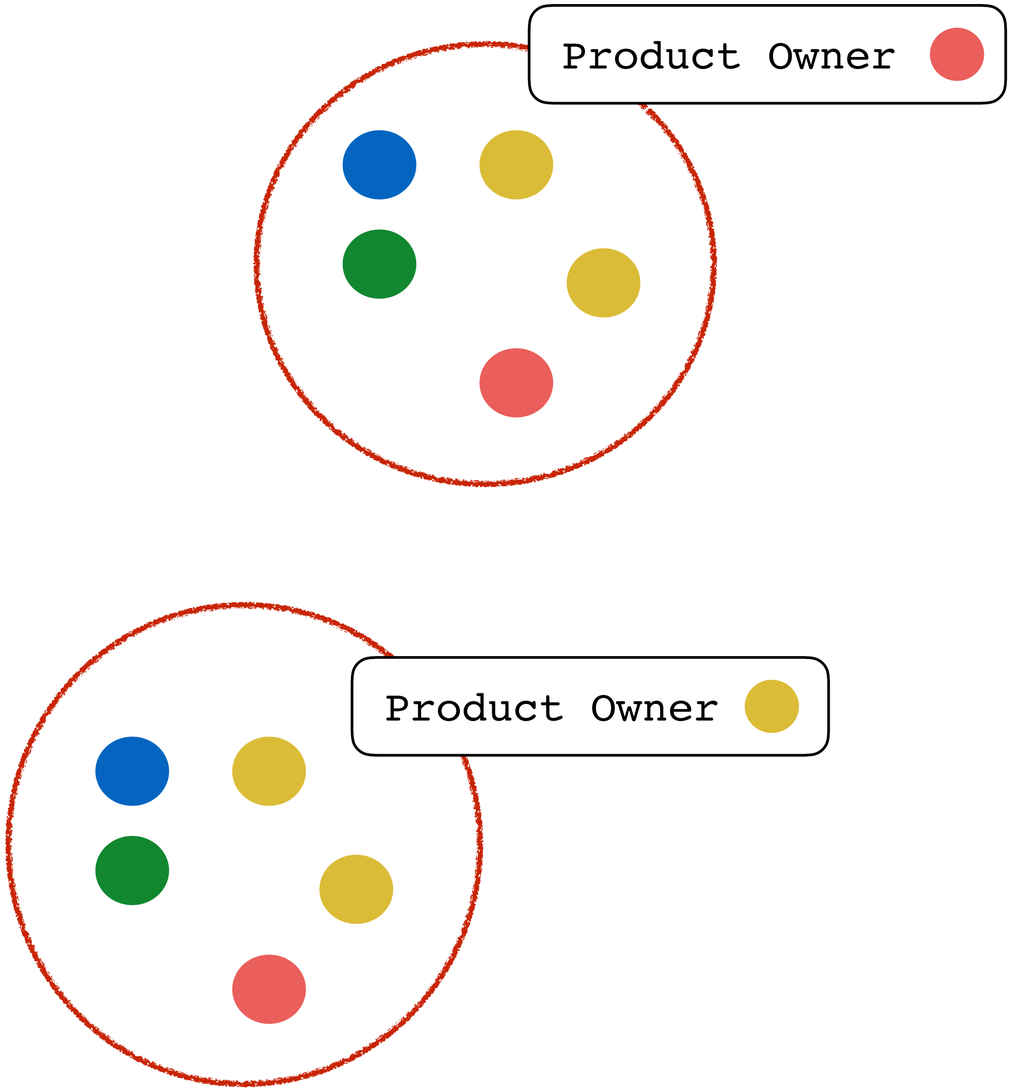
Fotango website, 2005, courtesy of CEO.


CEO
CIO
CFO
CBO
COO
IT & Project Mgmt.
Finance & HR
Business Dev, Marketing PR & Sales
Ops & Customer Support

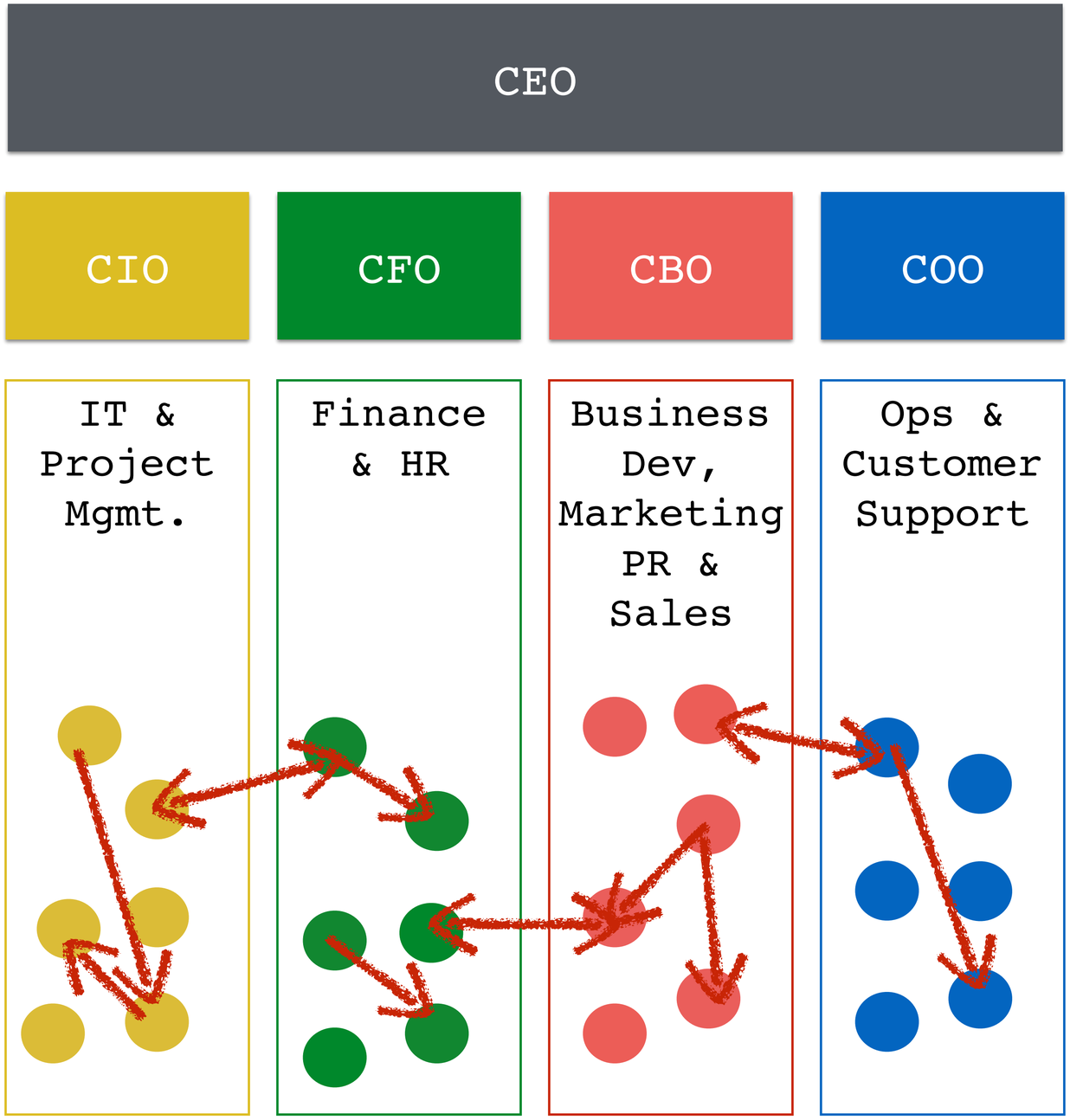
2002

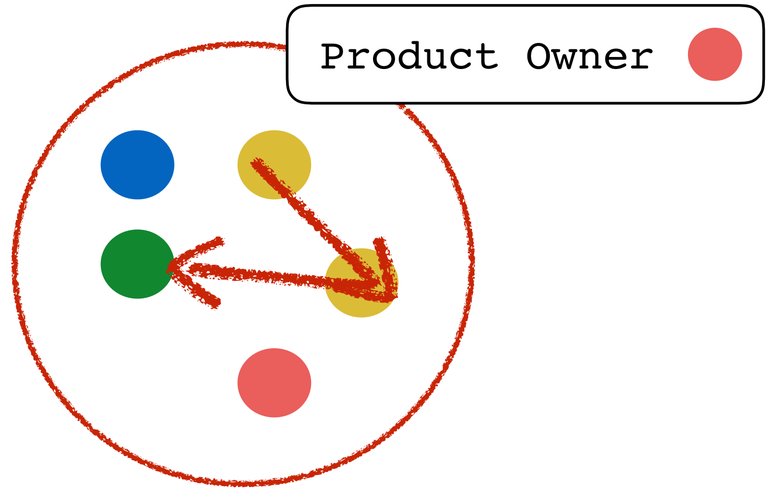

CEO
CIO
CFO
CBO
COO
IT & Project Mgmt.
Finance & HR
Business Dev, Marketing PR & Sales
Ops & Customer Support

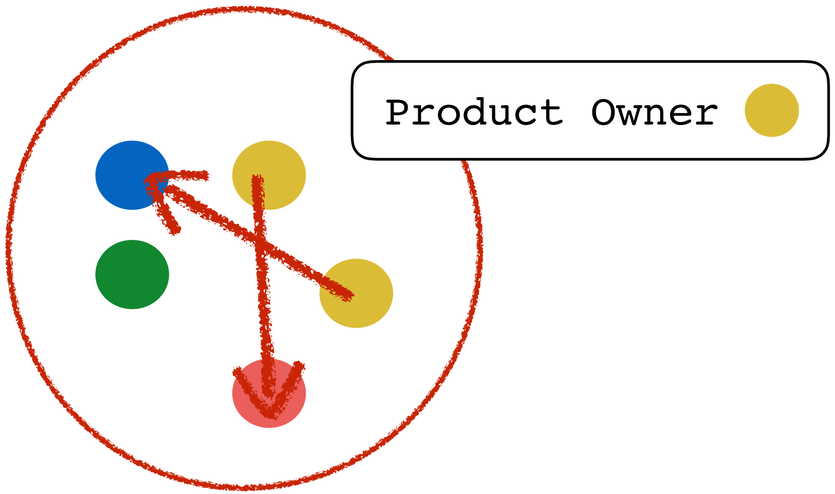

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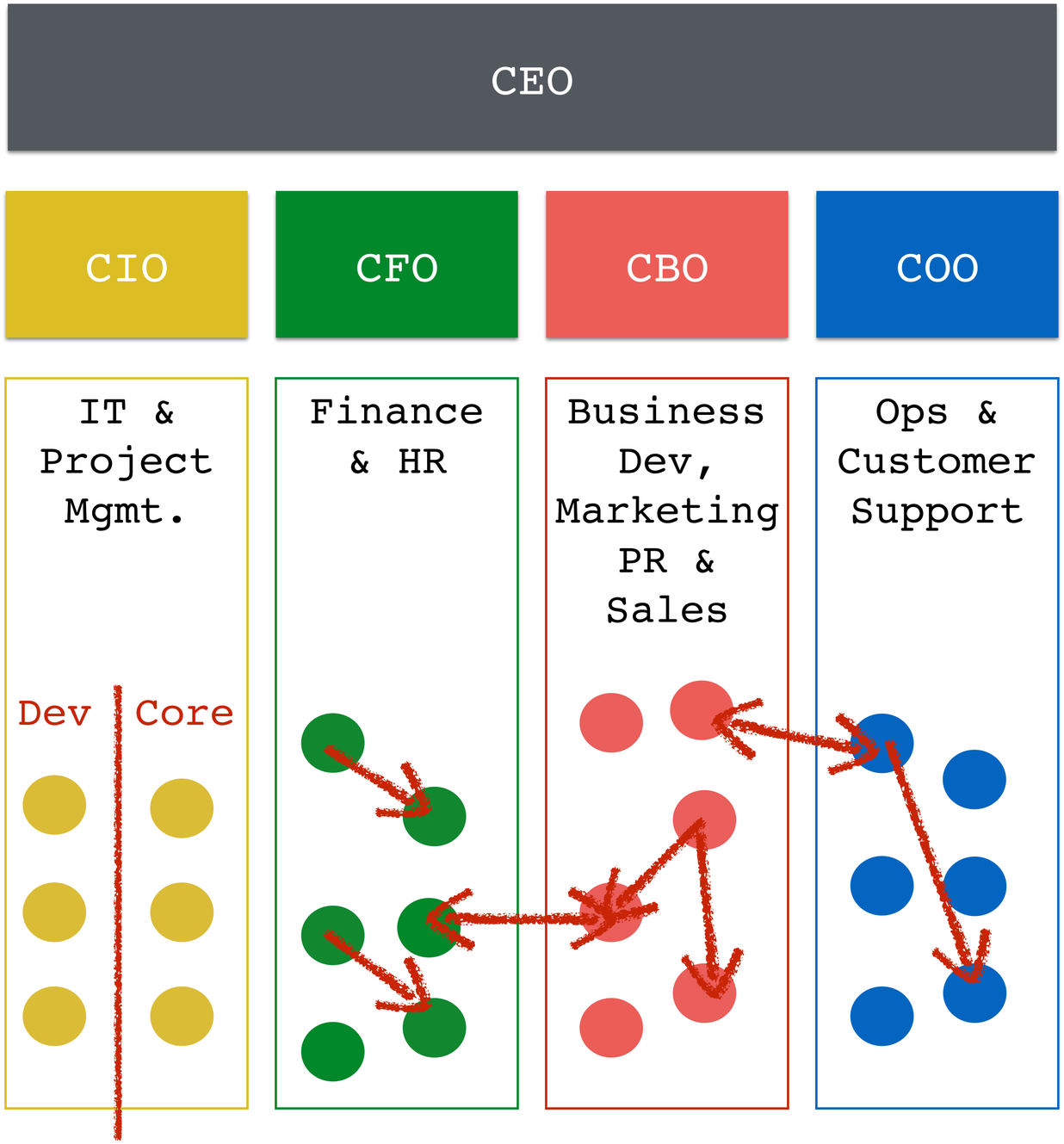

Product Owner
Product Owner

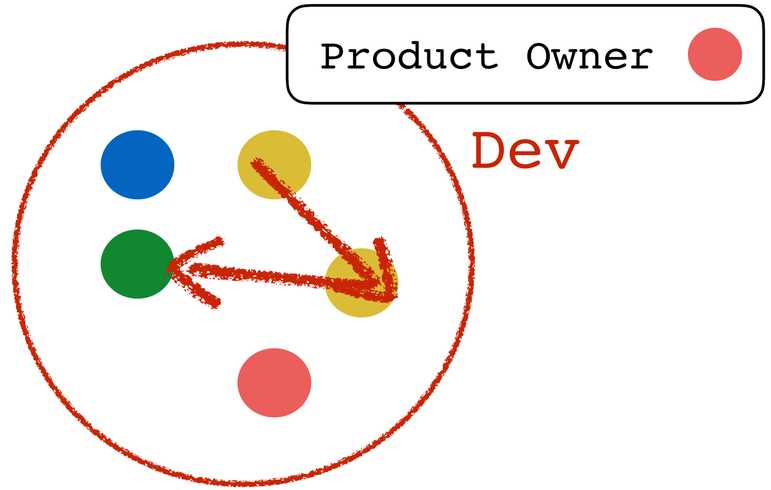
2003

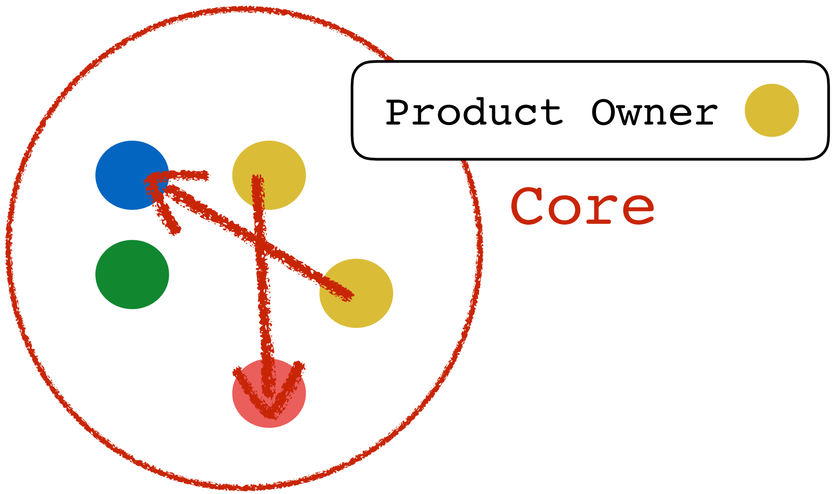

CEO
CIO
CFO
CBO
COO
IT & Project Mgmt.
Finance & HR
Business Dev, Marketing PR & Sales
Ops & Customer Support


Product Owner

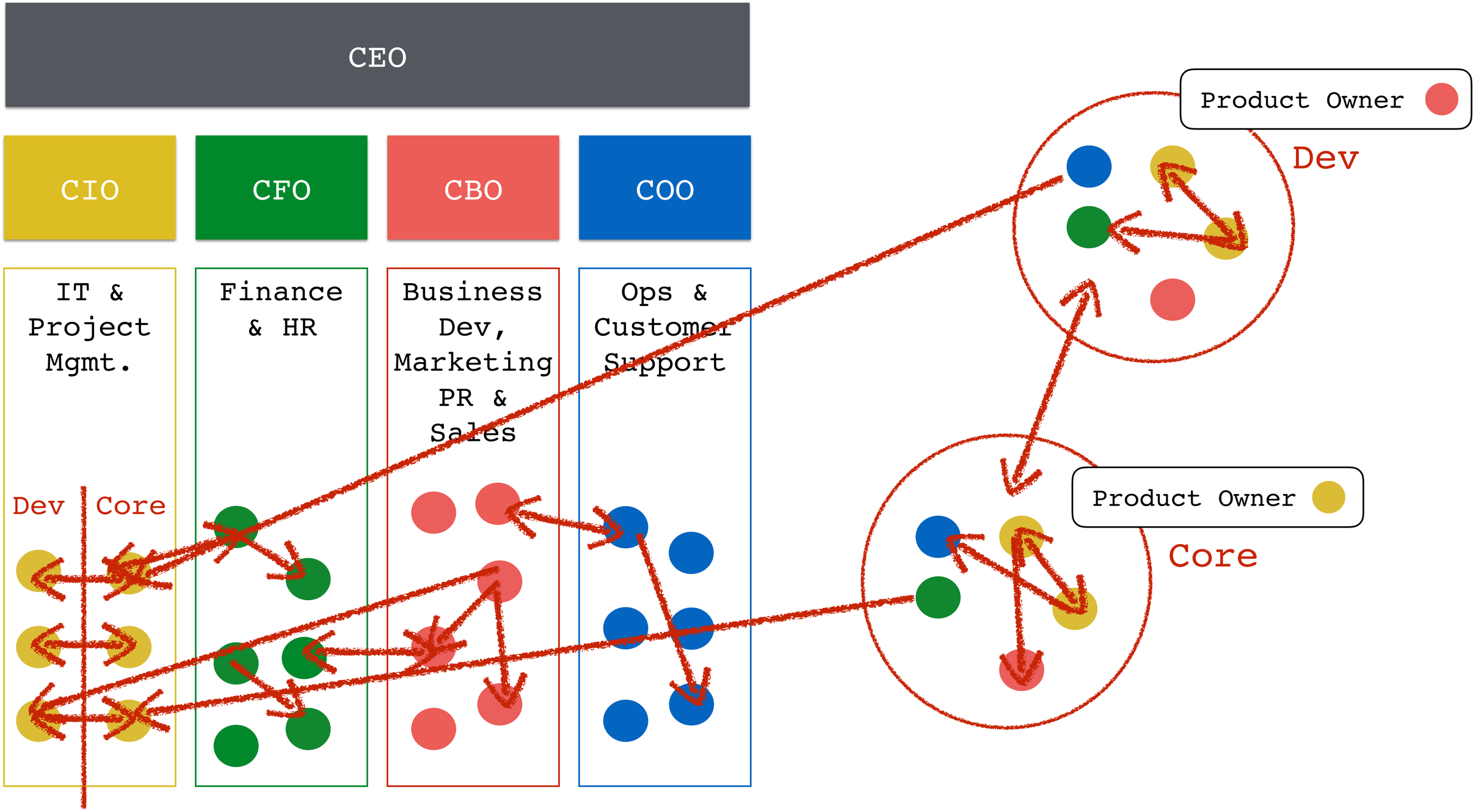

Product Owner

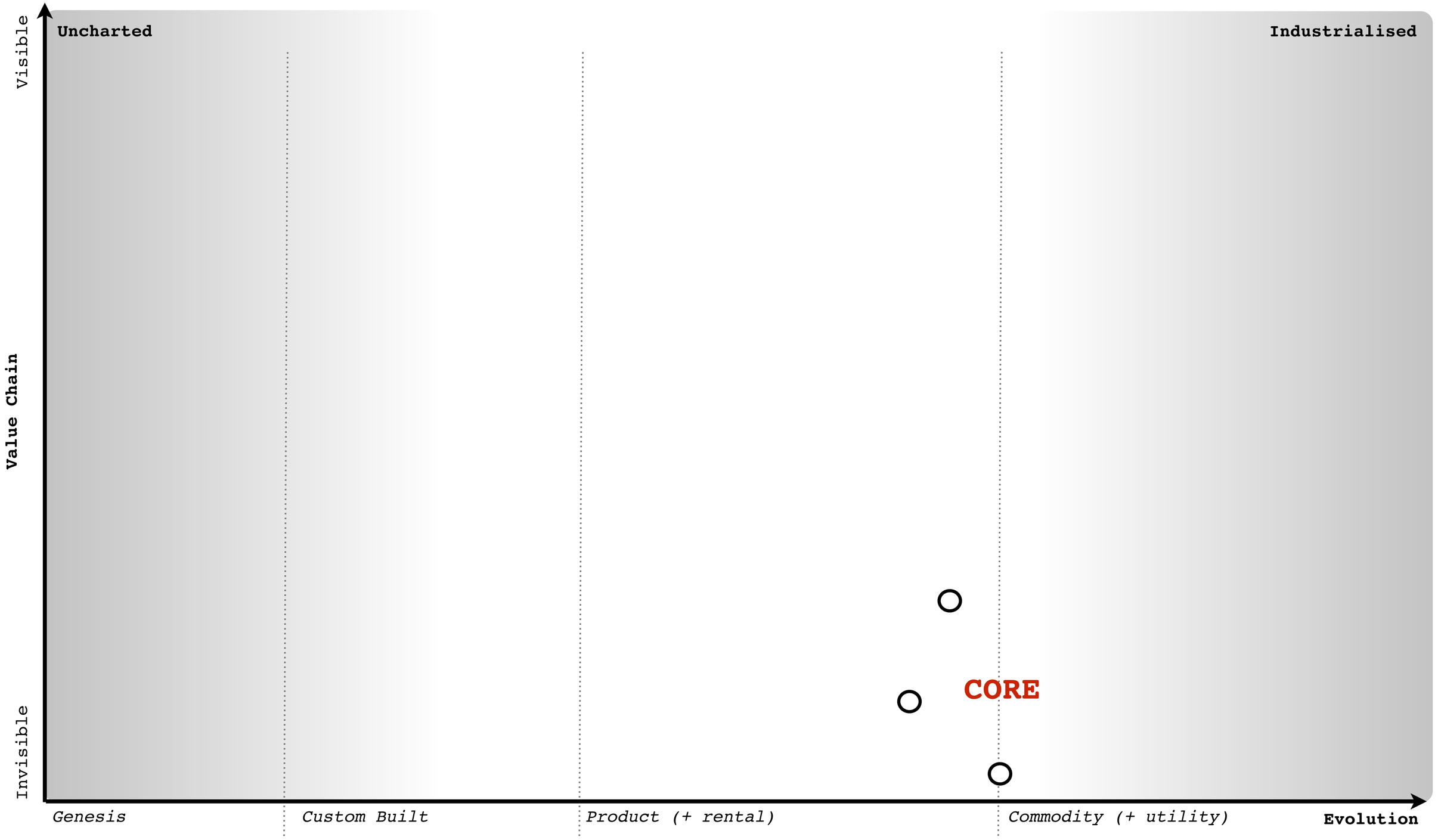

CEO
CIO
CFO
CBO
COO
IT & Project Mgmt.
Finance & HR
Business Dev, Marketing PR & Sales
Ops & Customer Support
Dev
Core

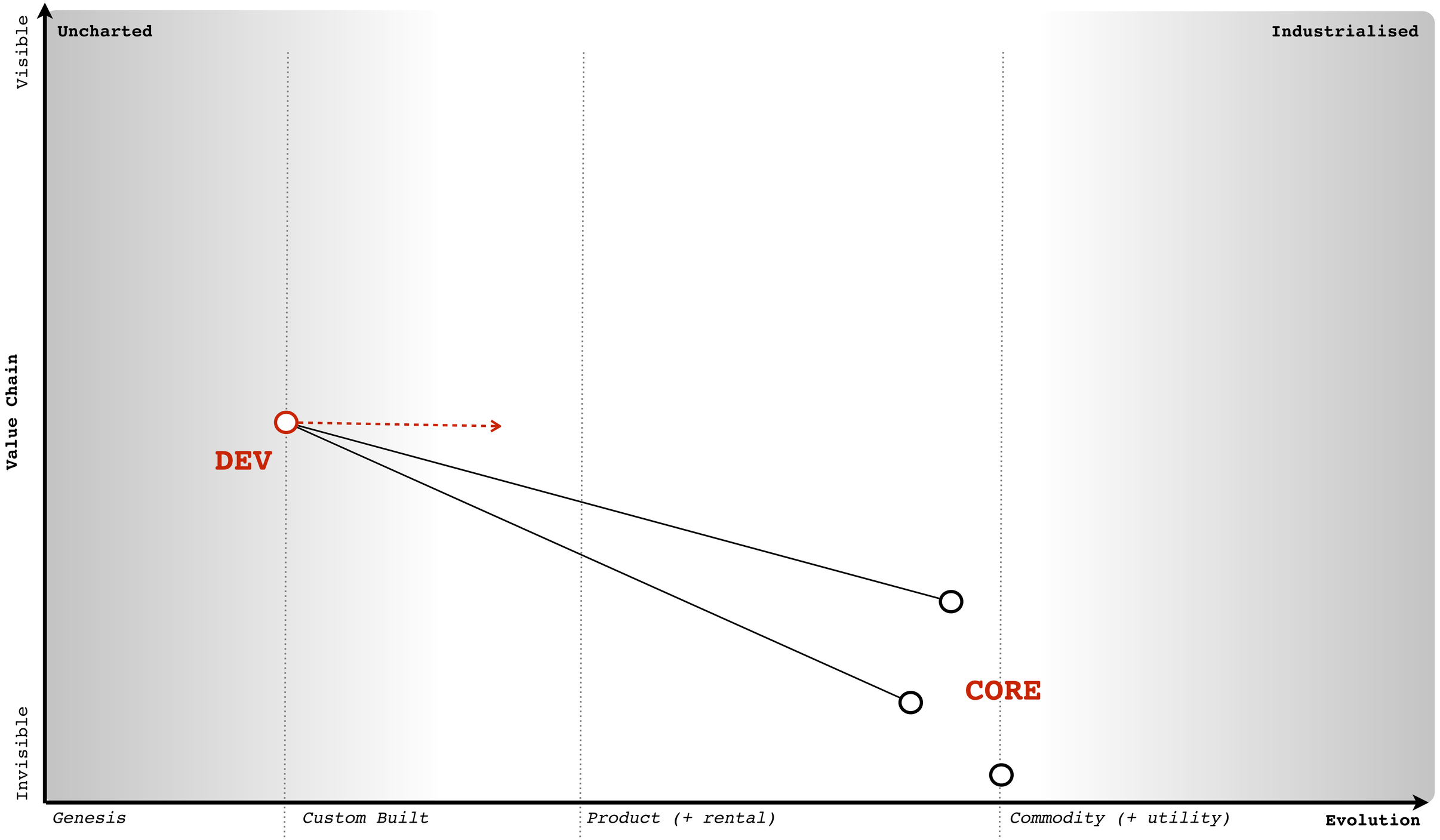

Product Owner
Dev

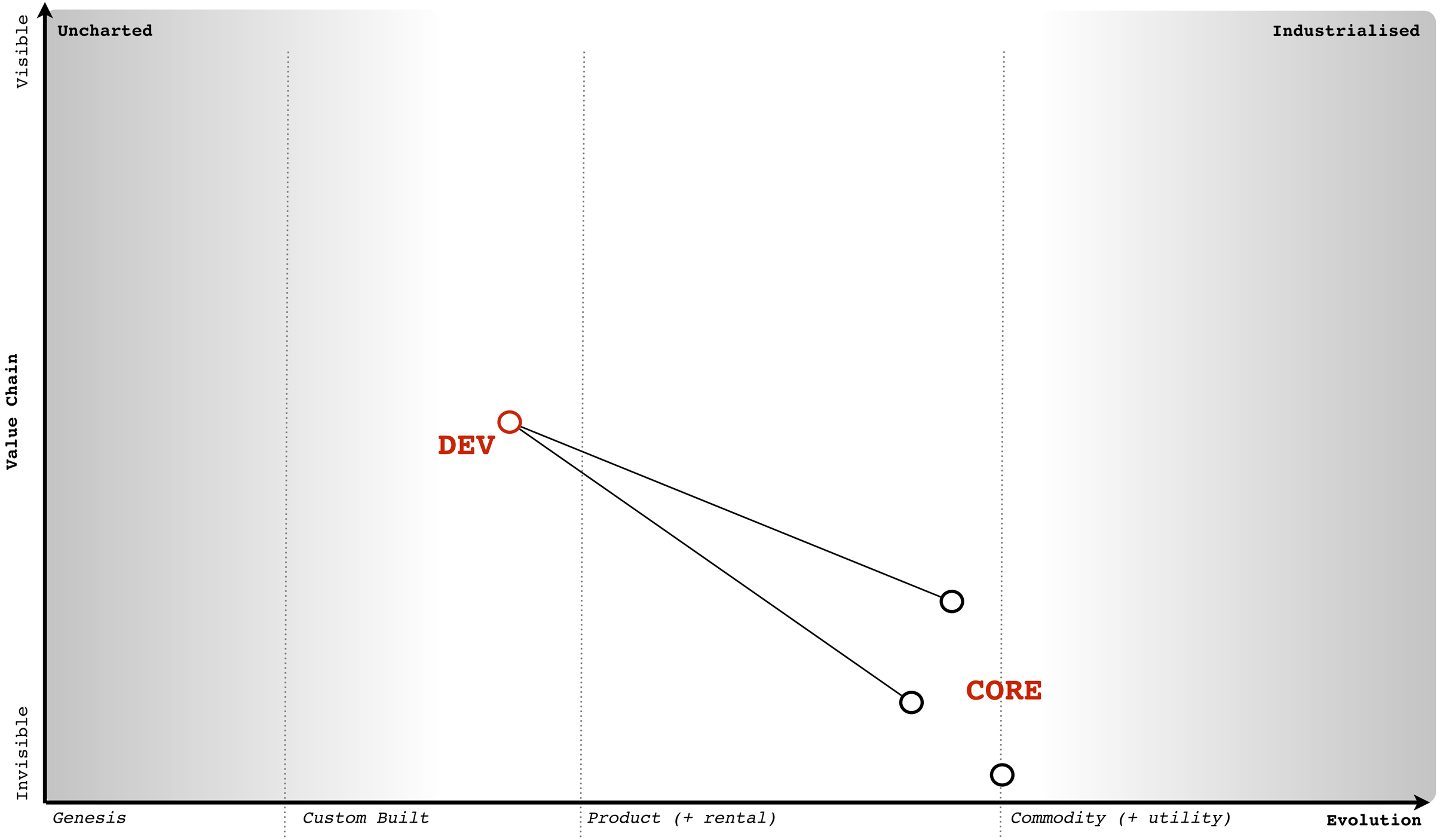

Product Owner
Core

2004


CEO
CIO
CFO
CBO
COO
IT & Project Mgmt.
Finance & HR
Business Dev, Marketing PR & Sales
Ops & Customer Support
Dev
Core
Product Owner
Dev
Product Owner
Core


Uncharted
Industrialised
Visible
Value Chain
Invisible
CORE
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

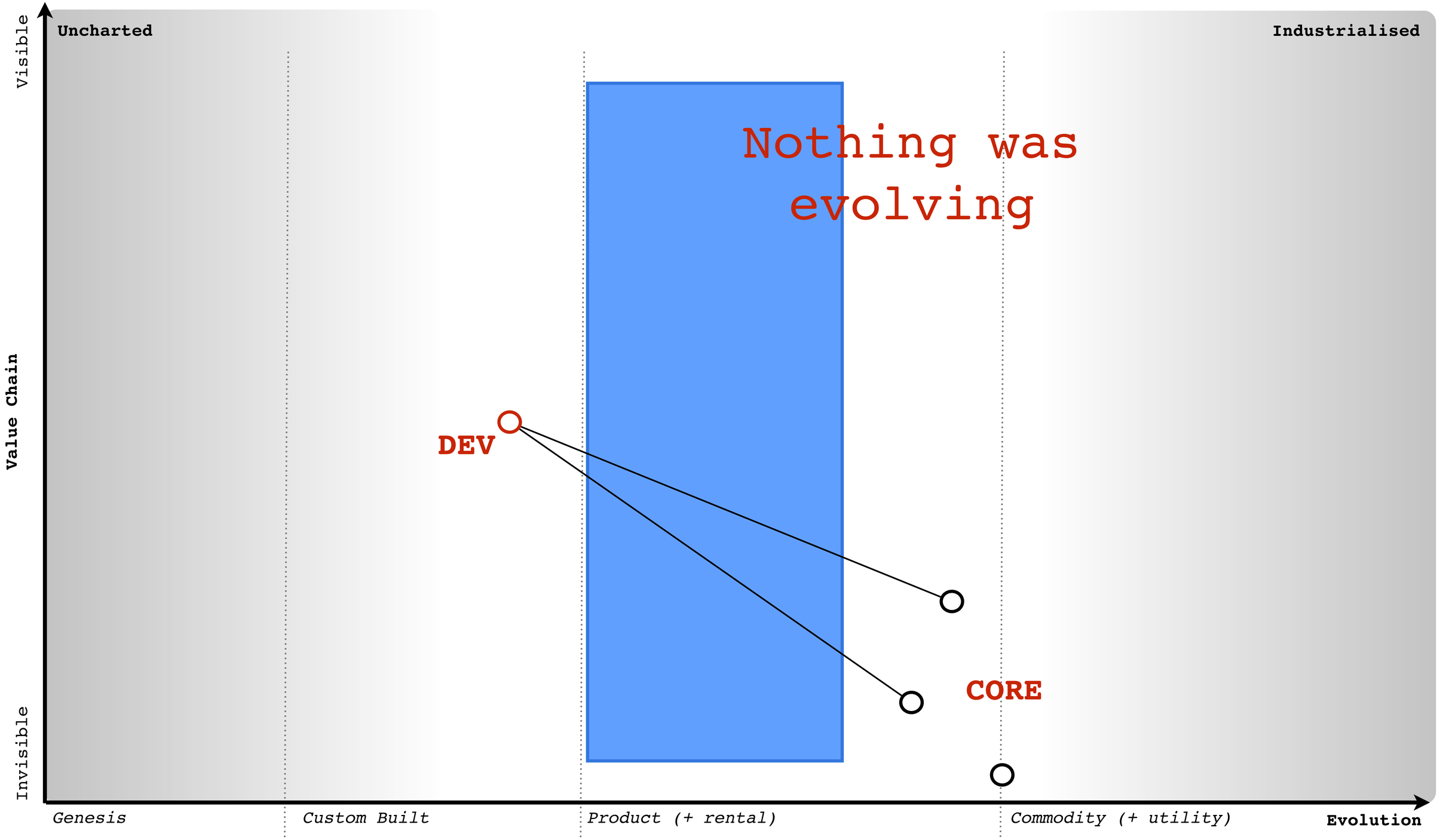

Uncharted
Industrialised
Visible
Value Chain
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CORE
Genesis
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Evolution

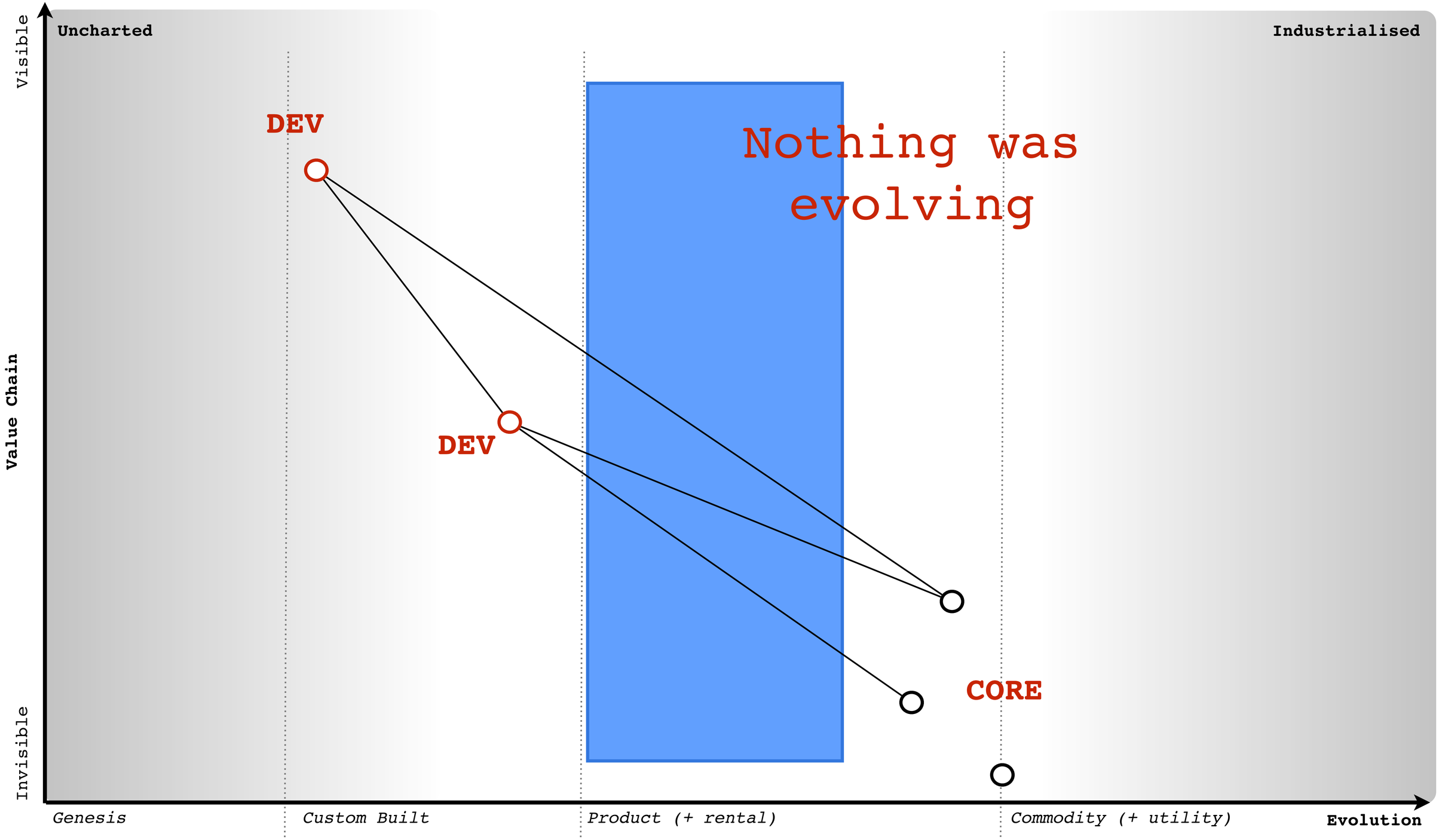

Uncharted
Industrialised
Visible
Value Chain
Invisible
DEV
CORE
Genesis
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Product (+ rental)
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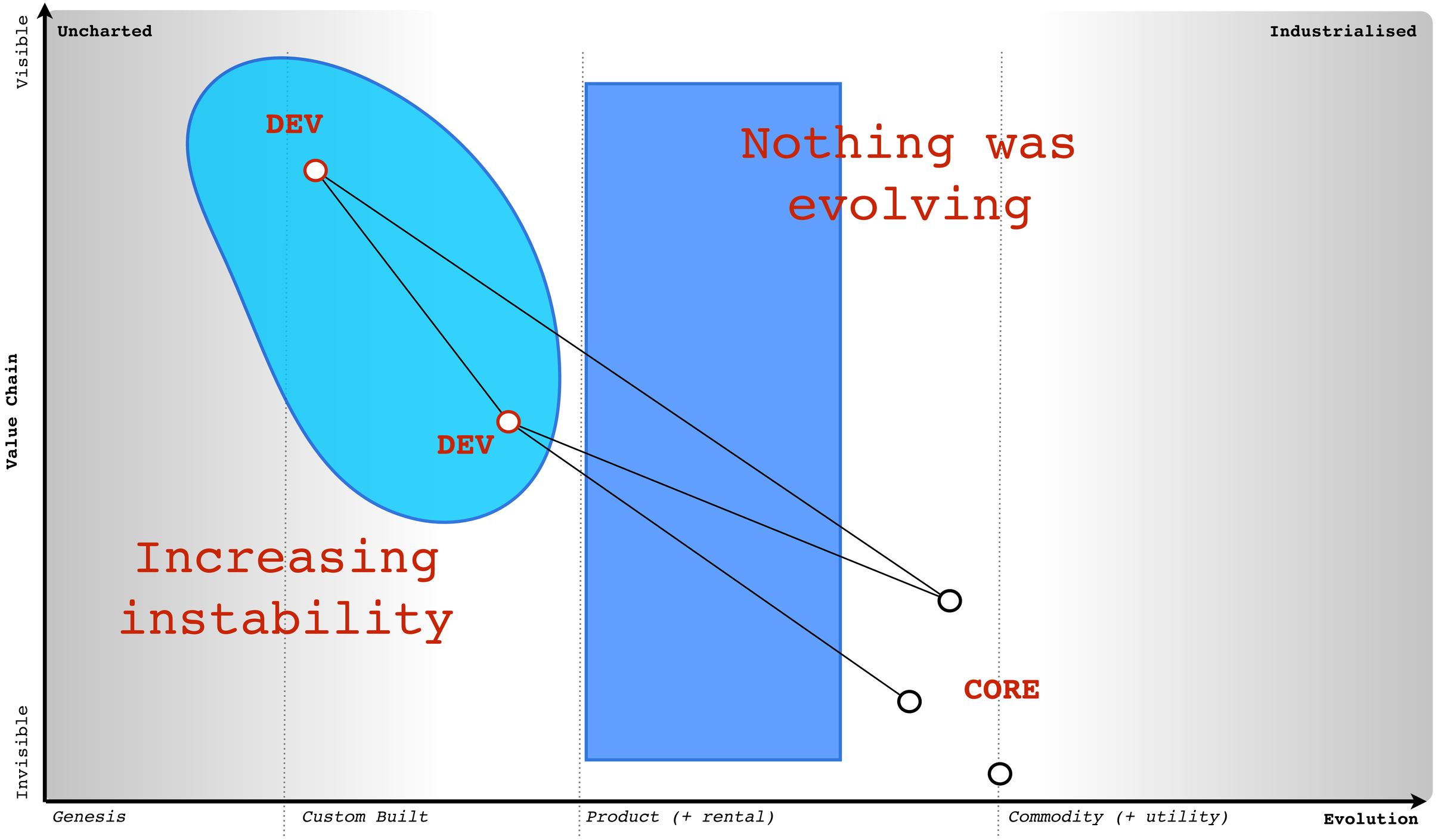

You look
after this!

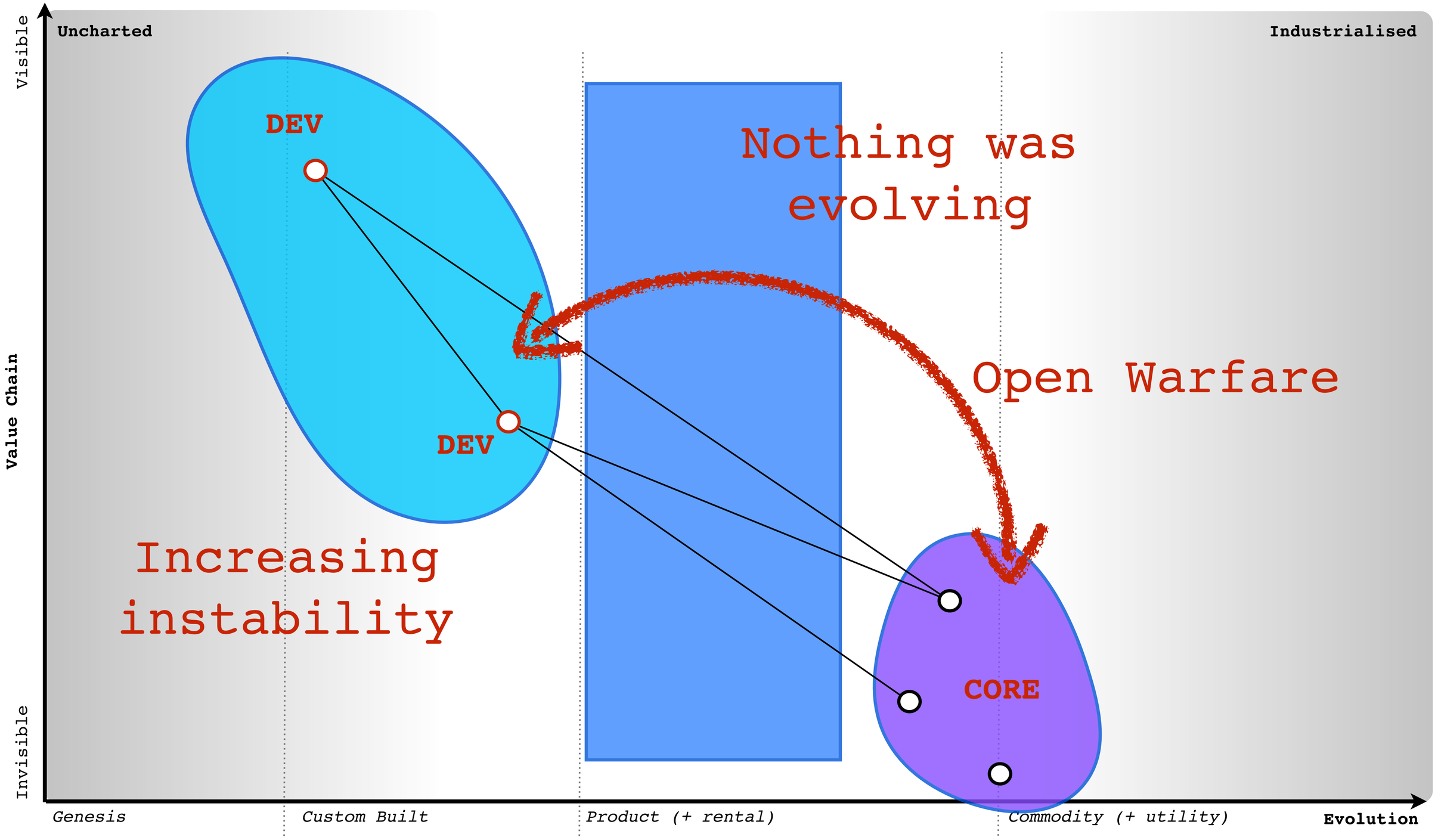

You look after this!
Where's the documentation?

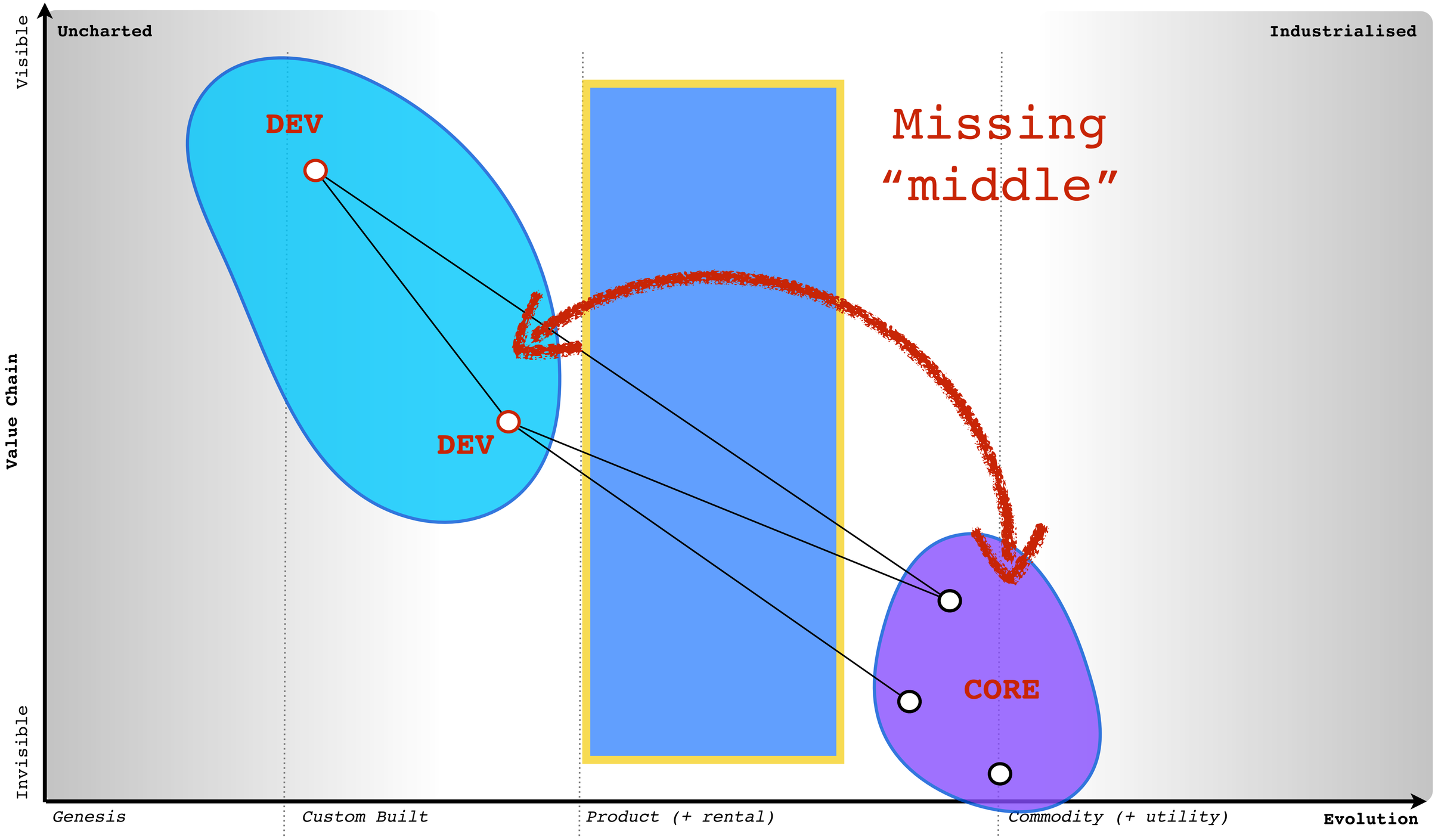

Burn them!
Heretic

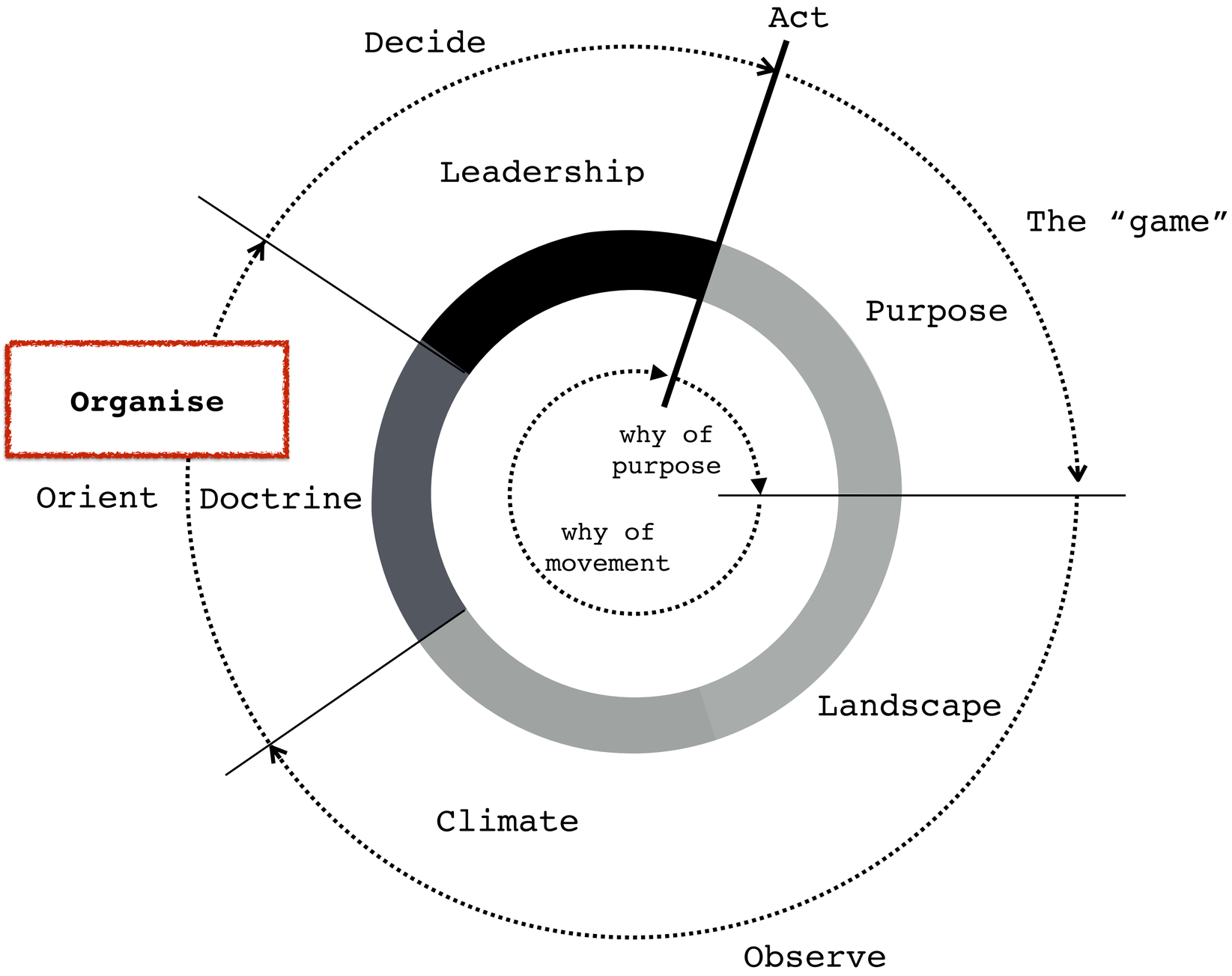

Visible
Uncharted
Industrialised
Nothing was evolving
DEV
CORE
Invisible
Value Chain
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Uncharted
Industrialised
Visible
Value Chain
Invisible
DEV
DEV
Nothing was evolving
CORE
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Uncharted
Industrialised
Visible
Value Chain
Invisible
DEV
DEV
Nothing was evolving
Increasing instability
CORE
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

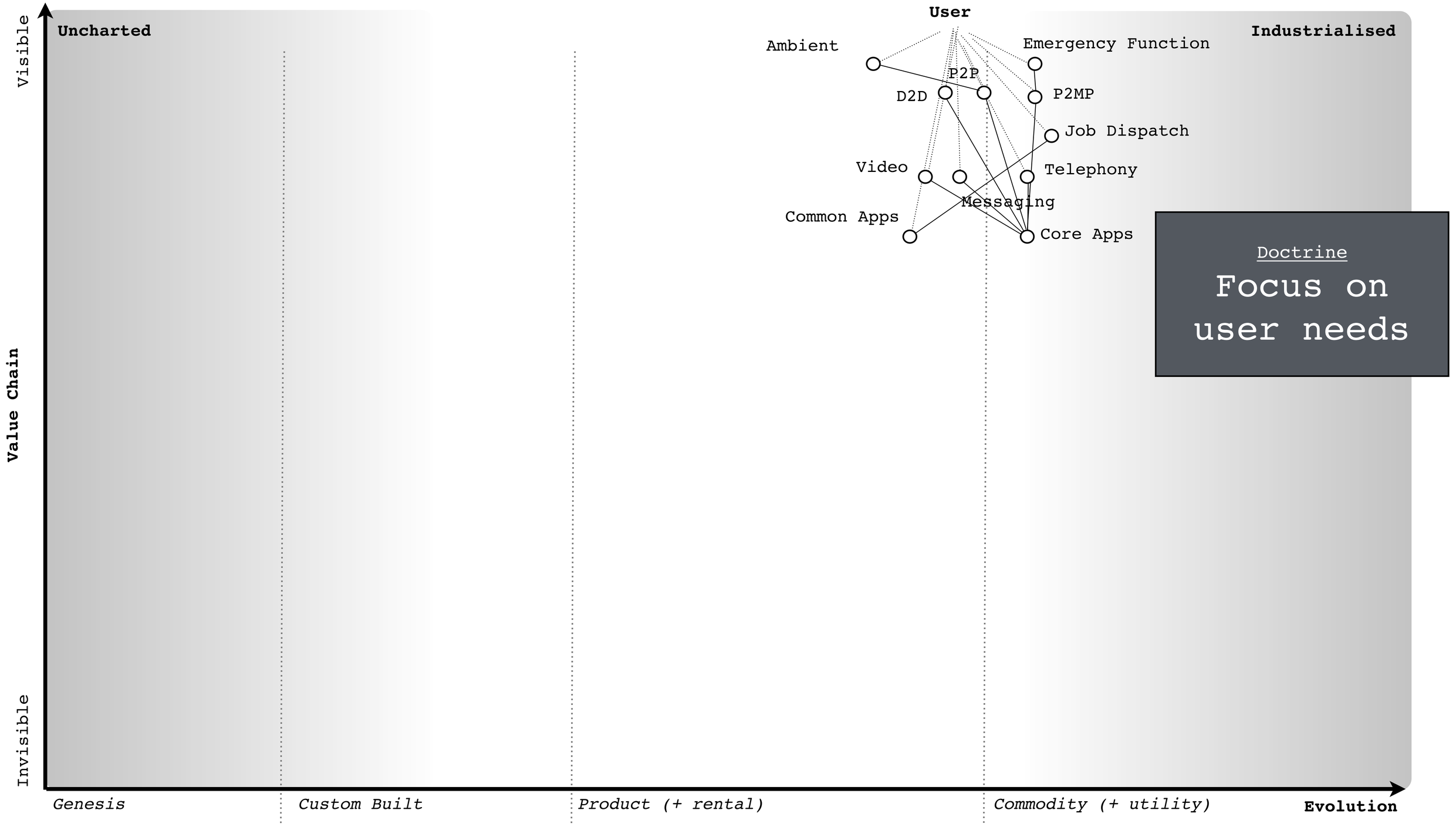

Uncharted
Industrialised
Visible
Value Chain
Invisible
DEV
DEV
Nothing was evolving
Open Warfare
Increasing instability
CORE
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

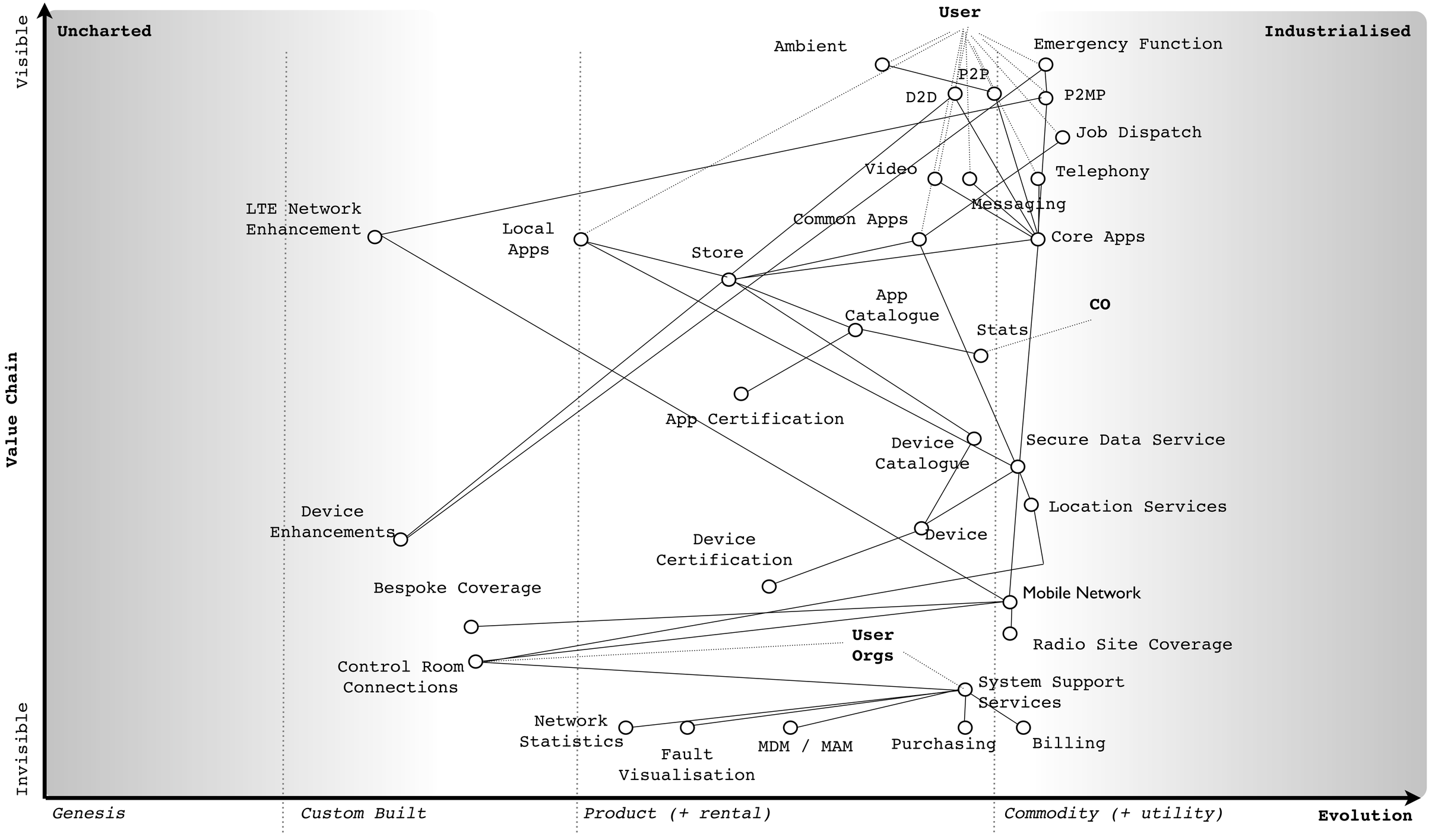

Uncharted
Industrialised
Visible
Value Chain
Invisible
DEV
DEV
Missing
“middle”
CORE
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

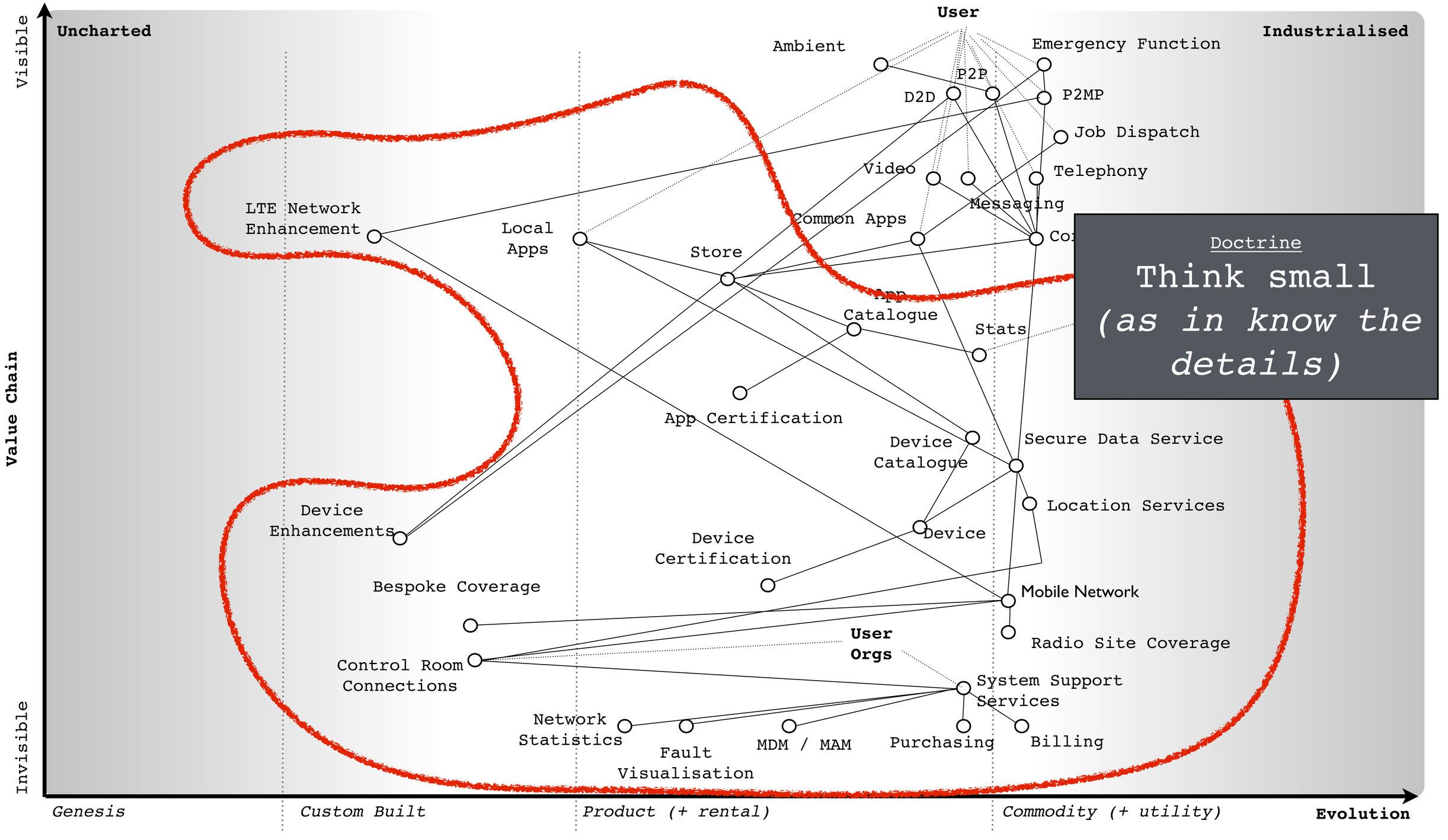

Act
Decide
Leadership
The “game”
Purpose
Organise
why of
purpose
why of
movement
Orient
Doctrine
Landscape
Climate
Observe

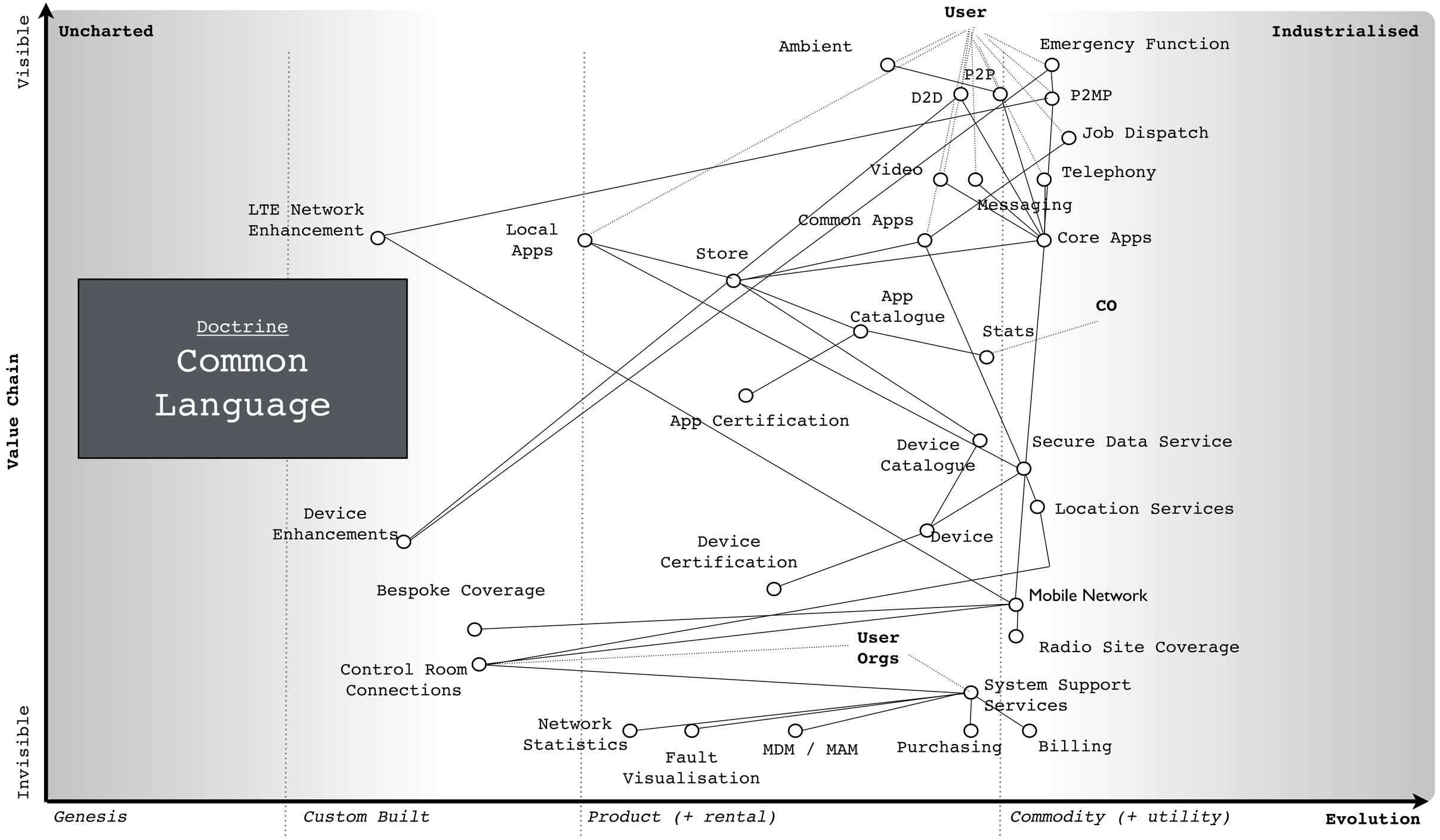


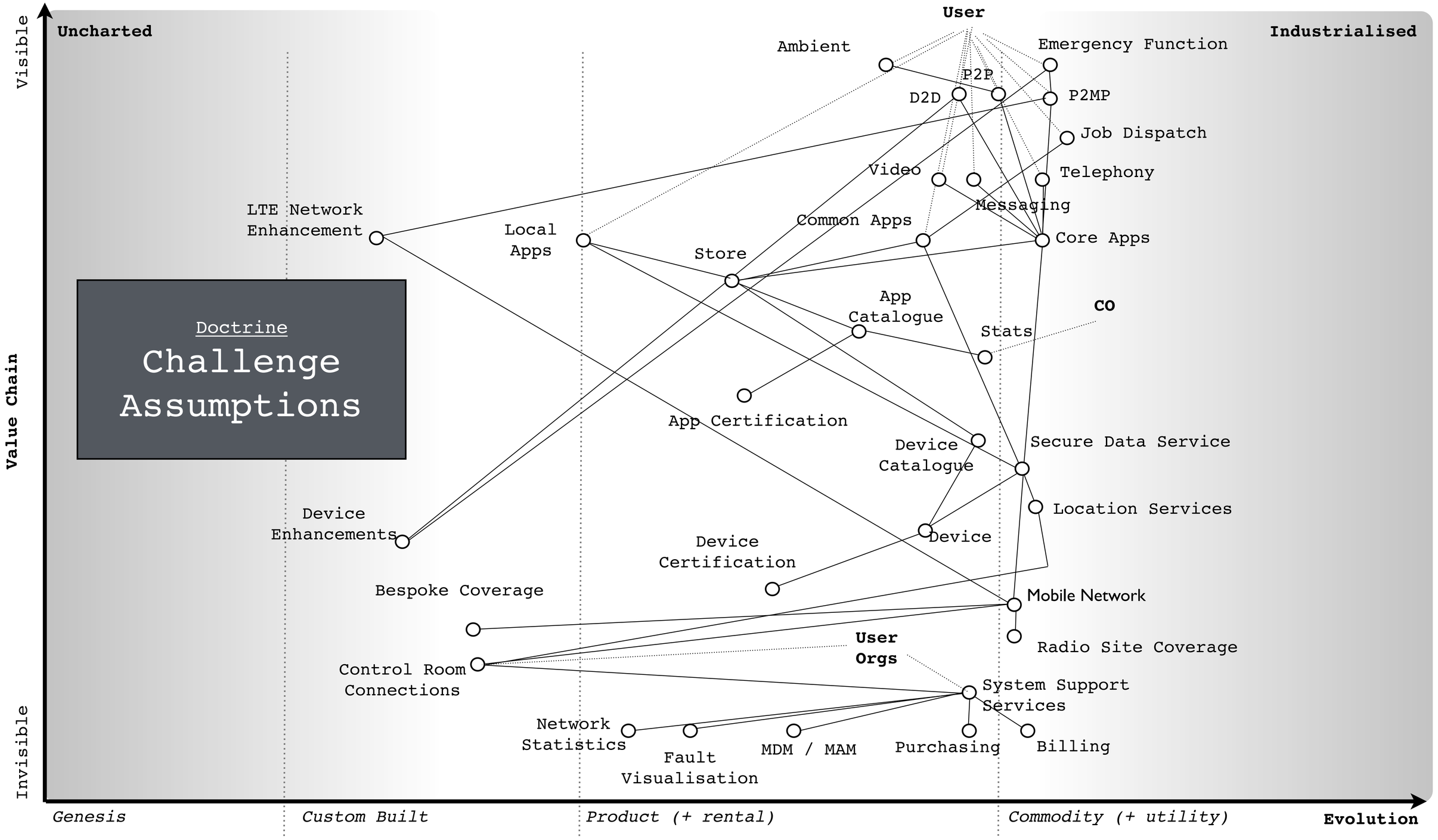
Emergency Services Mobile Communication Platfom (ESMCP)

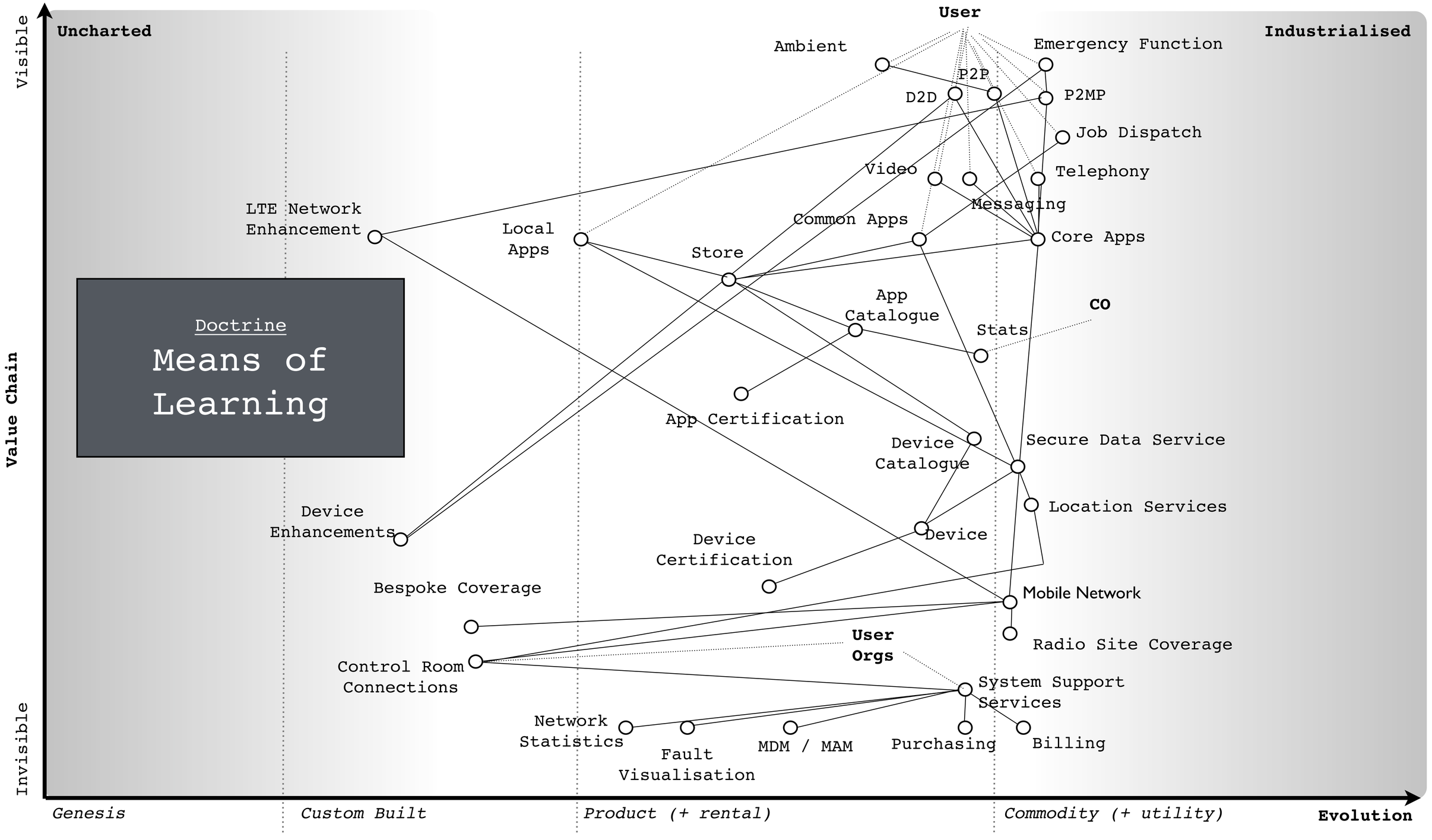

Visible
Uncharted
Industrialised
User
Ambient
Emergency Function
P2P
D2D
P2MP
Job Dispatch
Video
Telephony
Messaging
Common Apps
Core Apps
Doctrine
Focus on user needs
Value Chain
Invisible
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

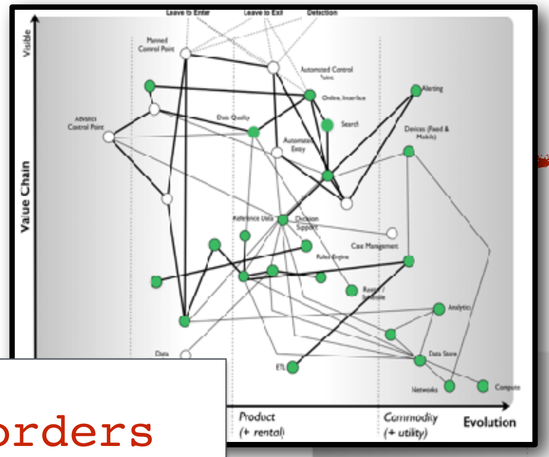

Uncharted
Industrialised
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Value Chain
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Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution
User
Ambient
Emergency Function
P2P
D2D
P2MP
Job Dispatch
Video
Telephony
Messaging
LTE Network Enhancement
Local Apps
Common Apps
Core Apps
Store
App Catalogue
CO
Stats
App Certification
Device Catalogue
Secure Data Service
Location Services
Device Enhancements
Device
Device Certification
Bespoke Coverage
Mobile Network
Radio Site Coverage
User Orgs
Control Room Connections
System Support Services
Network Statistics
Fault Visualisation
MDM / MAM
Purchasing
Billing


Uncharted
Industrialised
Visible
Invisible
Value Chain
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution
User
Ambient
Emergency Function
P2P
D2D
P2MP
Job Dispatch
Video
Telephony
Messaging
Common Apps
LTE Network Enhancement
Local Apps
Store
App Catalogue
Stats
App Certification
Device Catalogue
Secure Data Service
Location Services
Device Enhancements
Device
Device Certification
Bespoke Coverage
Mobile Network
Radio Site Coverage
User Orgs
Control Room Connections
System Support Services
Network Statistics
Fault Visualisation
MDM / MAM
Purchasing
Billing
Doctrine
Think small
(as in know the details)

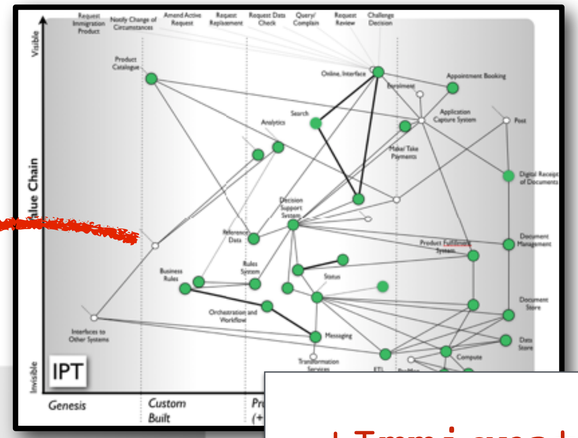

Uncharted
Industrialised
Visible
Invisible
Value Chain
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution
User
Ambient
Emergency Function
P2P
D2D
P2MP
Job Dispatch
Video
Telephony
Messaging
Common Apps
Core Apps
LTE Network Enhancement
Local Apps
Store
App Catalogue
CO
Stats
Doctrine
Common Language
App Certification
Device Catalogue
Secure Data Service
Location Services
Device Enhancements
Device
Device Certification
Bespoke Coverage
Mobile Network
Radio Site Coverage
User Orgs
Control Room Connections
System Support Services
Network Statistics
Fault Visualisation
MDM / MAM
Purchasing
Billing


Visible
Invisible
Value Chain
Uncharted
Industrialised
User
Ambient
Emergency Function
P2P
D2D
P2MP
Job Dispatch
Video
Telephony
Messaging
Common Apps
LTE Network Enhancement
Local Apps
Core Apps
Store
Doctrine
Challenge Assumptions
App Catalogue
CO
Stats
App Certification
Device Catalogue
Secure Data Service
Location Services
Device Enhancements
Device
Device Certification
Bespoke Coverage
Mobile Network
Radio Site Coverage
User Orgs
Control Room Connections
System Support Services
Network Statistics
Fault Visualisation
MDM / MAM
Purchasing
Billing
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

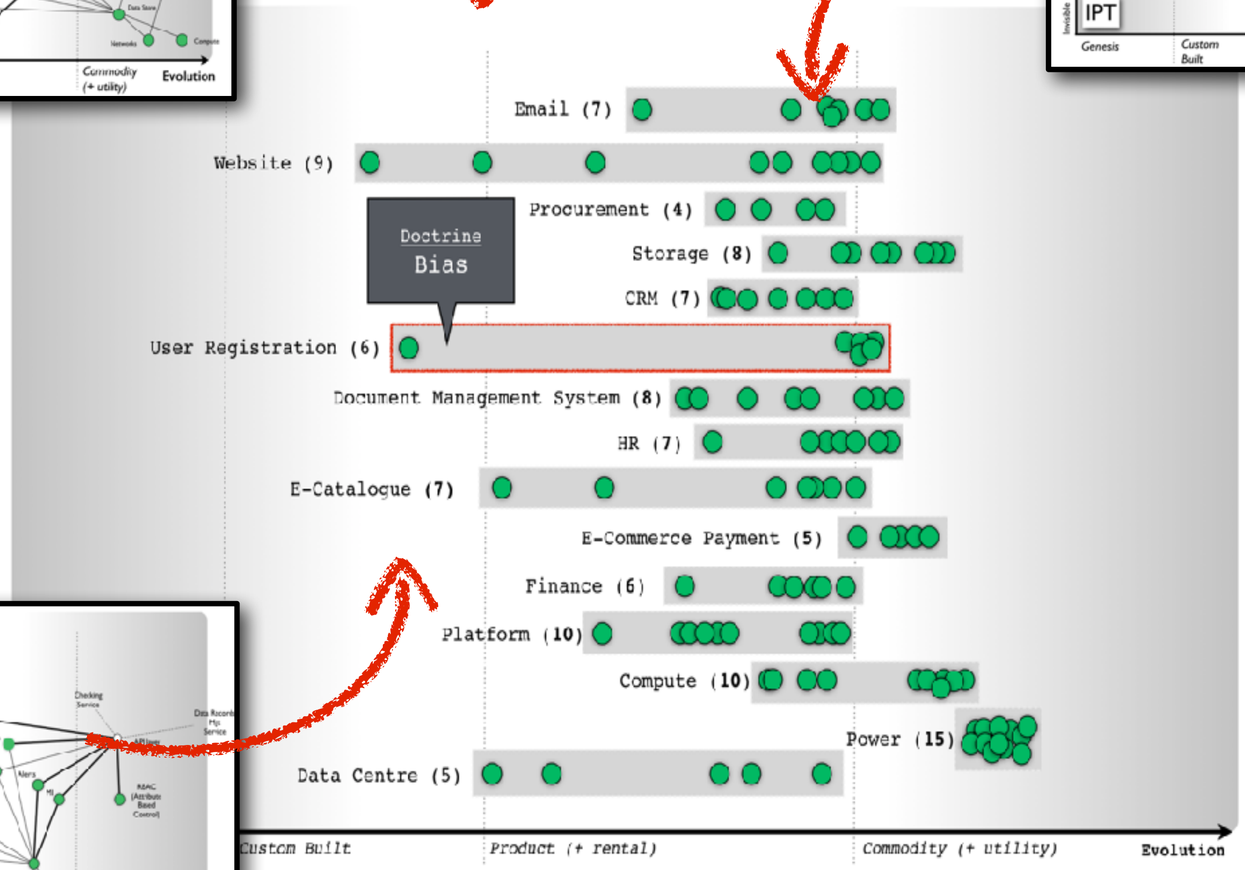

Uncharted
Industrialised
Visible
Invisible
Value Chain
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution
Doctrine
Means of Learning
User
Ambient
Emergency Function
P2P
D2D
P2MP
Job Dispatch
Video
Telephony
Messaging
LTE Network Enhancement
Local Apps
Common Apps
Core Apps
Store
App Catalogue
CO
Stats
App Certification
Device Catalogue
Secure Data Service
Location Services
Device Enhancements
Device
Device Certification
Bespoke Coverage
Mobile Network
Radio Site Coverage
User Orgs
Control Room Connections
System Support Services
Network Statistics
Fault Visualisation
MDM / MAM
Purchasing
Billing



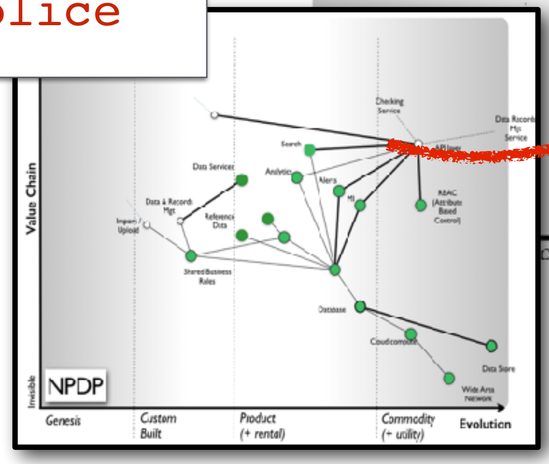
+Borders

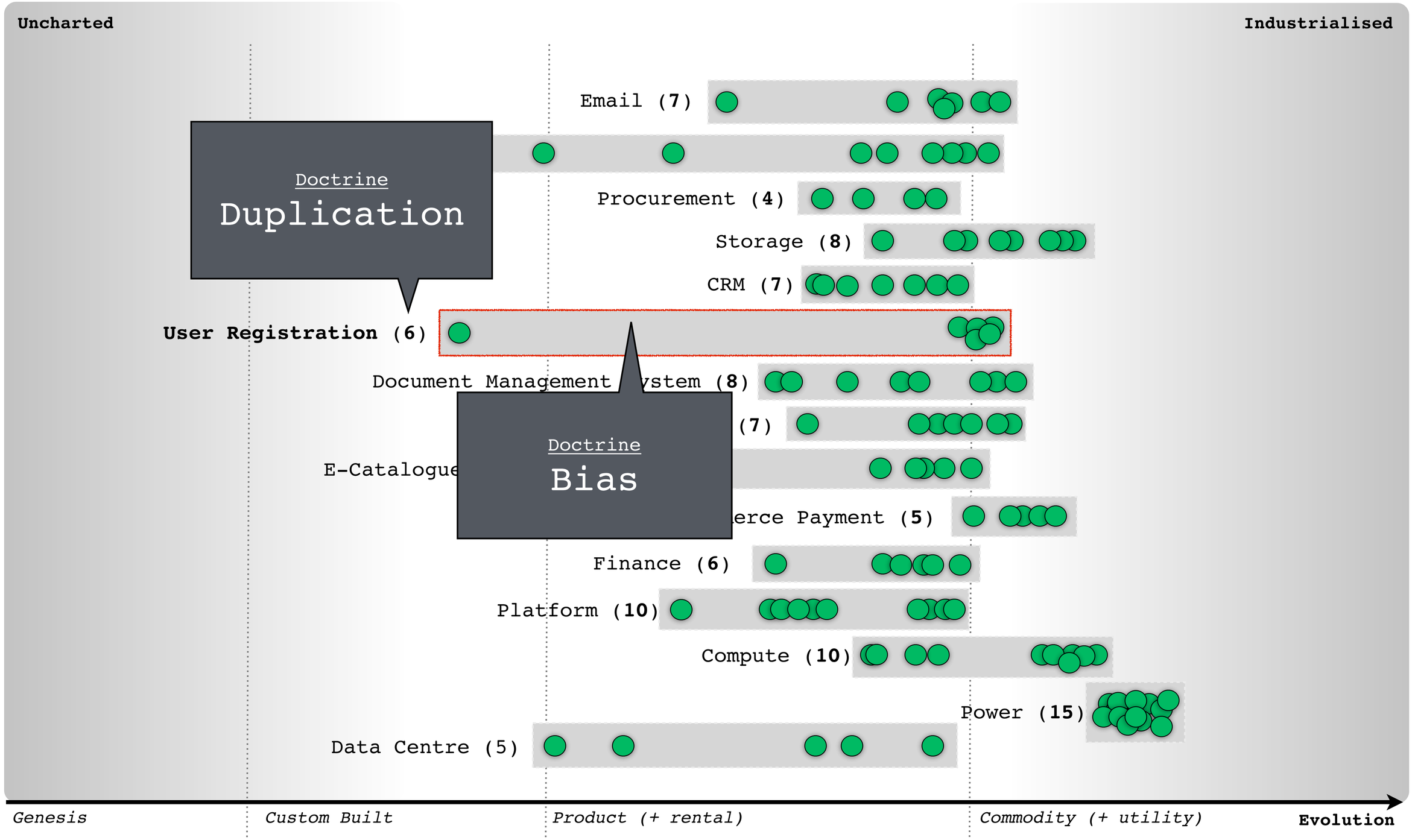


+Immigration



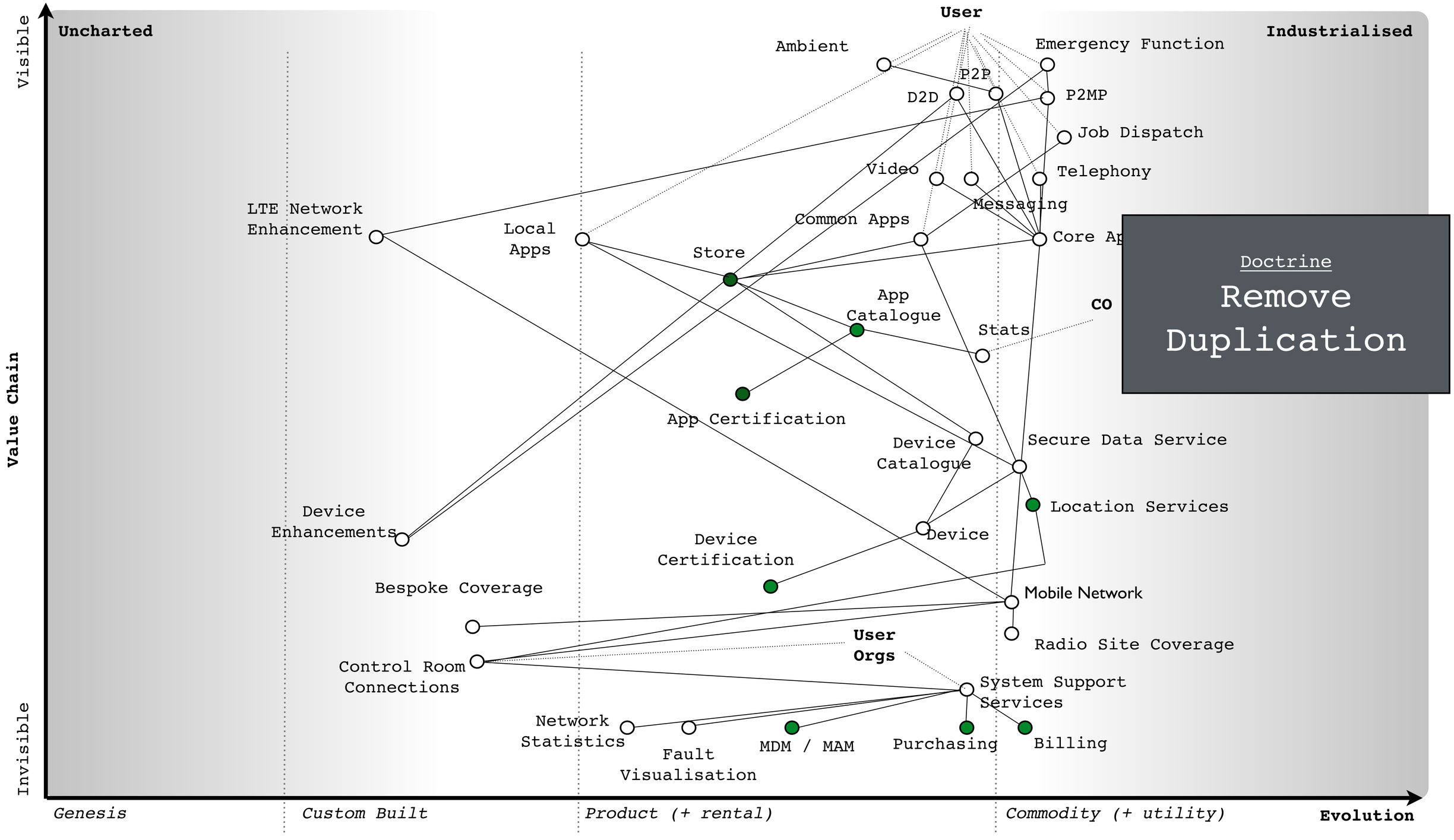
+Police




Uncharted
Industrialised
Doctrine
Duplication
Email (7)
Procurement (4)
Storage (8)
CRM (7)
User Registration (6)
Document Management ystem (8)
(7)
Doctrine
Bias
E-Catalogue
erce Payment (5)
Finance (6)
Platform (10)
Compute (10)
Power (15)
Data Centre (5)
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

IT Weapons of Mass Duplication - Leader Board

Number of Duplicate Efforts in a single Organisation	**Technology Space**	**Industry**
2,000+ (unconfirmed)	*Accounting systems*	*Global Defence*
1,000+ (estimated)	**Risk management**	**Global Finance**
380	ERP system	Global Energy
300+	ECM systems	Global Pharma
170	Cloud projects	Global Technology
118	Workflow systems	Government
22	Rules Engines	European Corporate
14	CRM system	National Bank
6	General Rule of Thumb	Everywhere


Uncharted
Industrialised
Visible
Invisible
Value Chain
User
Ambient
Emergency Function
P2P
D2D
P2MP
Job Dispatch
Video
Telephony
Messaging
LTE Network Enhancement
Local Apps
Common Apps
Store
Core Ap
App Catalogue
Stats
CO
App Certification
Device Catalogue
Secure Data Service
Location Services
Device Enhancements
Device
Device Certification
Bespoke Coverage
Mobile Network
Radio Site Coverage
User Orgs
Control Room Connections
System Support Services
Network Statistics
Fault Visualisation
MDM / MAM
Purchasing
Billing
Doctrine
Remove Duplication
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

FAST, INEXPENSIVE, SIMPLE, TINY FIST



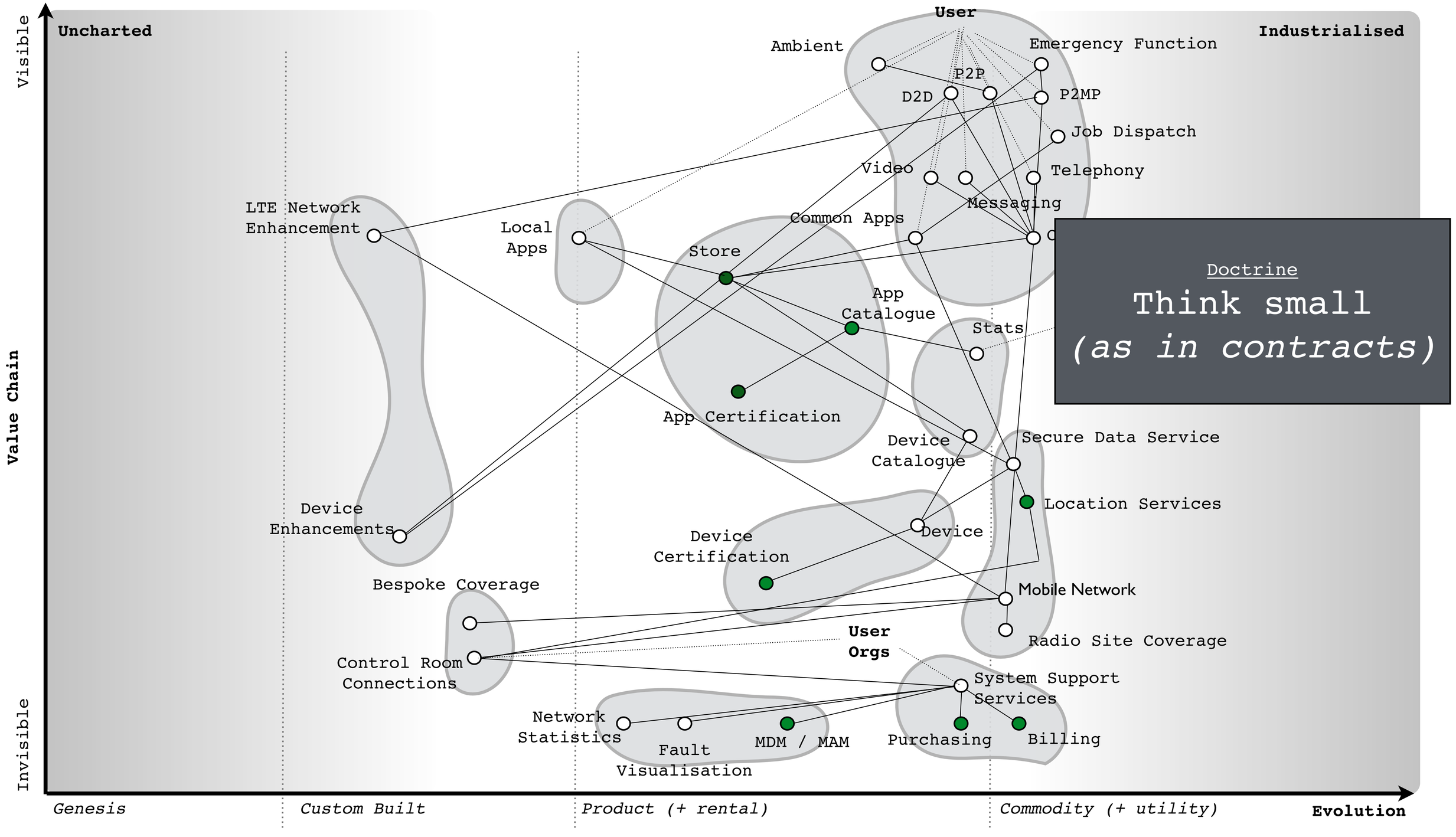
FIST at 5

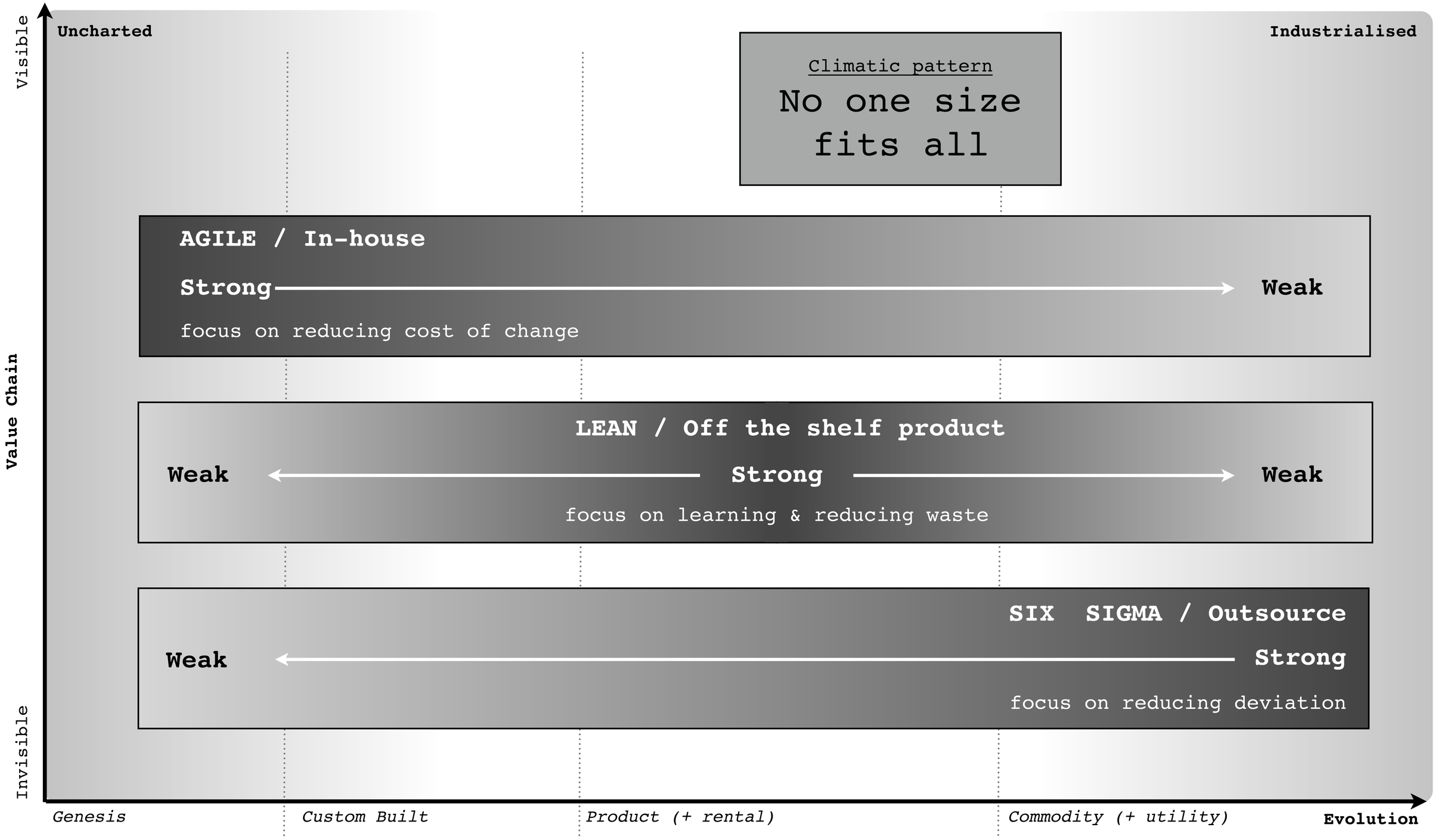
Looking Back, Looking Ahead

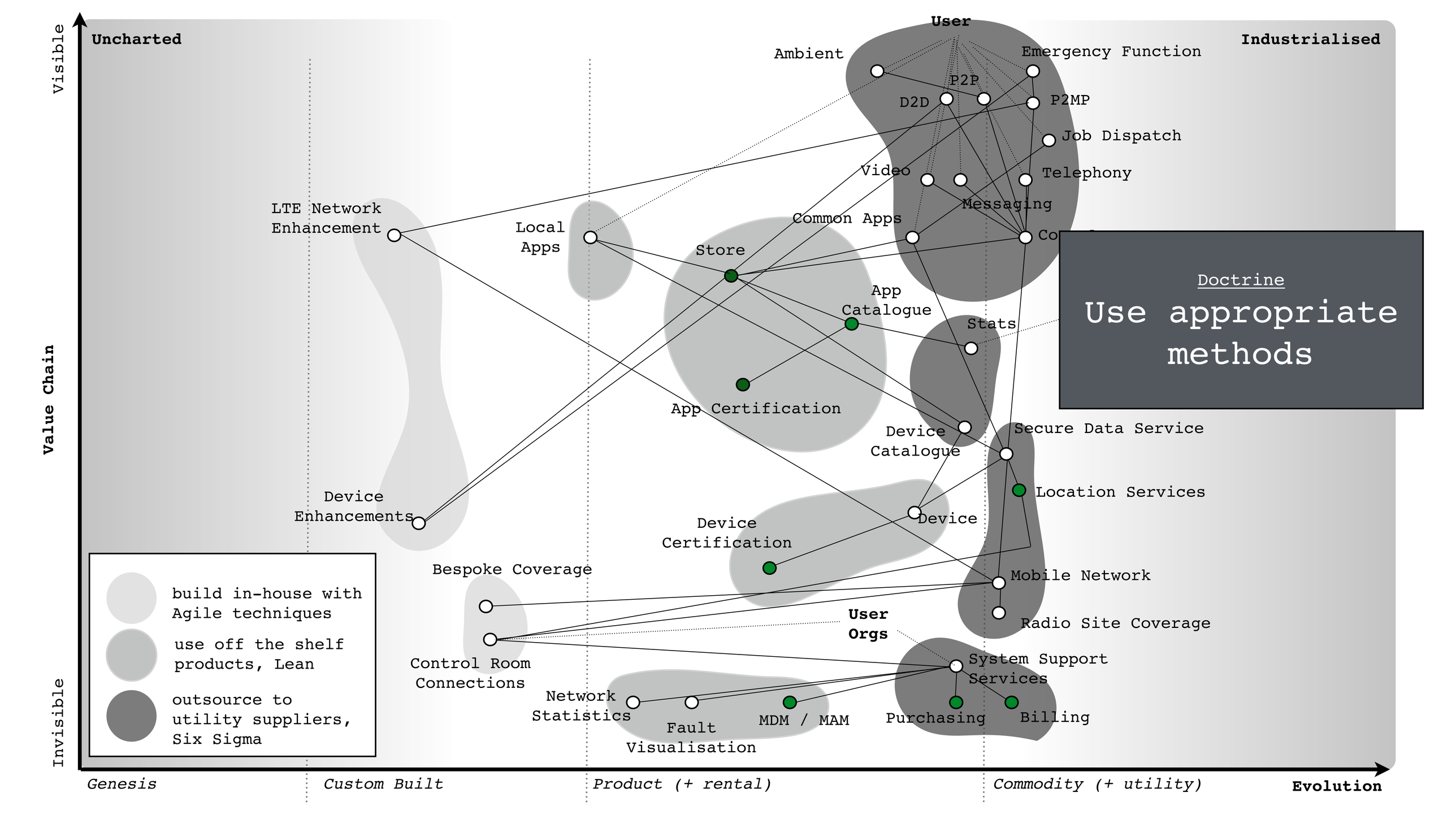
Lt. Col. Dan Ward, USAF

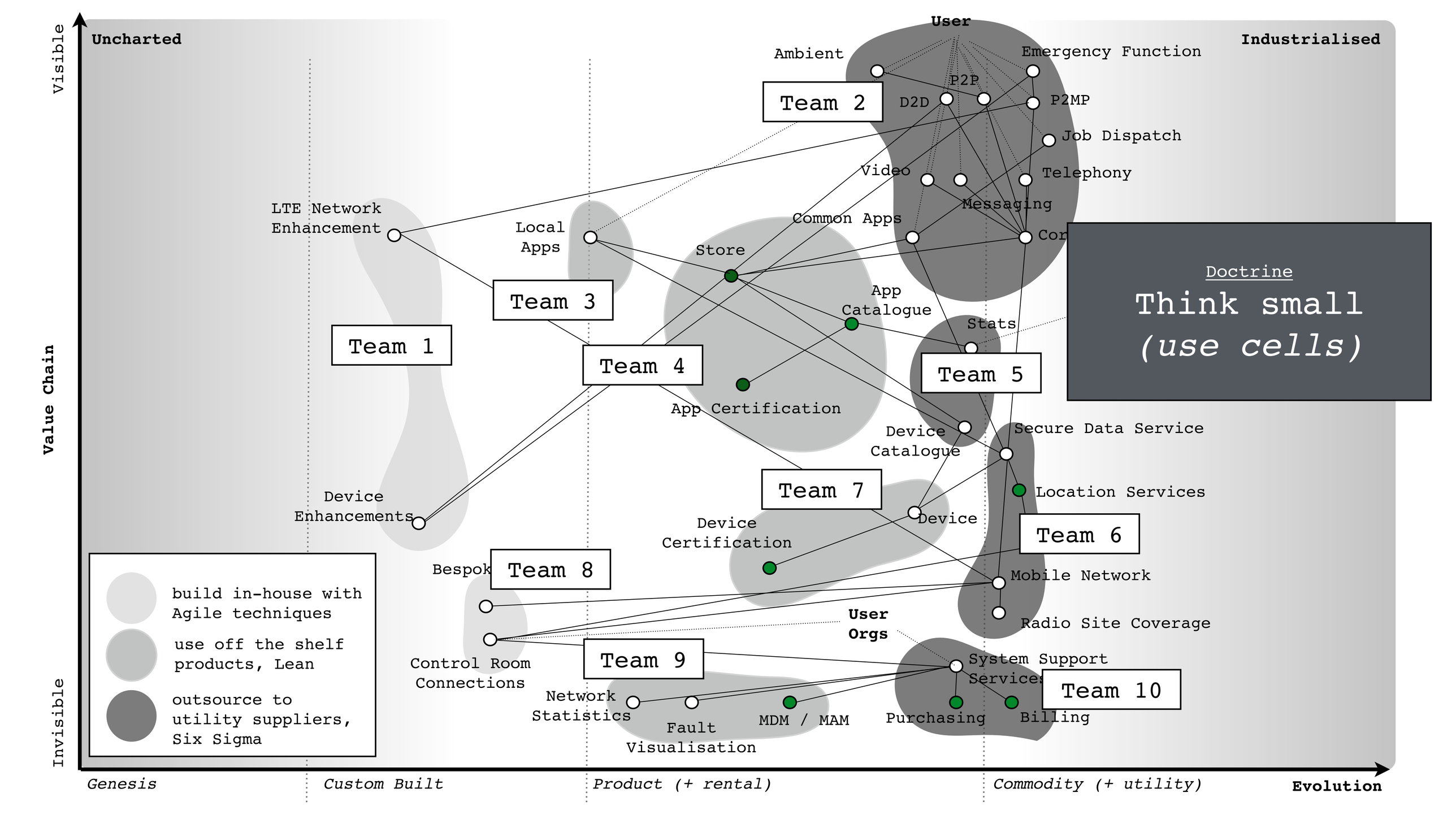


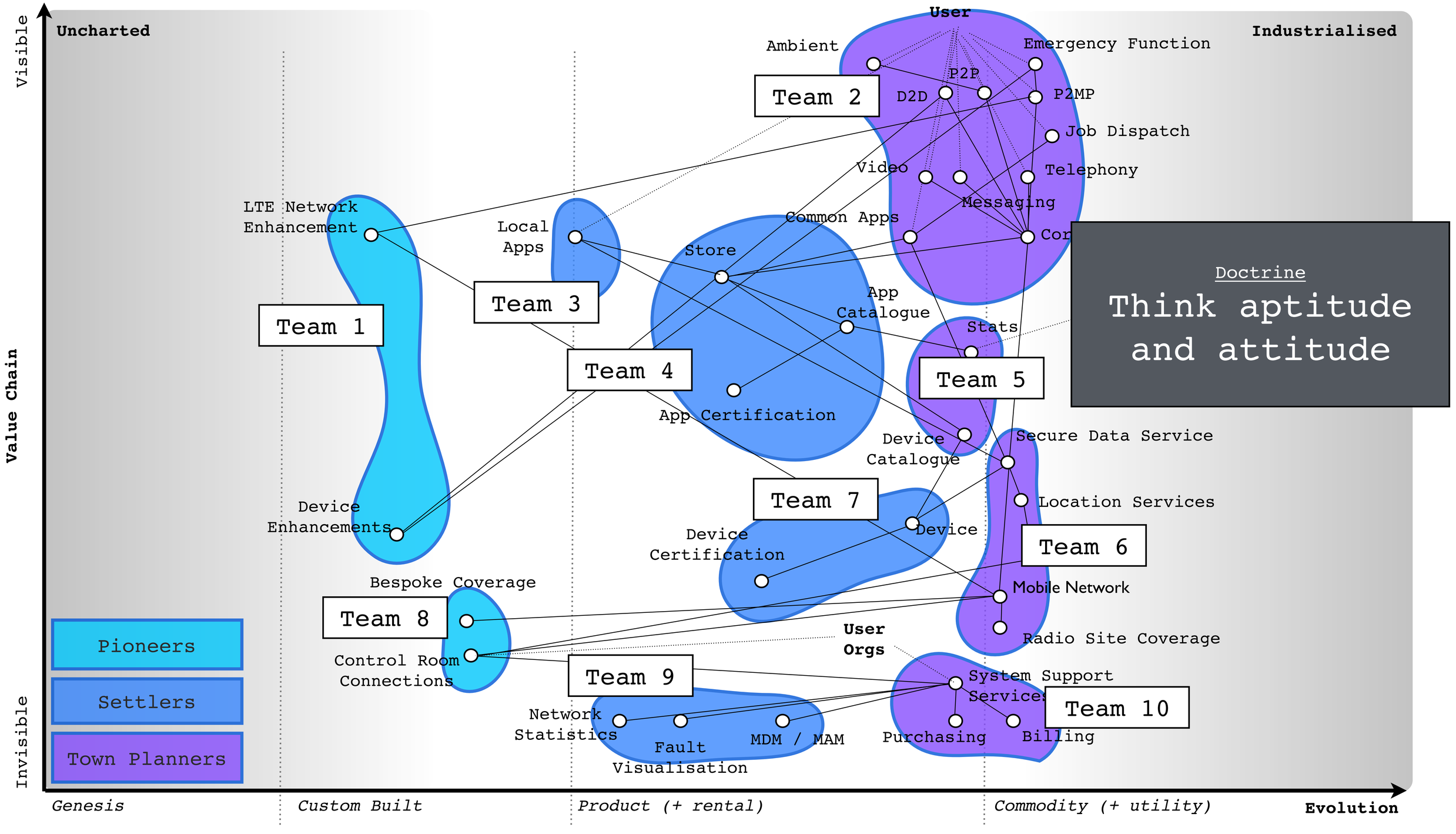
Harvest Hawk, idea to combat operations in 18 months


Visible
Invisible
Value Chain
Uncharted
Industrialised
User
Ambient
Emergency Function
P2P
D2D
P2MP
Job Dispatch
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Device Certification
Bespoke Coverage
Mobile Network
User Orgs
Radio Site Coverage
Control Room Connections
System Support Services
Network Statistics
Fault Visualisation
MDM / MAM
Purchasing
Billing
Doctrine
Think small
(as in contracts)
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Visible
Invisible
Value Chain
Uncharted
Industrialised
Climatic pattern
No one size fits all
AGILE / In-house
Strong
Weak
focus on reducing cost of change
LEAN / Off the shelf product
Weak
Strong
Weak
focus on learning & reducing waste
SIX SIGMA / Outsource
Weak
Strong
focus on reducing deviation
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Uncharted
Industrialised
Visible
Invisible
Value Chain
User
Ambient
Emergency Function
P2P
D2D
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Mobile Network
Radio Site Coverage
User Orgs
Control Room Connections
System Support Services
Network Statistics
Fault Visualisation
MDM / MAM
Purchasing
Billing
Doctrine
Use appropriate methods
build in-house with Agile techniques
use off the shelf products, Lean
outsource to utility suppliers, Six Sigma
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Visible
Invisible
Value Chain
Uncharted
Industrialised
User
Ambient
Emergency Function
P2P
D2D
P2MP
Job Dispatch
Video
Telephony
Messaging
Common Apps
Cor
LTE Network Enhancement
Local Apps
Store
App Catalogue
Stats
Team 1
Team 2
Team 3
Team 4
Team 5
Team 6
Team 7
Team 8
Team 9
Team 10
App Certification
Device Catalogue
Secure Data Service
Location Services
Device
Device Enhancements
Device Certification
Bespok
Mobile Network
Radio Site Coverage
User Orgs
Control Room Connections
System Support Service
Network Statistics
Fault Visualisation
MDM / MAM
Purchasing
Billing
Doctrine
Think small
(use cells)
build in-house with Agile techniques
use off the shelf products, Lean
outsource to utility suppliers, Six Sigma
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution



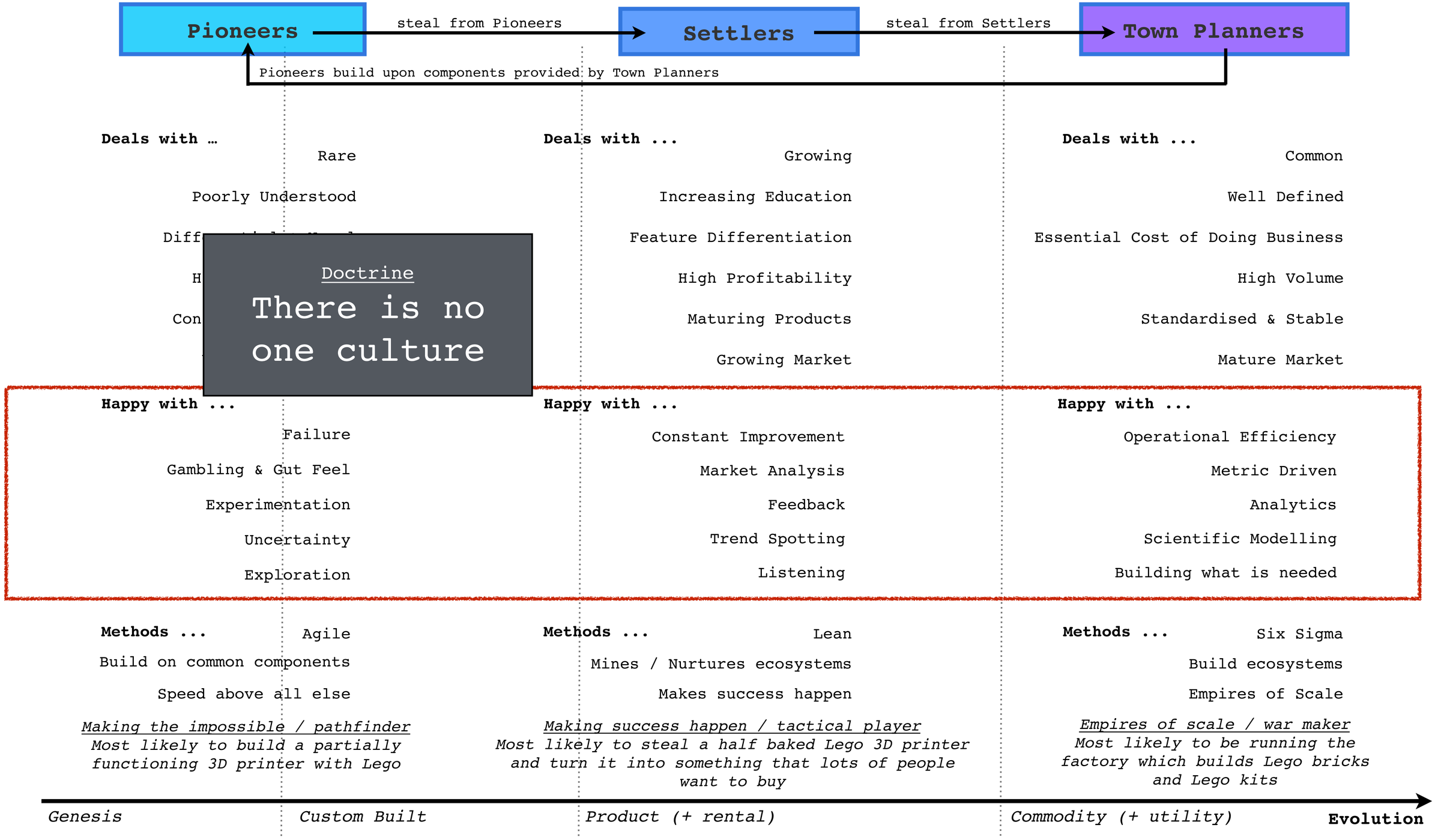
Doctrine

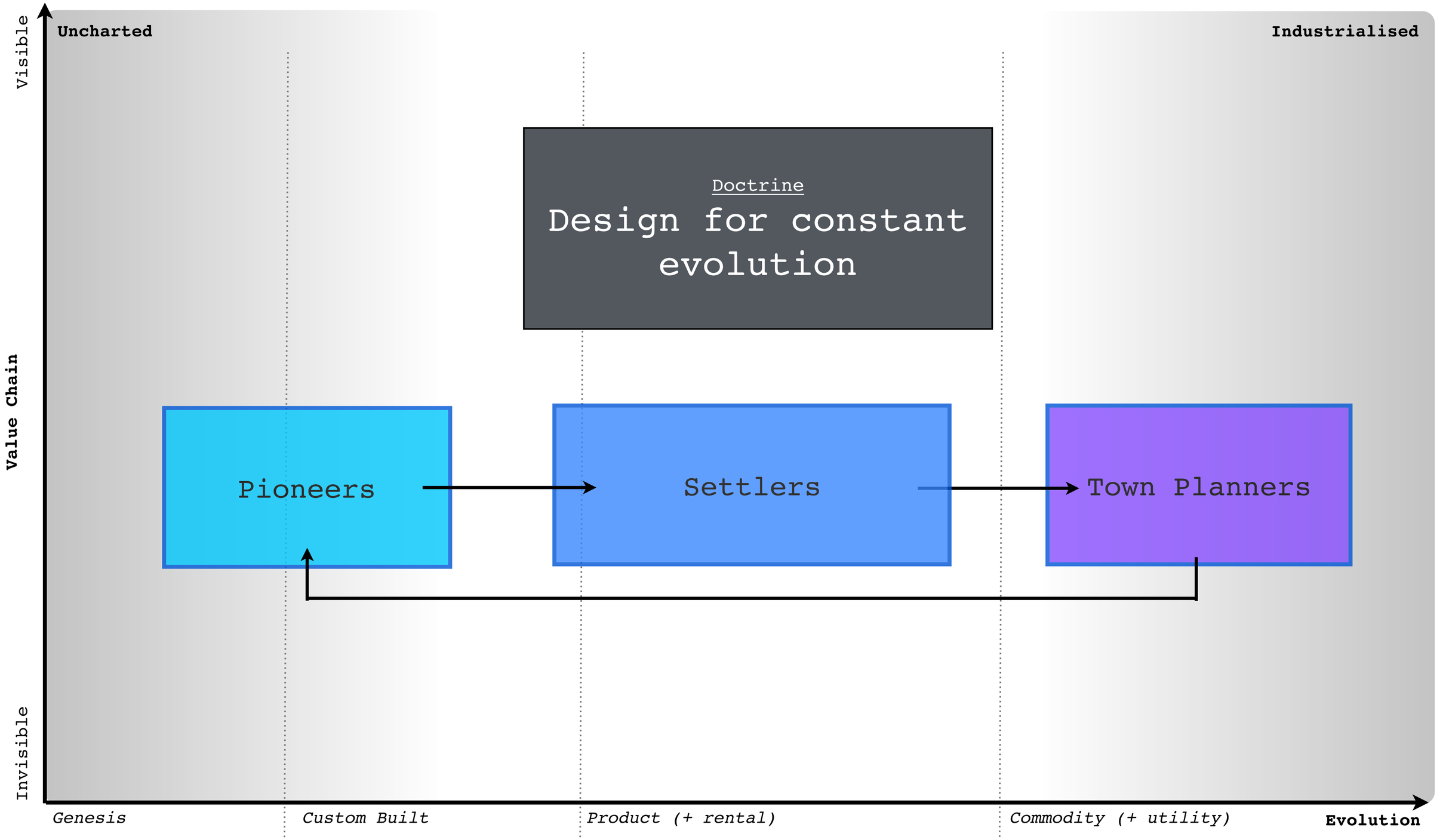
Think aptitude and attitude



	Pioneers	Settlers	Town Planners
Deals with …	Rare	Growing	Common
	Poorly Understood	Increasing Education	Well Defined
	Differential & Novel	Feature Differentiation	Essential Cost of Doing Business
	High Future value	High Profitability	High Volume
	Constantly changing	Maturing Products	Standardised & Stable
	Undefined Market	Growing Market	Mature Market
Happy with ...	Failure	Constant Improvement	Operational Efficiency
	Gambling & Gut Feel	Market Analysis	Metric Driven
	Experimentation	Feedback	Analytics
	Uncertainty	Trend Spotting	Scientific Modelling
	Exploration	Listening	Building what is needed
Methods ...	Agile	Lean	Six Sigma
	Build on common components	Mines / Nurtures ecosystems	Build ecosystems
	Speed above all else	Makes success happen	Empires of Scale
	Making the impossible / pathfinder	*Making success happen / tactical player*	*Empires of scale / war maker*
	Most likely to build a partially functioning 3D printer with Lego	*Most likely to steal a half baked Lego 3D printer and turn it into something that lots of people want to buy*	*Most likely to be running the factory which builds Lego bricks and Lego kits*

Genesis — *Custom Built* — *Product (+ rental)* — *Commodity (+ utility)* — **Evolution**


Pioneers
steal from Pioneers
Settlers
steal from Settlers
Town Planners
Pioneers build upon components provided by Town Planners
Deals with …
Rare
Poorly Understood
Diff
H
Con
Deals with ...
Growing
Increasing Education
Feature Differentiation
High Profitability
Maturing Products
Growing Market
Deals with ...
Common
Well Defined
Essential Cost of Doing Business
High Volume
Standardised & Stable
Mature Market
Doctrine
There is no one culture
Happy with ...
Failure
Gambling & Gut Feel
Experimentation
Uncertainty
Exploration
Happy with ...
Constant Improvement
Market Analysis
Feedback
Trend Spotting
Listening
Happy with ...
Operational Efficiency
Metric Driven
Analytics
Scientific Modelling
Building what is needed
Methods ...
Agile
Build on common components
Speed above all else
Making the impossible / pathfinder
Most likely to build a partially functioning 3D printer with Lego
Methods ...
Lean
Mines / Nurtures ecosystems
Makes success happen
Making success happen / tactical player
Most likely to steal a half baked Lego 3D printer and turn it into something that lots of people want to buy
Methods ...
Six Sigma
Build ecosystems
Empires of Scale
Empires of scale / war maker
Most likely to be running the factory which builds Lego bricks and Lego kits
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

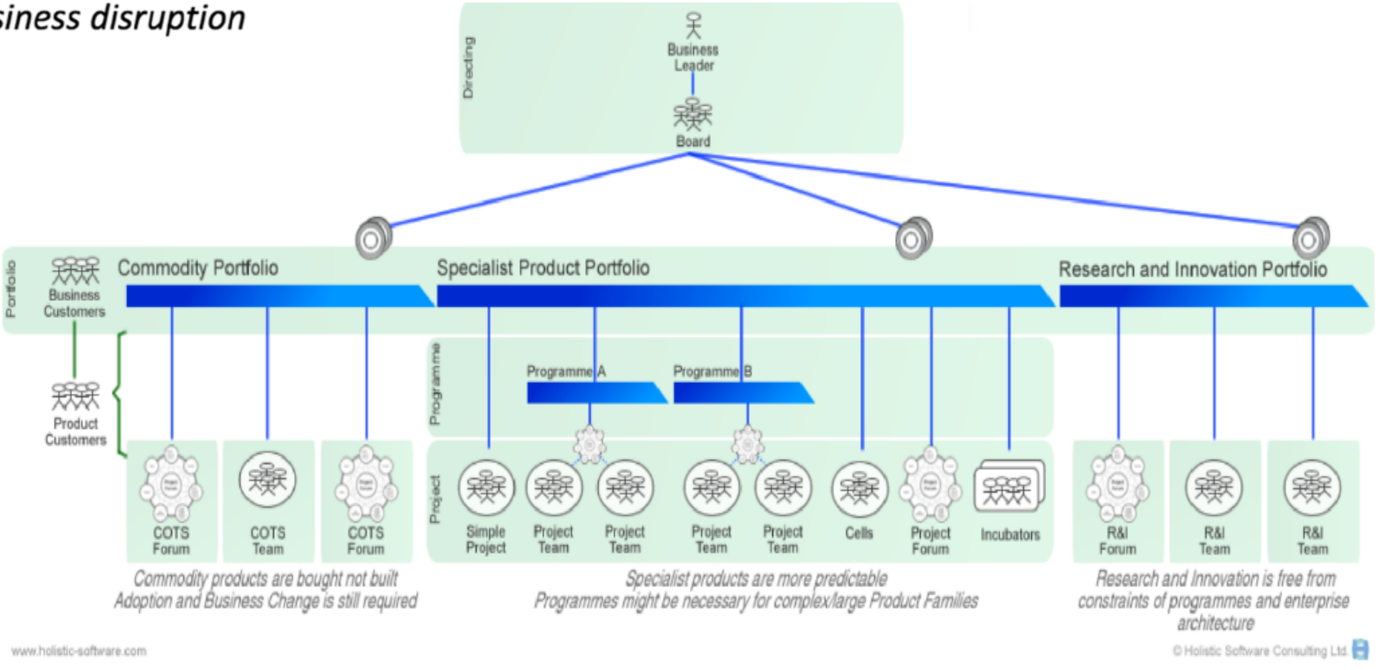

Uncharted
Industrialised
Visible
Value Chain
Invisible
Doctrine
Design for constant evolution
Pioneers
Settlers
Town Planners
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution



GCHQ: BOILING FROGS?

Technology organisations need to change radically to survive increasing technical and business disruption





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FOTANGO

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  Friends, family, workmates, share the moment
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  Turn your favourite photos into great gifts

username

password

Login

forgotten password?

Take the Tour

Create an account

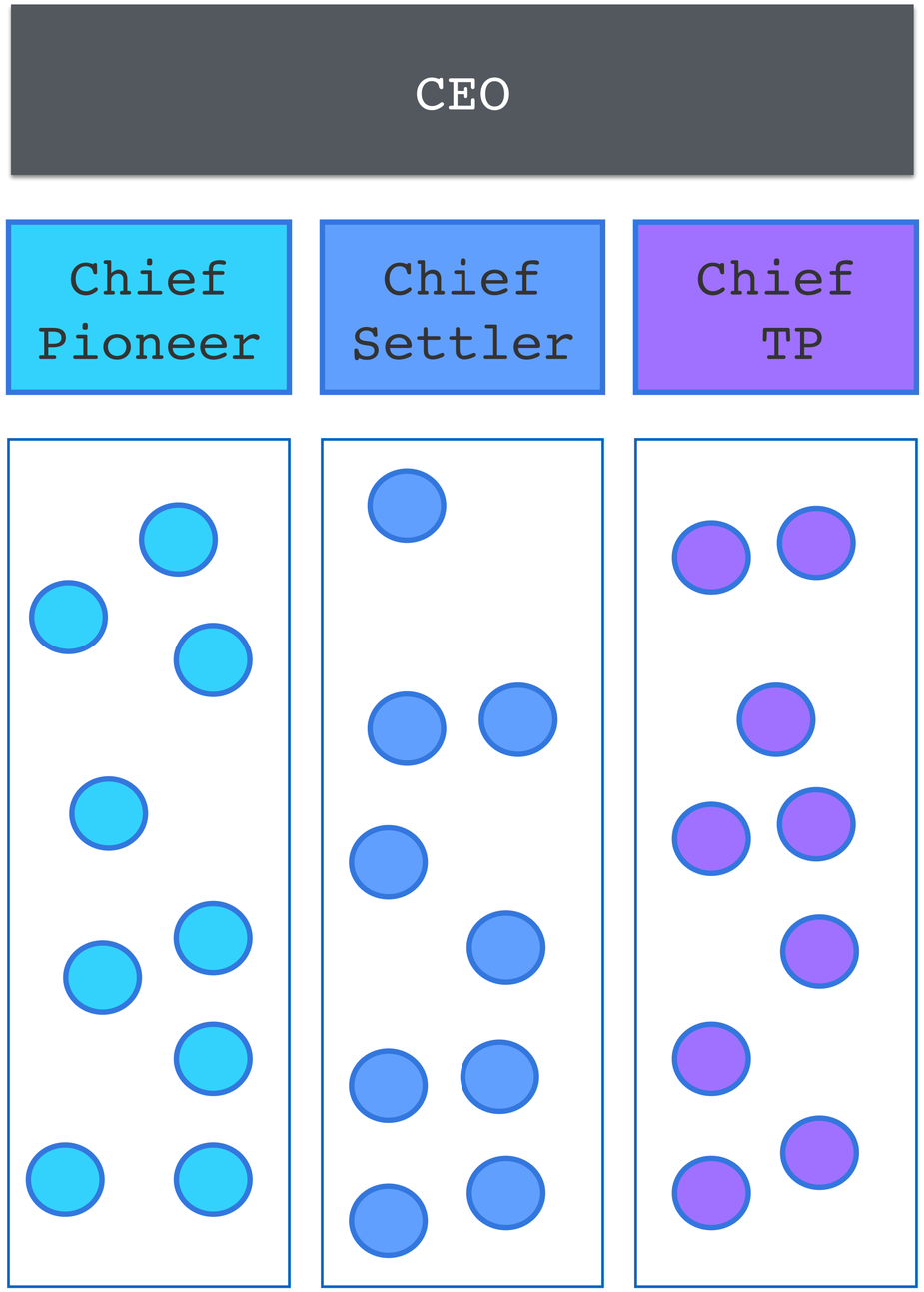
Gifts Gallery
Turn your photos into great gifts!



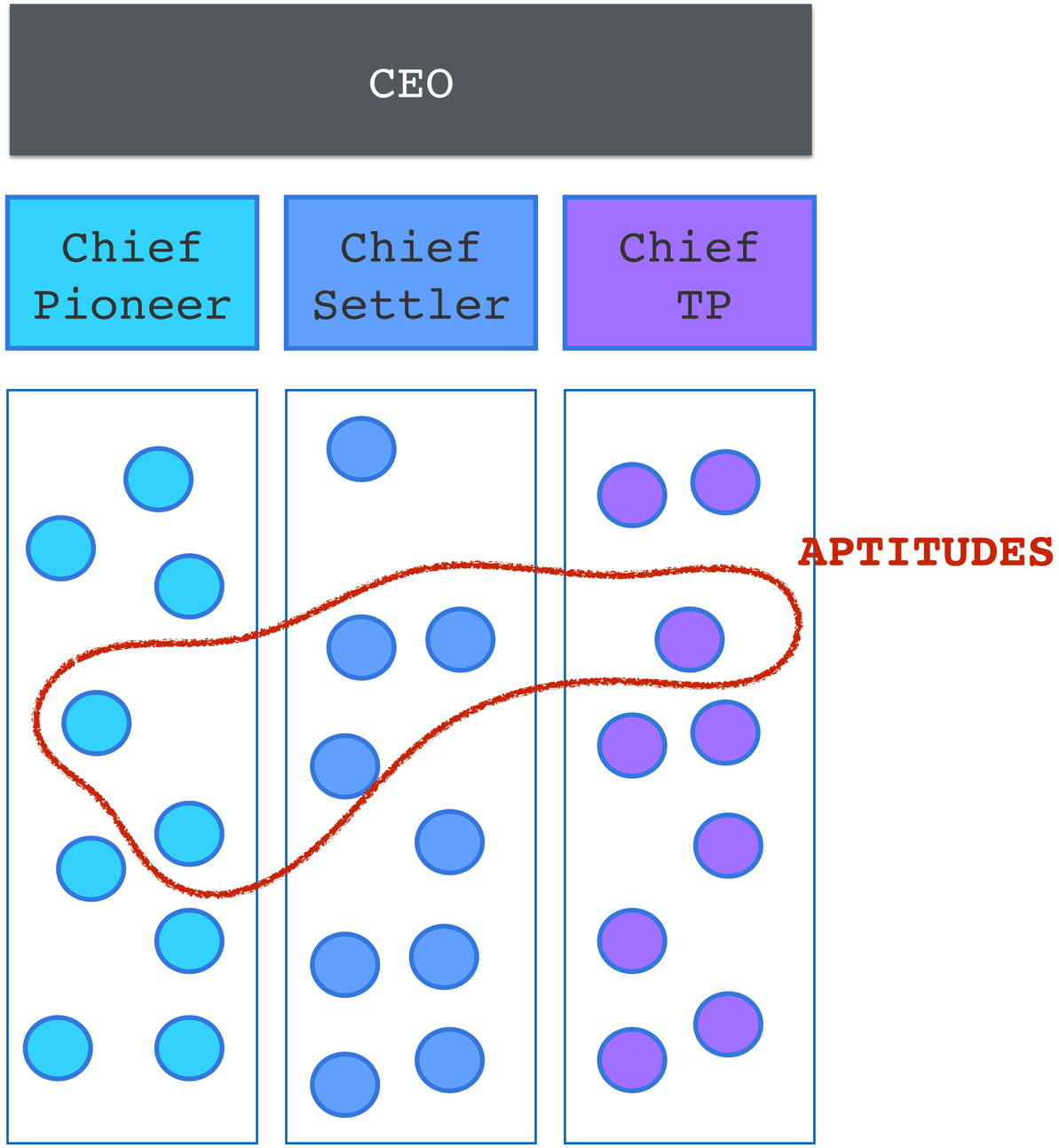
Promotions
Share pictures & when friend registers, you both get 3 free 6x4 prints.

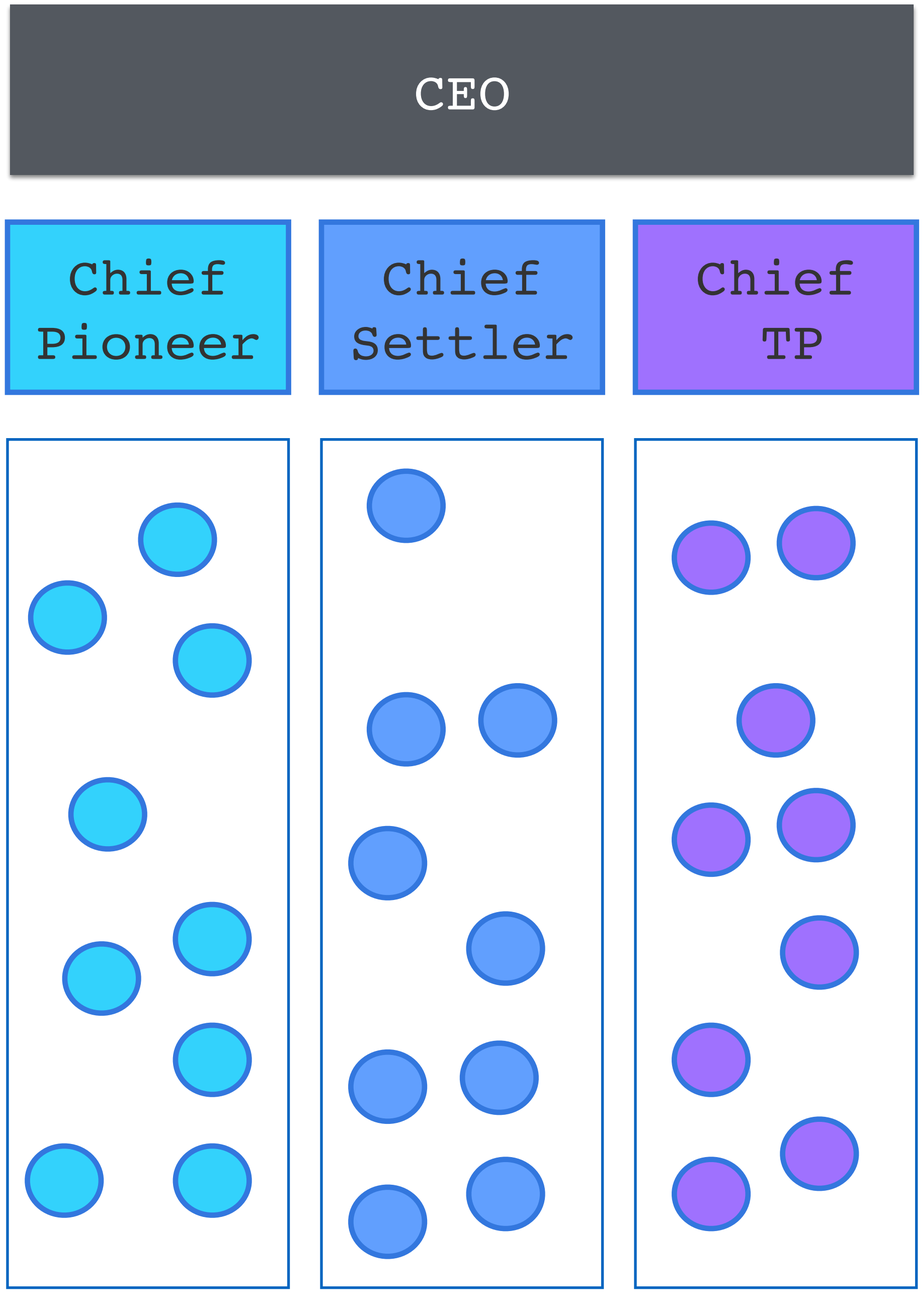


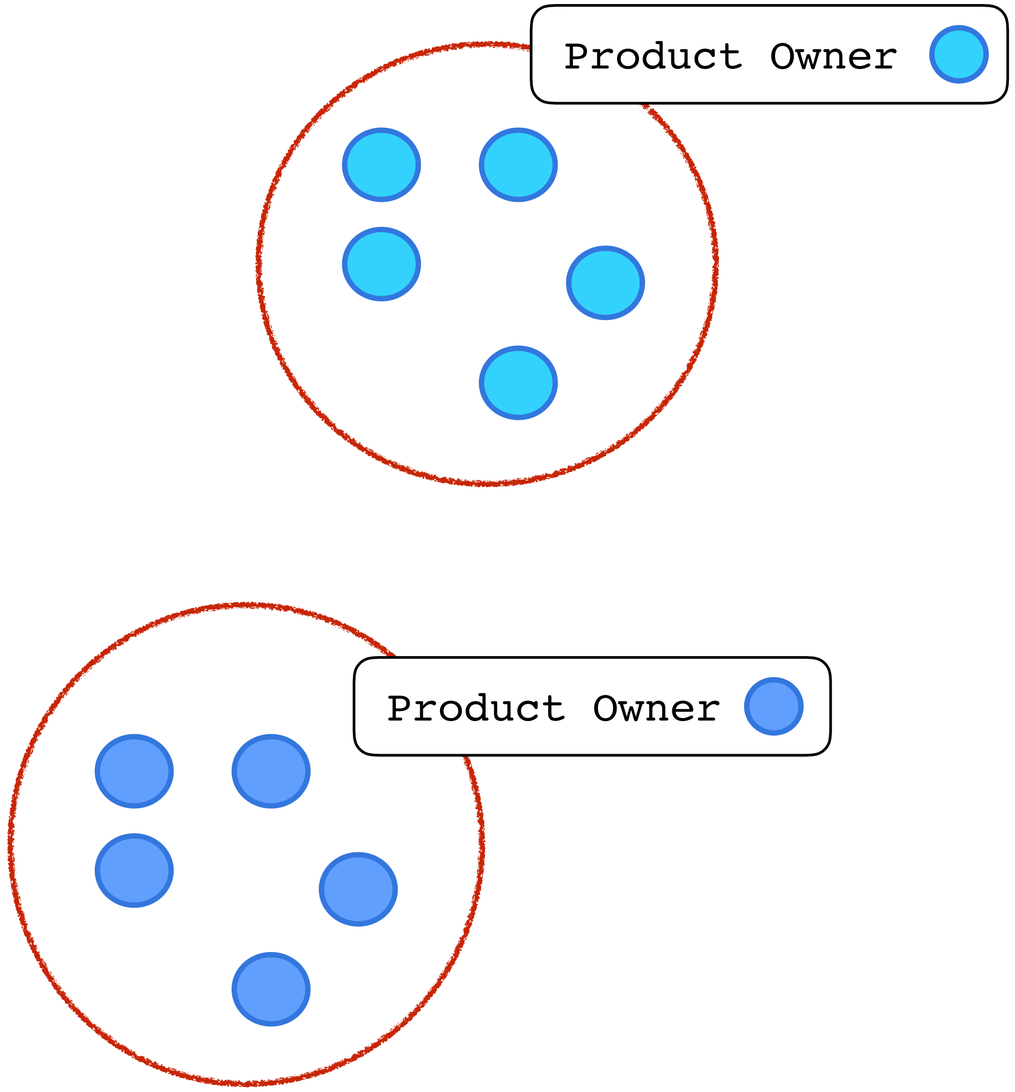
Fotango website, 2005, courtesy of CEO.

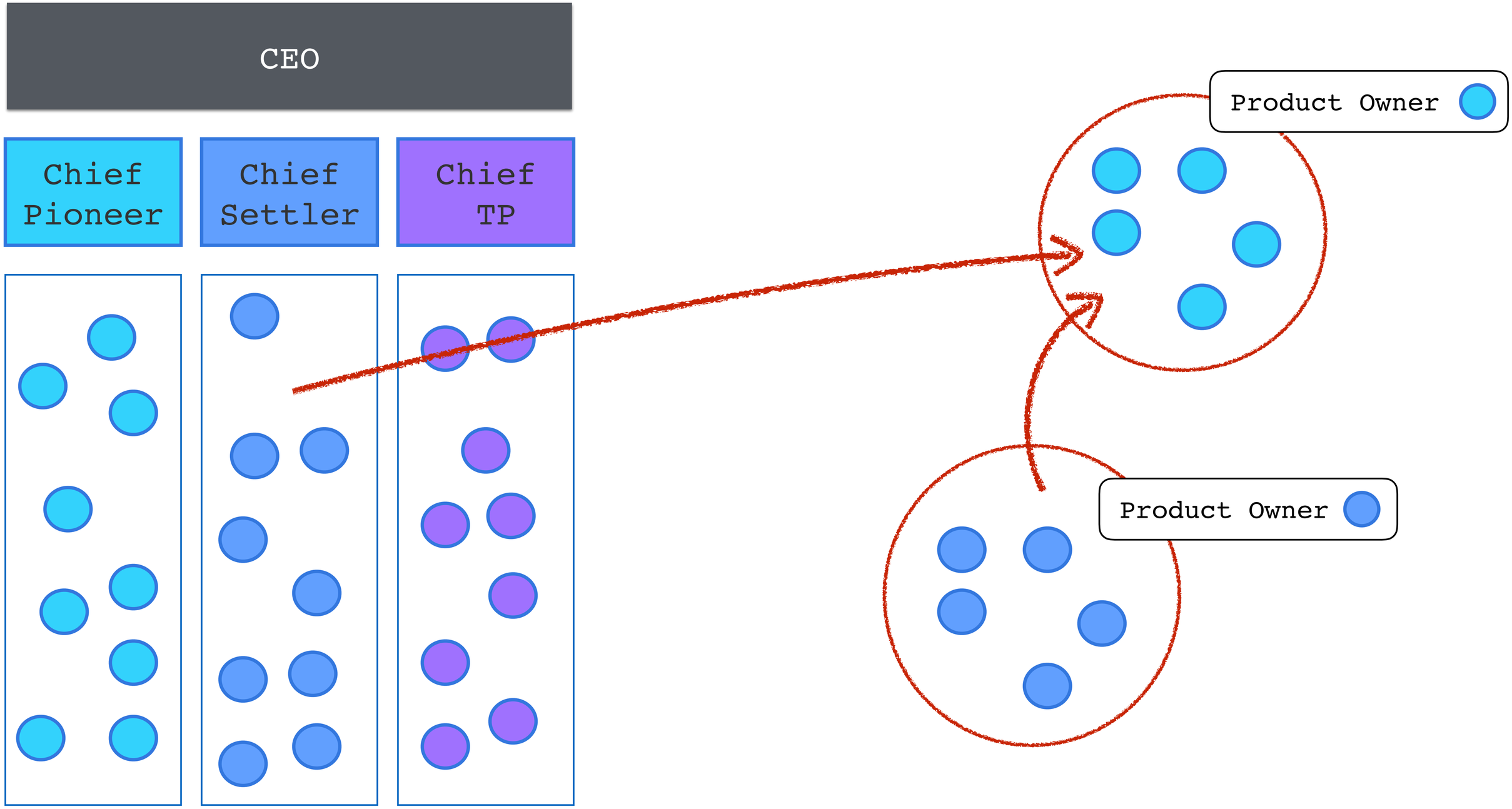


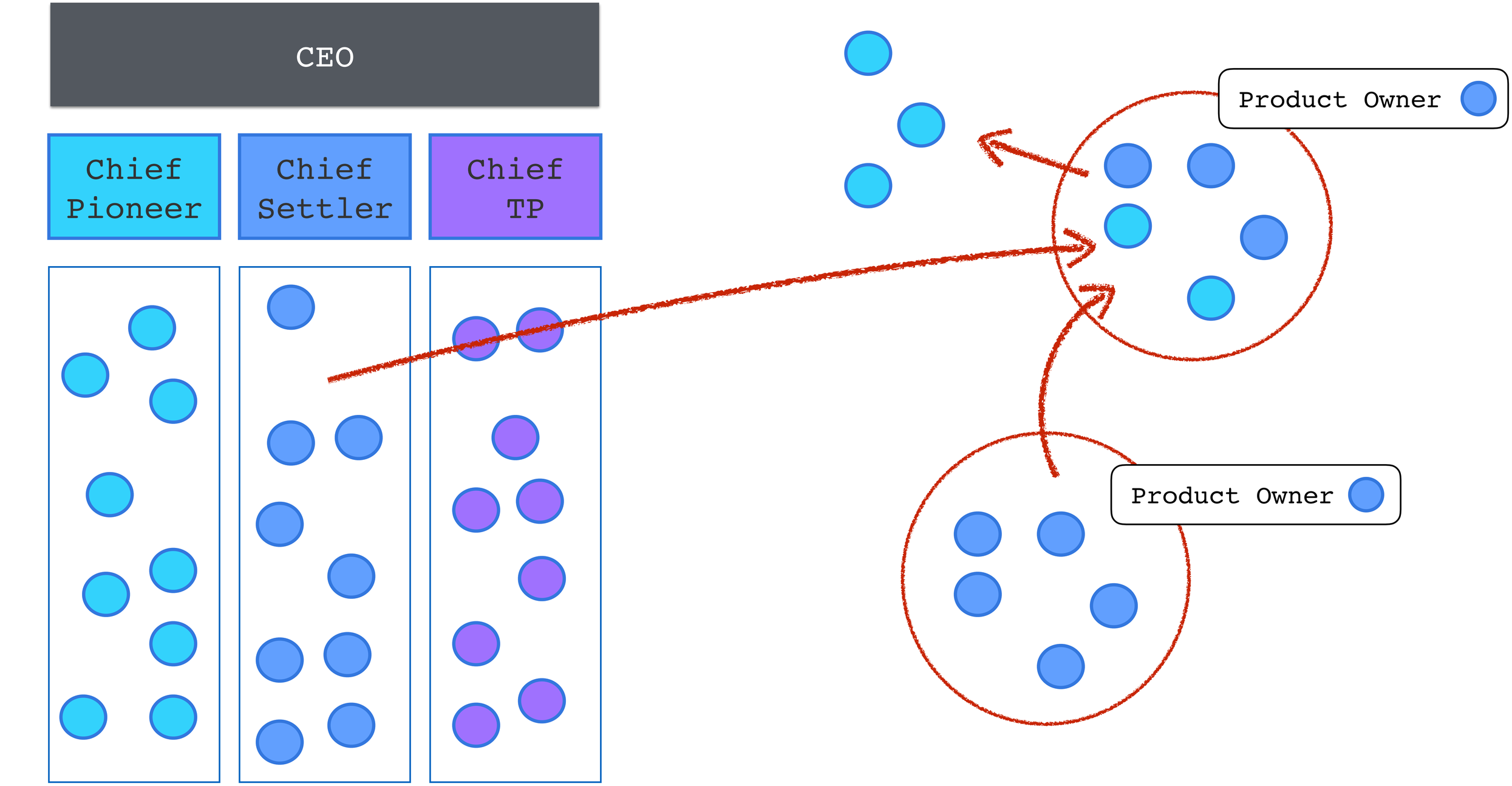
2005

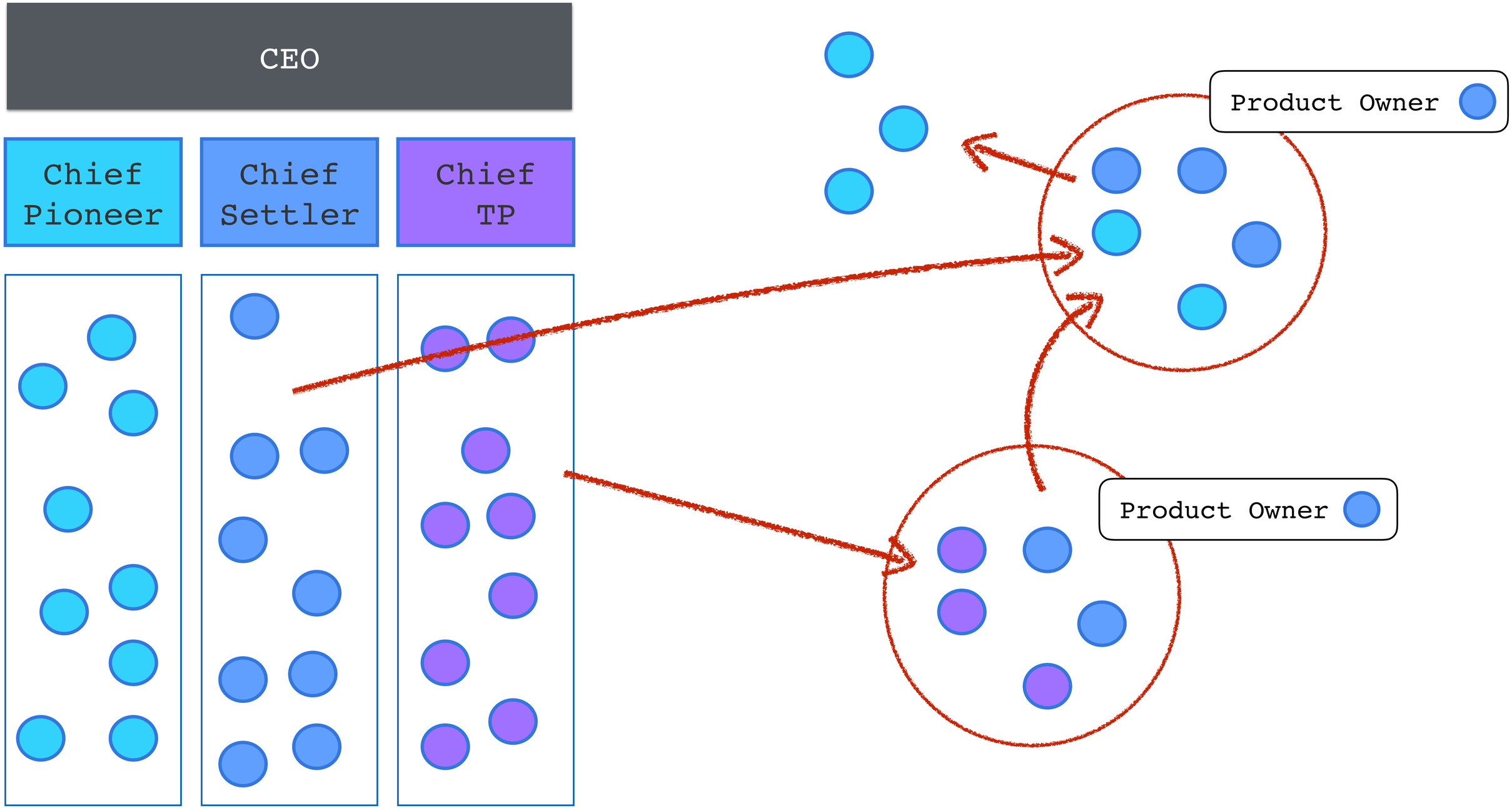

CEO
Chief Pioneer
Chief Settler
Chief TP
APTITUDES


CEO
Chief Pioneer
Chief Settler
Chief TP

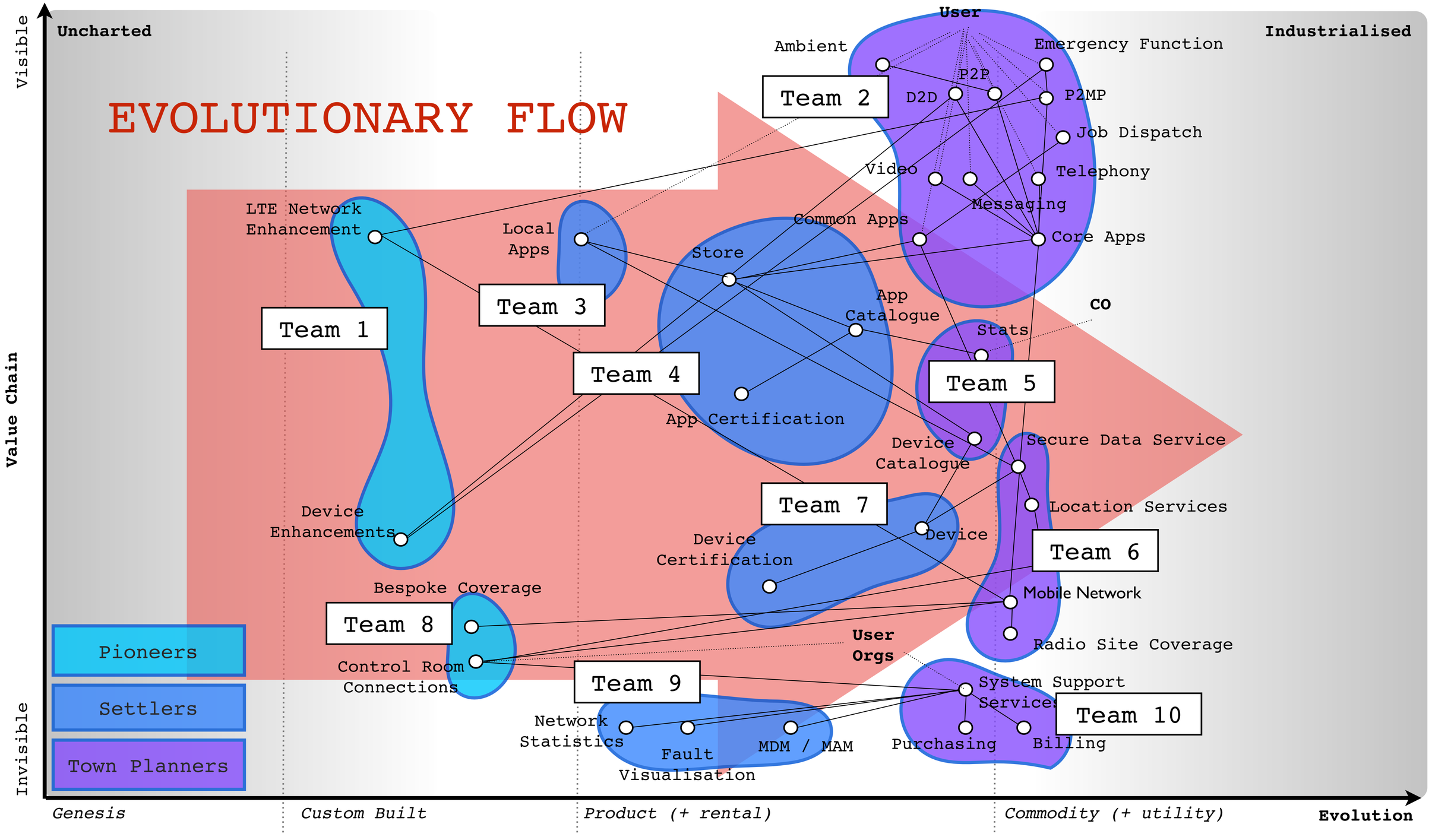

Product Owner
Product Owner


CEO
Chief Pioneer
Chief Settler
Chief TP
Product Owner
Product Owner


CEO
Chief Pioneer
Chief Settler
Chief TP
Product Owner
Product Owner


CEO
Chief Pioneer
Chief Settler
Chief TP
Product Owner
Product Owner

2006


Uncharted
Industrialised
Visible
Invisible
Value Chain
EVOLUTIONARY FLOW
User
Ambient
Emergency Function
P2P
D2D
P2MP
Team 2
Job Dispatch
Video
Telephony
Messaging
Common Apps
Core Apps
LTE Network Enhancement
Local Apps
Store
Team 3
Team 1
App Catalogue
Stats
Team 4
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App Certification
Device Catalogue
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Device Enhancements
Team 7
Location Services
Device
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Team 6
Bespoke Coverage
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Network Statistics
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MDM / MAM
Purchasing
Billing
Pioneers
Settlers
Town Planners
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

MAP MAPPING?

ORGANISATION

THE PROBLEM WITH DOCTRINE

WEAK SIGNALS

POLICY

BREXIT

Category	**Wardley's Doctrine** (universally useful patterns that a user can apply regardless of context)			
Communication	Be transparent *(a bias towards open)*	Focus on high situational awareness *(understand what is being considered)*	Use a common language *(necessary for collaboration)*	Challenge assumptions *(speak up and question)*
Development	Know your users *(e.g. customers, shareholders, regulators, staff)*	Focus on user needs	Think fast, inexpensive, restrained and elegant (FIRE, formerly FIST)	Remove bias and duplication
	Use appropriate methods *(e.g. agile vs lean vs six sigma)*	Focus on the outcome not a contract *(e.g. worth based development)*	Be pragmatic *(it doesn't matter if the cat is black or white as long as it catches mice)*	Use standards where appropriate
	Use appropriate tools *(e.g. mapping, financial models)*			
Operation	Manage inertia *(e.g. existing practice, political capital, previous investment)*	Optimise flow *(remove bottlenecks)*	Think small *(as in know the details)*	Effectiveness over efficiency
	Do better with less *(continual improvement)*	Set exceptional standards *(great is just not good enough)*	Manage failure	
Structure	Provide purpose, mastery & autonomy	Think small *(as in teams, "two pizza")*	Distribute power and decision making	Think aptitude and attitude
	Design for constant evolution	There is no one culture *(e.g. pioneers, settlers and town planners)*	Seek the best	
Learning	Use a systematic mechanism of learning *(a bias towards data)*	A bias towards action *(learn by playing the game)*	A bias towards the new *(be curious, take appropriate risks)*	Listen to your ecosystems *(acts as future sensing engines)*
Leading	Be the owner *(take responsibility)*	Move fast *(an imperfect plan executed today is better than a perfect plan executed tomorrow)*	Think big *(inspire others, provide direction)*	Strategy is iterative not linear *(fast reactive cycles)*
	Strategy is complex *(there will be uncertainty)*	Commit to the direction, be adaptive along the path *(crossing the river by feeling the stones)*	There is no core *(everything is transient)*	Be humble *(listen, be selfless, have fortitude)*
	Exploit the landscape			

Category	E-COMMERCE GIANT	Doctrine (universally useful patterns that a user can apply)		
Communication	Be transparent *(a bias towards open)*	Focus on high situational awareness *(understand what is being considered)*	Use a common language *(necessary for collaboration)*	Challenge assumptions *(speak up and question)*
Development	Know your users *(e.g. customers, shareholders, regulators, staff)*	Focus on user needs	Think fast, inexpensive, restrained and elegant (FIRE, formerly FIST)	Remove bias and duplication
	Use appropriate methods *(e.g. agile vs lean vs six sigma)*	Focus on the outcome not a contract *(e.g. worth based development)*	Be pragmatic *(it doesn't matter if the cat is black or white as long as it catches mice)*	Use standards where appropriate
	Use appropriate tools *(e.g. mapping, financial models)*			
Operation	Manage inertia *(e.g. existing practice, political capital, previous investment)*	Optimise flow *(remove bottlenecks)*	Think small *(as in know the details)*	Effectiveness over efficiency
	Do better with less *(continual improvement)*	Set exceptional standards *(great is just not good enough)*	Manage failure	
Structure	Provide purpose, mastery & autonomy	Think small *(as in teams)*	Distribute power and decision making	Think aptitude and attitude
	Design for constant evolution	There is no one culture *(e.g. pioneers, settlers and town planners)*	Seek the best	
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	Strategy is complex *(there will be uncertainty)*	Commit to the direction, be adaptive along the path *(crossing the river by feeling the stones)*	There is no core *(everything is transient)*	Be humble *(listen, be selfless, have fortitude)*
	Exploit the landscape			

Good
Neutral / unknown
Weak
Warning

Category	INSURANCE GIANT	Doctrine (universally useful patterns that a user can apply)		
Communication	Be transparent *(a bias towards open)*	Focus on high situational awareness *(understand what is being considered)*	Use a common language *(necessary for collaboration)*	Challenge assumptions *(speak up and question)*
Development	Know your users *(e.g. customers, shareholders, regulators, staff)*	Focus on user needs	Think fast, inexpensive, restrained and elegant (FIRE, formerly FIST)	Remove bias and duplication
	Use appropriate methods *(e.g. agile vs lean vs six sigma)*	Focus on the outcome not a contract *(e.g. worth based development)*	Be pragmatic *(it doesn't matter if the cat is black or white as long as it catches mice)*	Use standards where appropriate
	Use appropriate tools *(e.g. mapping, financial models)*			
Operation	Manage inertia *(e.g. existing practice, political capital, previous investment)*	Optimise flow *(remove bottlenecks)*	Think small *(as in know the details)*	Effectiveness over efficiency
	Do better with less *(continual improvement)*	Set exceptional standards *(great is just not good enough)*	Manage failure	
Structure	Provide purpose, mastery & autonomy	Think small *(as in teams)*	Distribute power and decision making	Think aptitude and attitude
	Design for constant evolution	There is no one culture *(e.g. pioneers, settlers and town planners)*	Seek the best	
Learning	Use a systematic mechanism of learning *(a bias towards data)*	A bias towards action *(learn by playing the game)*	A bias towards the new *(be curious, take appropriate risks)*	Listen to your ecosystems *(acts as future sensing engines)*
Leading	Be the owner *(take responsibility)*	Move fast *(an imperfect plan executed today is better than a perfect plan executed tomorrow)*	Think big *(inspire others, provide direction)*	Strategy is iterative not linear *(fast reactive cycles)*
	Strategy is complex *(there will be uncertainty)*	Commit to the direction, be adaptive along the path *(crossing the river by feeling the stones)*	There is no core *(everything is transient)*	Be humble *(listen, be selfless, have fortitude)*
	Exploit the landscape			

Good
Neutral / unknown
Weak
Warning

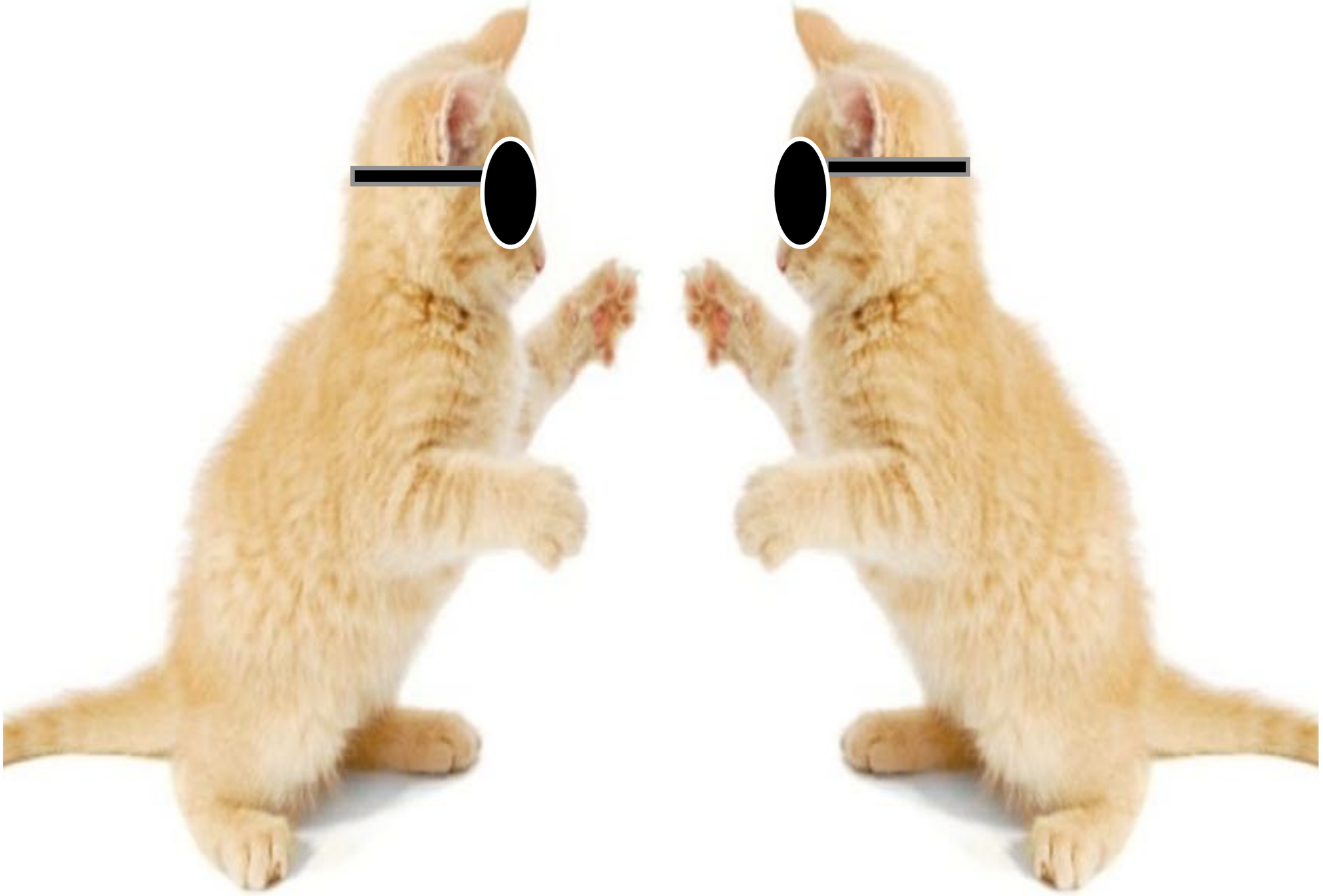
Category	LARGE GOV AGENCY	Doctrine (universally useful patterns that a user can apply)		
Communication	Be transparent *(a bias towards open)*	Focus on high situational awareness *(understand what is being considered)*	Use a common language *(necessary for collaboration)*	Challenge assumptions *(speak up and question)*
Development	Know your users *(e.g. customers, shareholders, regulators, staff)*	Focus on user needs	Think fast, inexpensive, restrained and elegant (FIRE, formerly FIST)	Remove bias and duplication
	Use appropriate methods *(e.g. agile vs lean vs six sigma)*	Focus on the outcome not a contract *(e.g. worth based development)*	Be pragmatic *(it doesn't matter if the cat is black or white as long as it catches mice)*	Use standards where appropriate
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Structure	Provide purpose, mastery & autonomy	Think small *(as in teams)*	Distribute power and decision making	Think aptitude and attitude
	Design for constant evolution	There is no one culture *(e.g. pioneers, settlers and town planners)*	Seek the best	
Learning	Use a systematic mechanism of learning *(a bias towards data)*	A bias towards action *(learn by playing the game)*	A bias towards the new *(be curious, take appropriate risks)*	Listen to your ecosystems *(acts as future sensing engines)*
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	Strategy is complex *(there will be uncertainty)*	Commit to the direction, be adaptive along the path *(crossing the river by feeling the stones)*	There is no core *(everything is transient)*	Be humble *(listen, be selfless, have fortitude)*
	Exploit the landscape			

Good
Neutral / unknown
Weak
Warning

Category	BANKING GIANT	Doctrine (universally useful patterns that a user can apply)		
Communication	Be transparent *(a bias towards open)*	Focus on high situational awareness *(understand what is being considered)*	Use a common language *(necessary for collaboration)*	Challenge assumptions *(speak up and question)*
Development	Know your users *(e.g. customers, shareholders, regulators, staff)*	Focus on user needs	Think fast, inexpensive, restrained and elegant (FIRE, formerly FIST)	Remove bias and duplication
	Use appropriate methods *(e.g. agile vs lean vs six sigma)*	Focus on the outcome not a contract *(e.g. worth based development)*	Be pragmatic *(it doesn't matter if the cat is black or white as long as it catches mice)*	Use standards where appropriate
	Use appropriate tools *(e.g. mapping, financial models)*			
Operation	Manage inertia *(e.g. existing practice, political capital, previous investment)*	Optimise flow *(remove bottlenecks)*	Think small *(as in know the details)*	Effectiveness over efficiency
	Do better with less *(continual improvement)*	Set exceptional standards *(great is just not good enough)*	Manage failure	
Structure	Provide purpose, mastery & autonomy	Think small *(as in teams)*	Distribute power and decision making	Think aptitude and attitude
	Design for constant evolution	There is no one culture *(e.g. pioneers, settlers and town planners)*	Seek the best	
Learning	Use a systematic mechanism of learning *(a bias towards data)*	A bias towards action *(learn by playing the game)*	A bias towards the new *(be curious, take appropriate risks)*	Listen to your ecosystems *(acts as future sensing engines)*
Leading	Be the owner *(take responsibility)*	Move fast *(an imperfect plan executed today is better than a perfect plan executed tomorrow)*	Think big *(inspire others, provide direction)*	Strategy is iterative not linear *(fast reactive cycles)*
	Strategy is complex *(there will be uncertainty)*	Commit to the direction, be adaptive along the path *(crossing the river by feeling the stones)*	There is no core *(everything is transient)*	Be humble *(listen, be selfless, have fortitude)*
	Exploit the landscape			

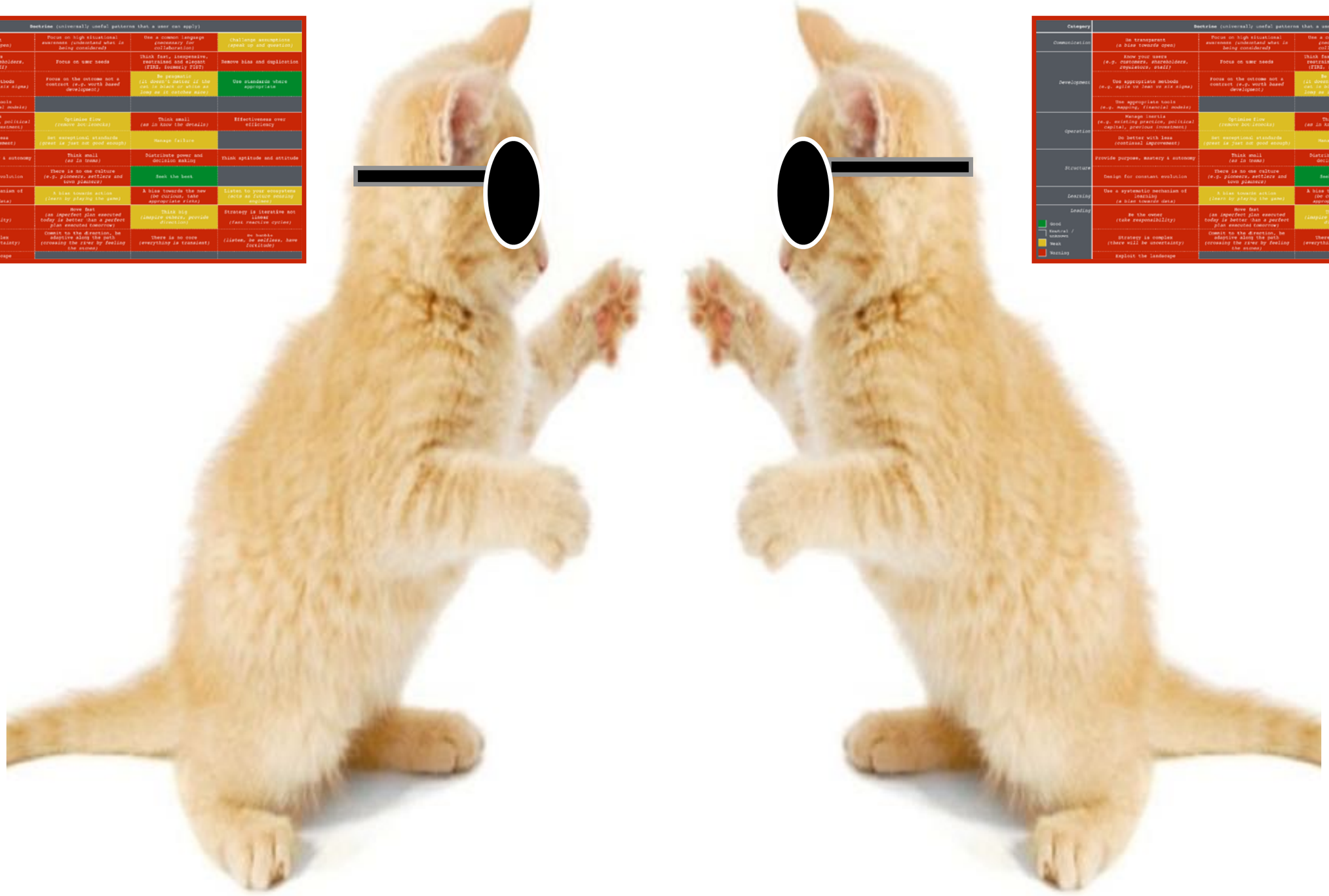
Good
Neutral / unknown
Weak
Warning





Category	Doctrine (universally useful patterns that a user can apply)			
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Neutral / unknown
Weak
Warning



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	Exploit the landscape			

Good
Neutral / unknown
Weak
Warning

MAP MAPPING?

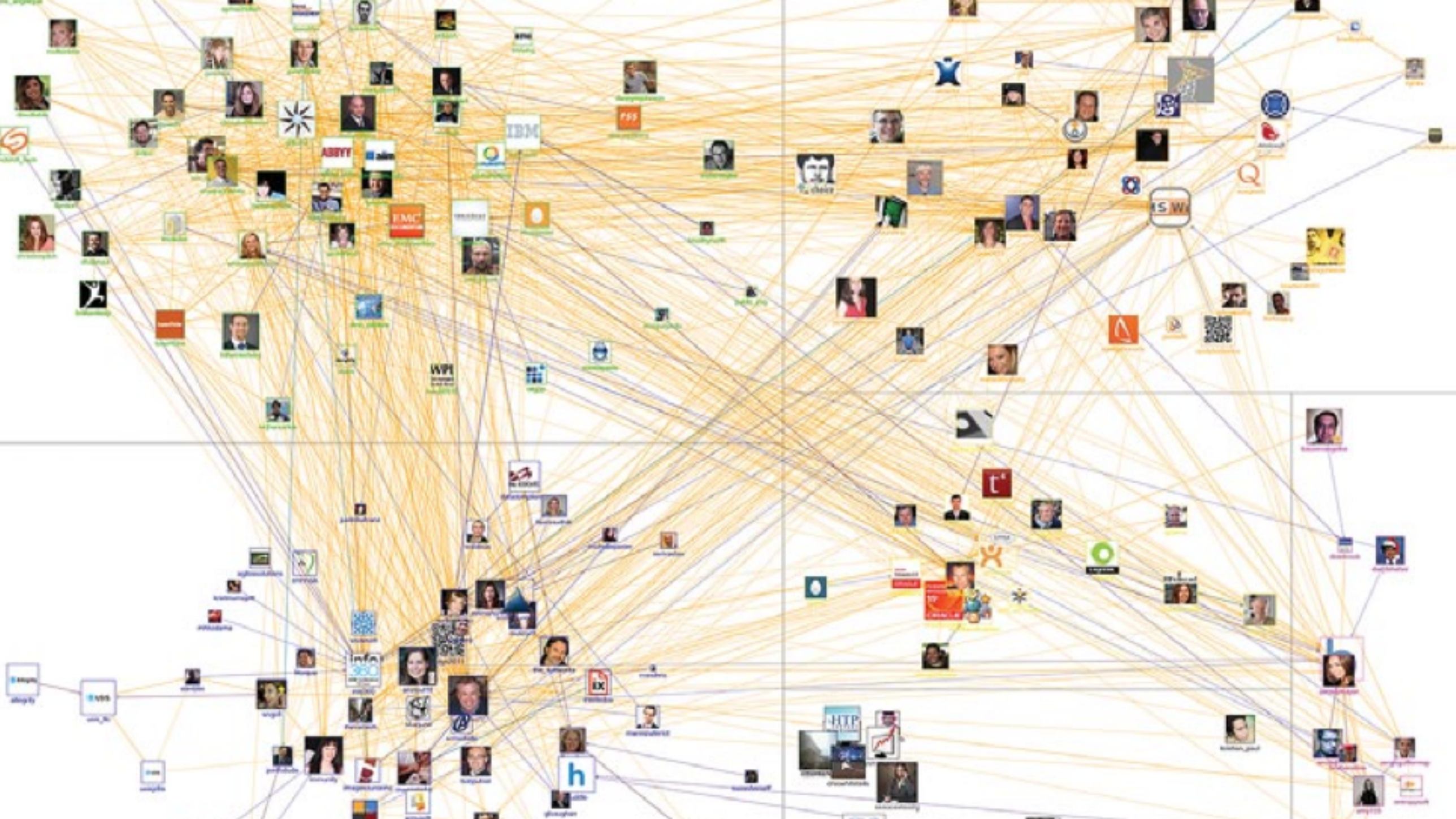
ORGANISATION

THE PROBLEM WITH DOCTRINE

WEAK SIGNALS

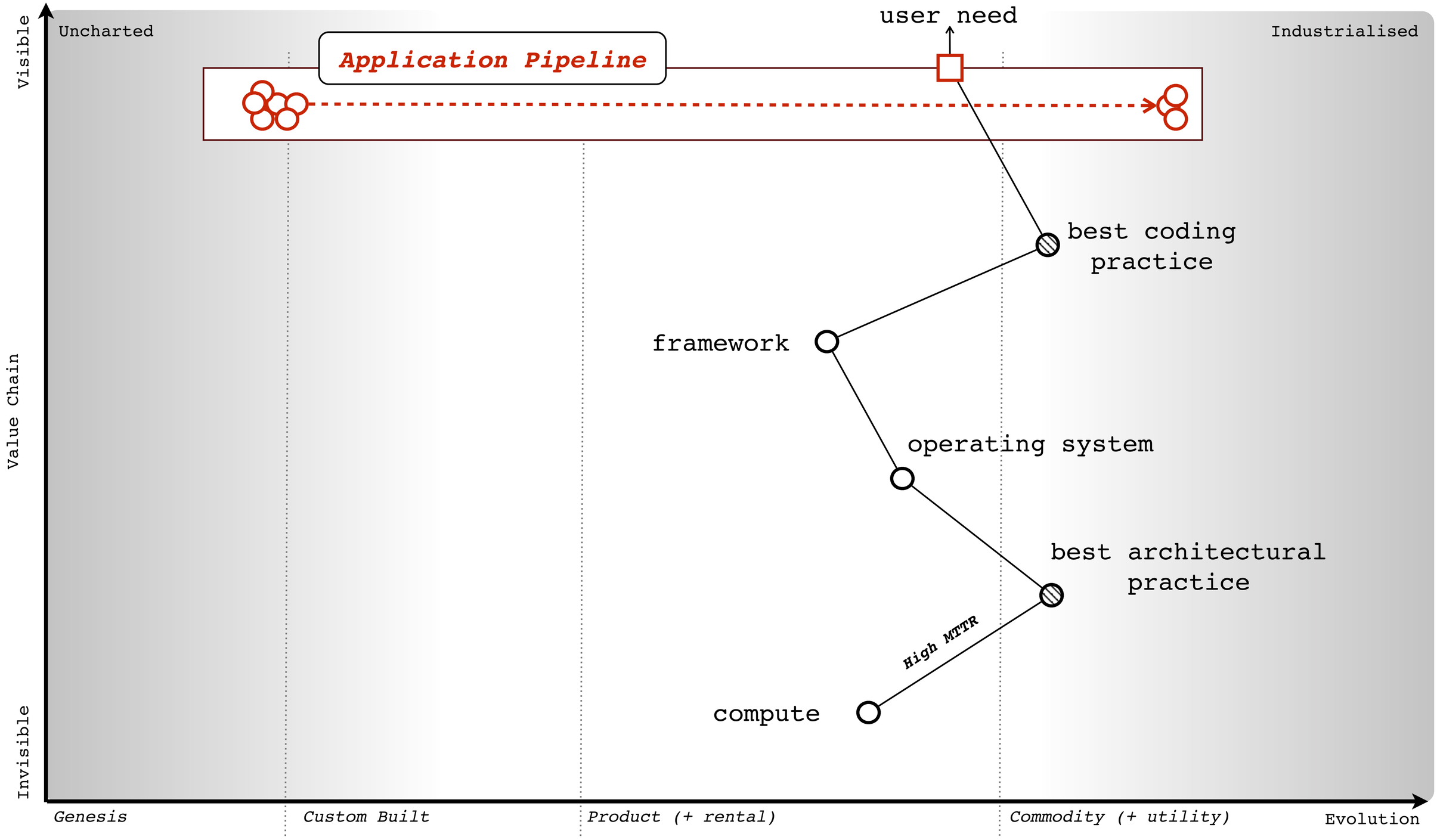
POLICY

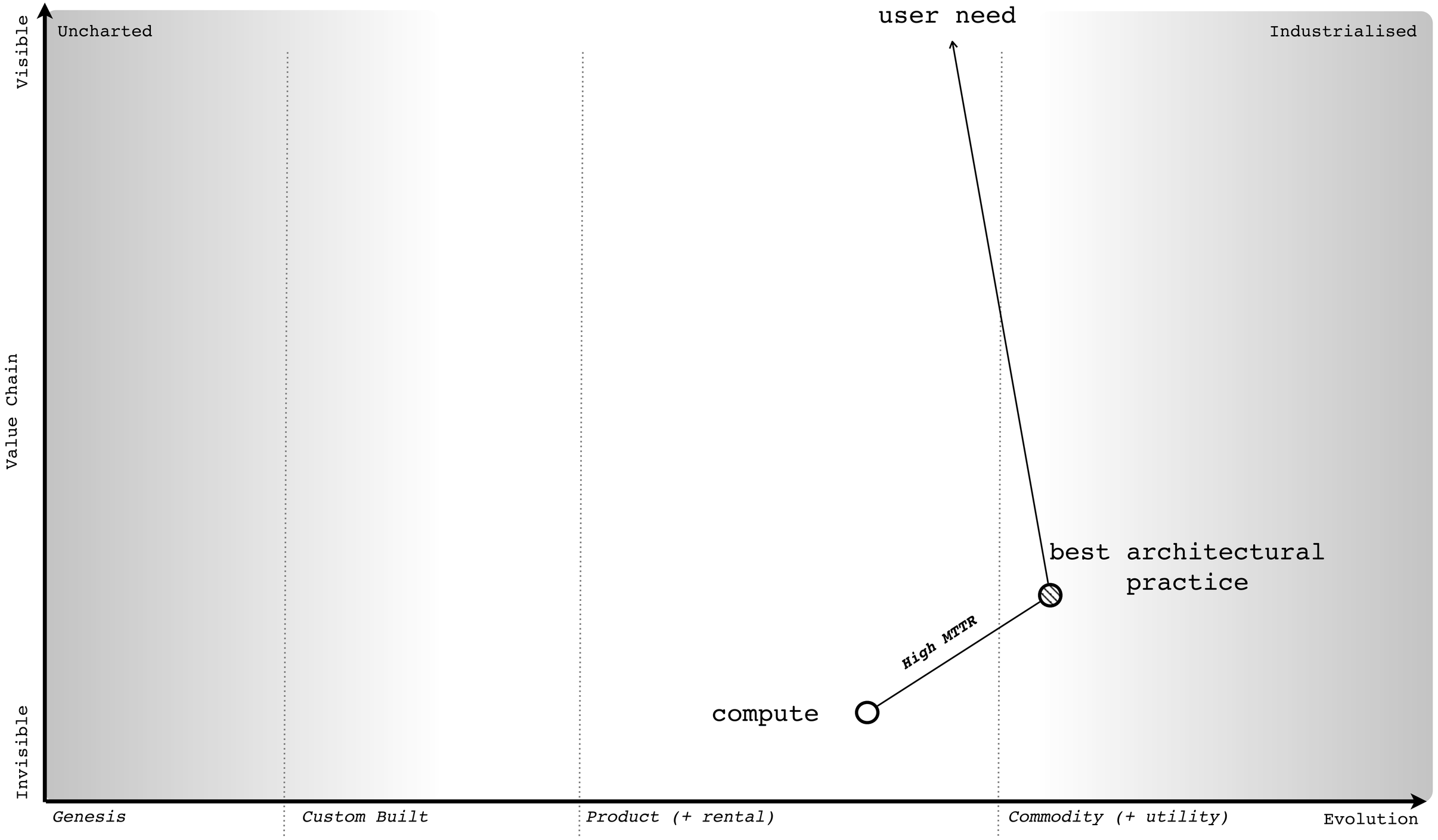
BREXIT

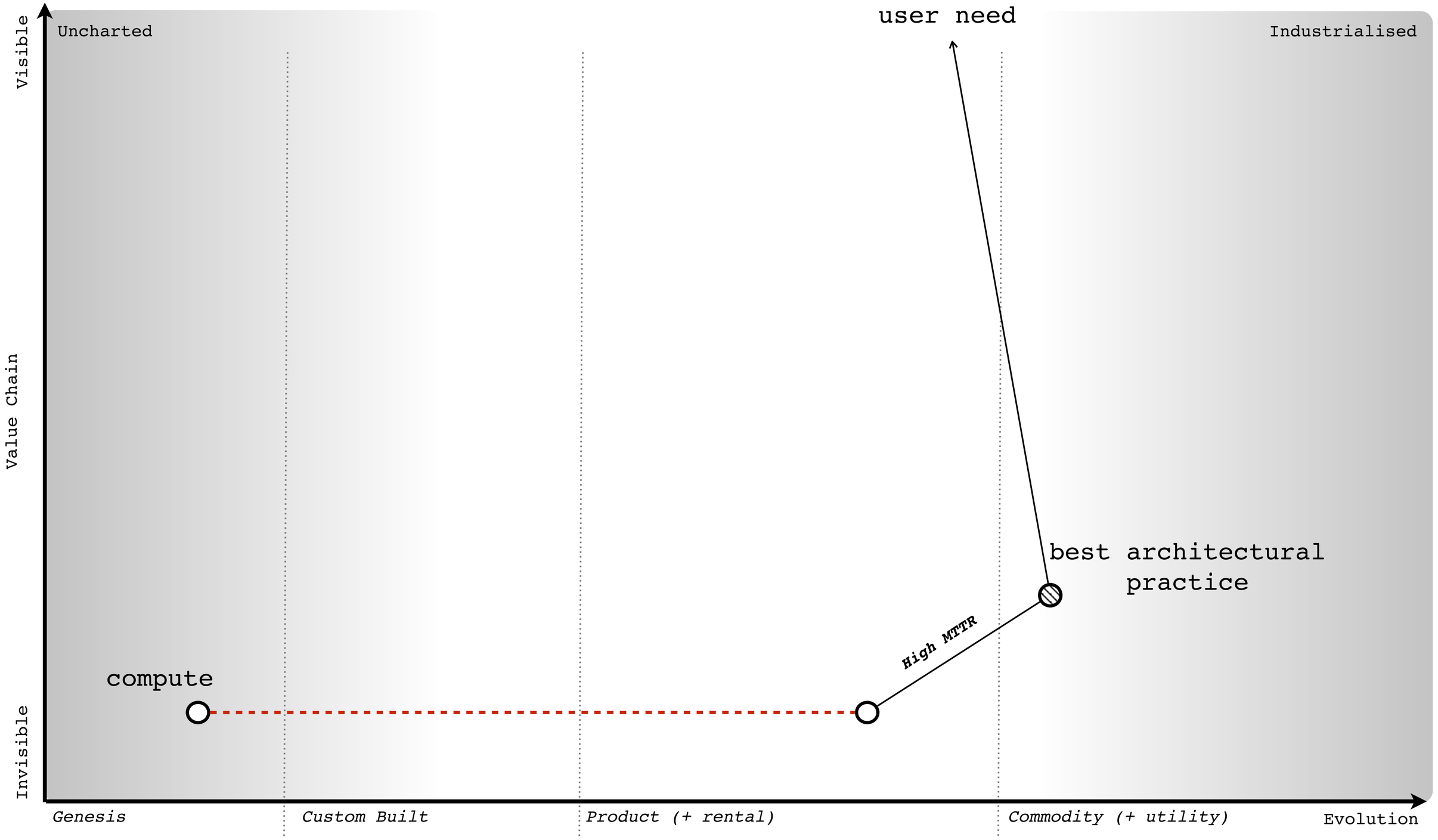

IBM
ABBYY
EMC
WPI

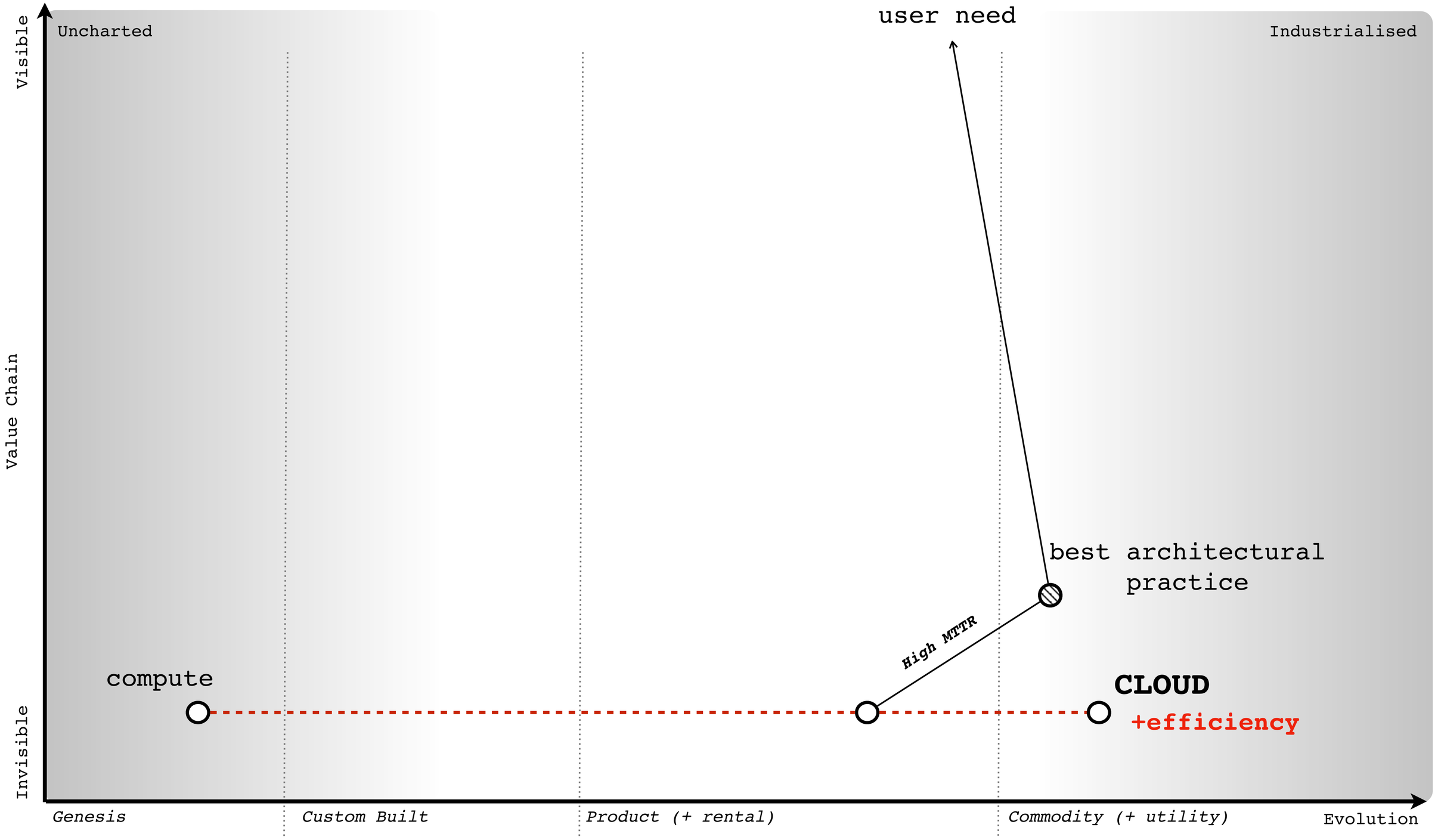

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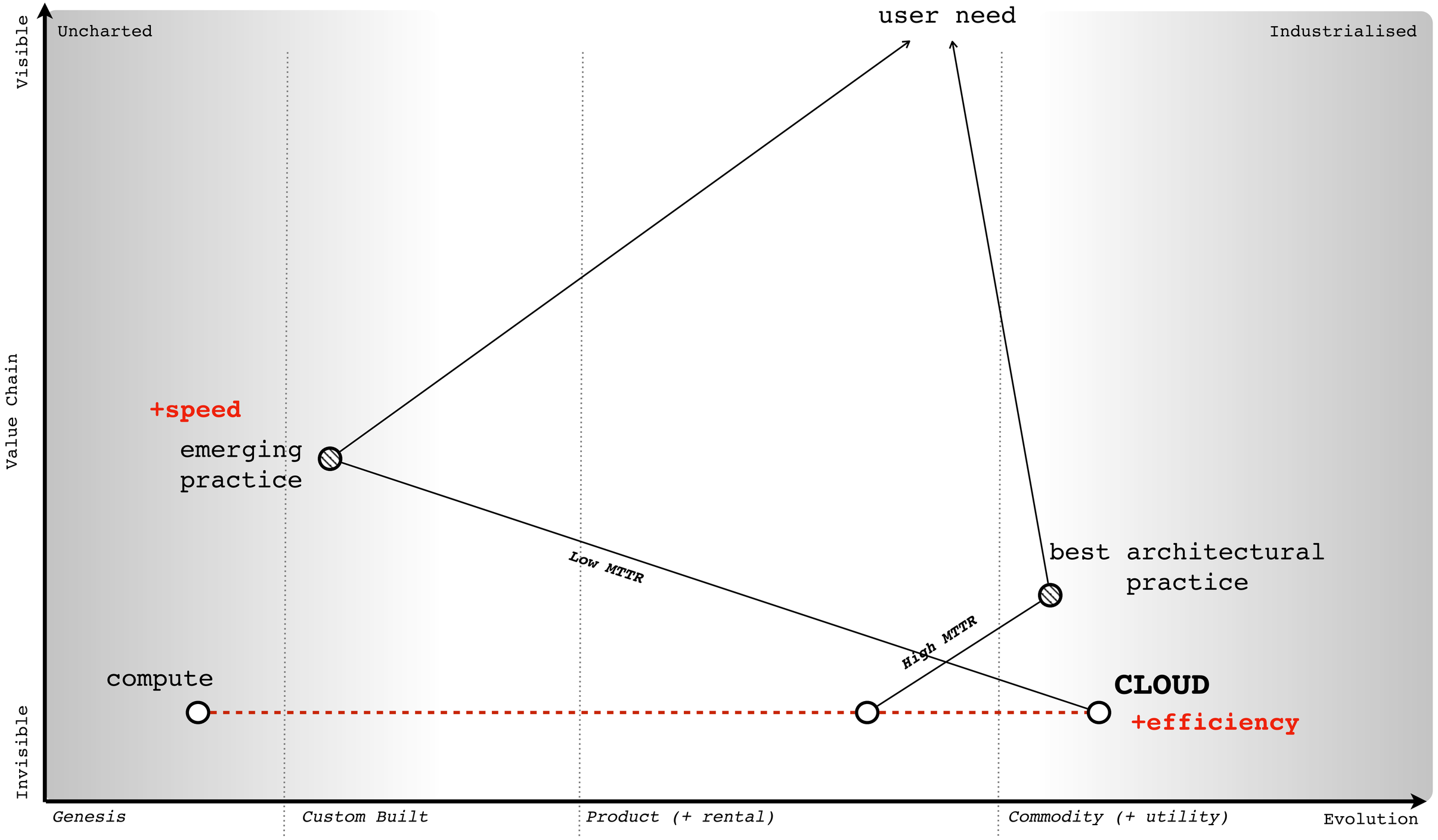


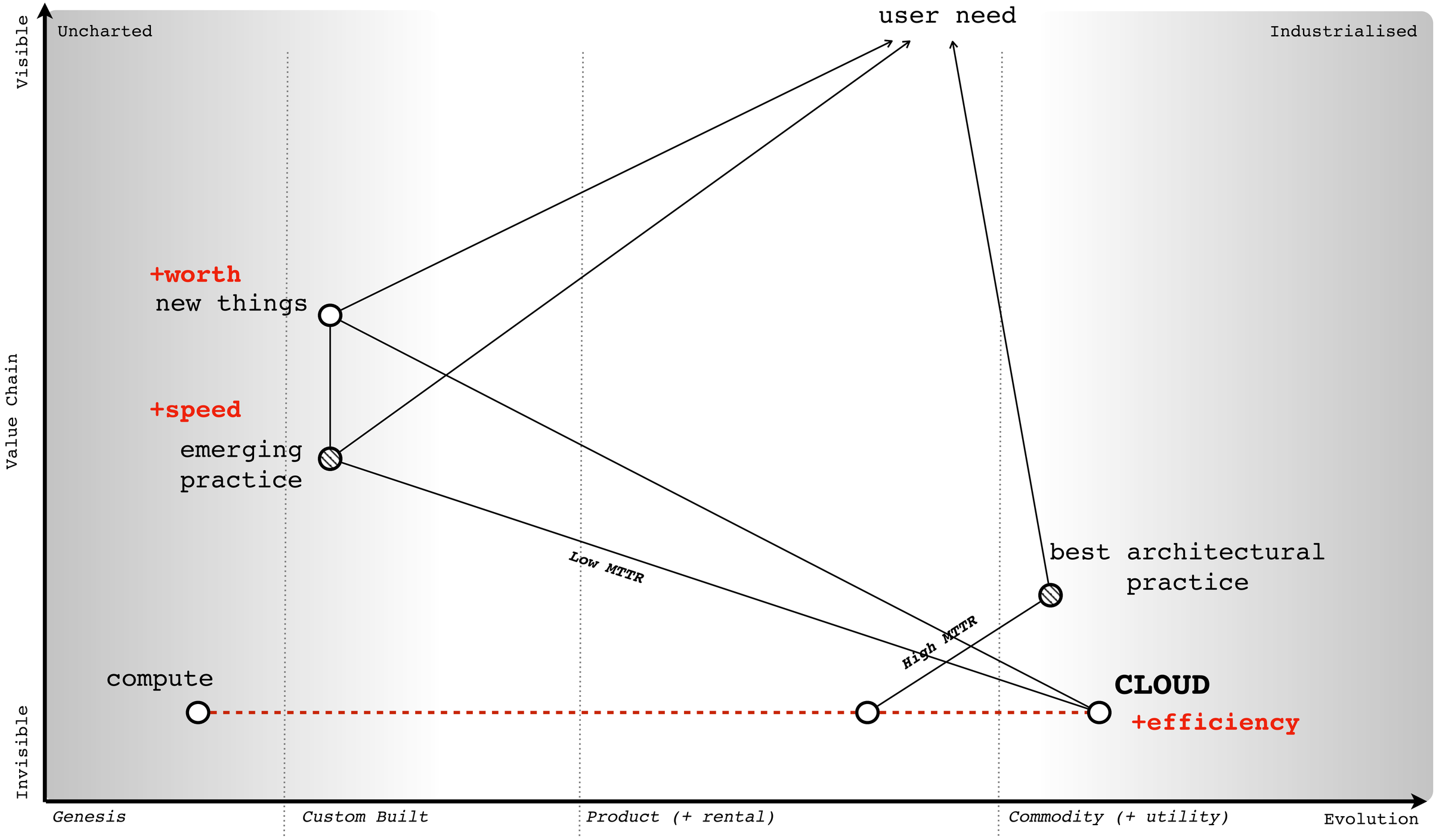

Visible
Uncharted
Industrialised
Application Pipeline
user need
best coding practice
framework
operating system
best architectural practice
High MTTR
compute
Value Chain
Invisible
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

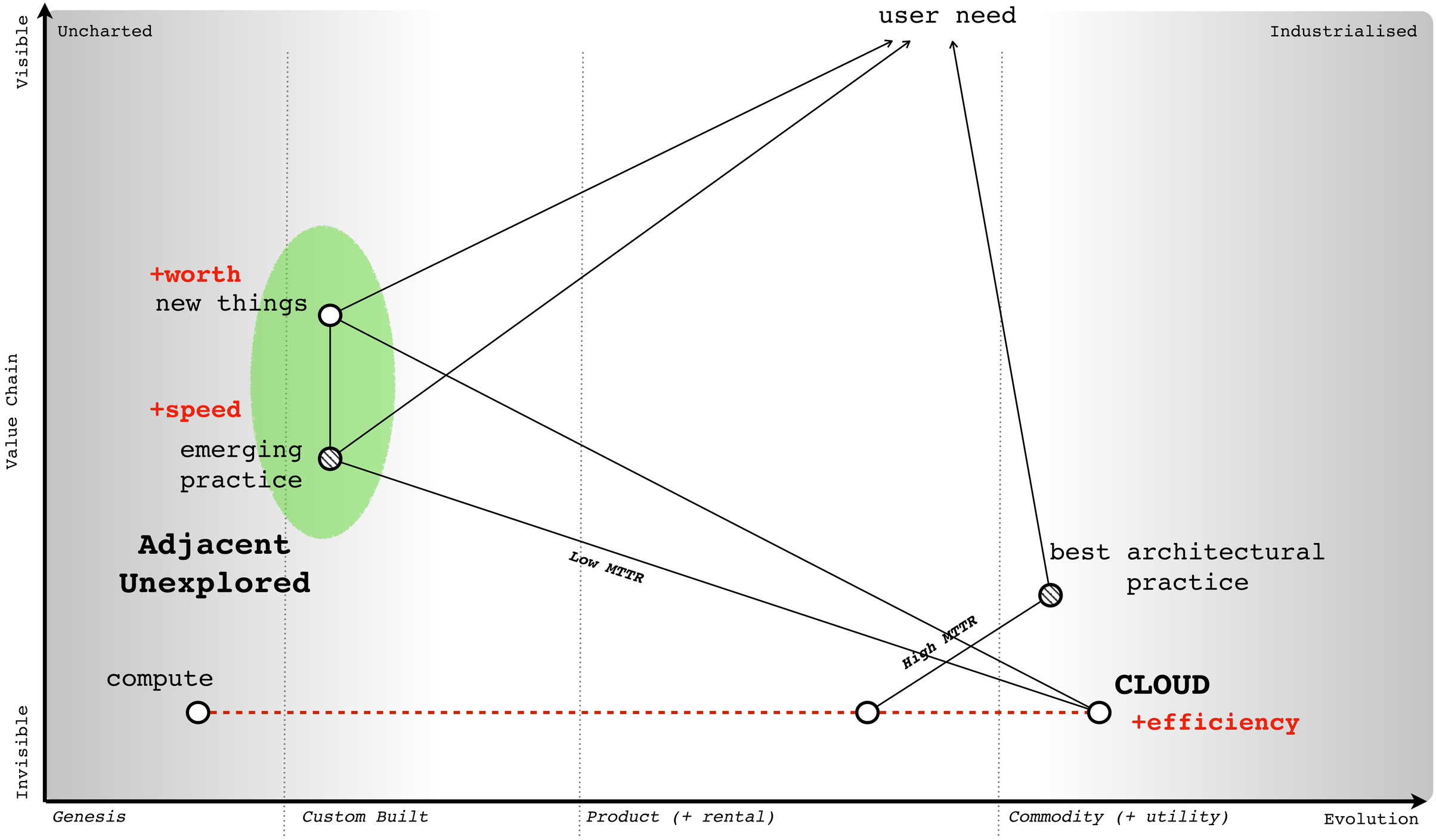

Visible
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Value Chain
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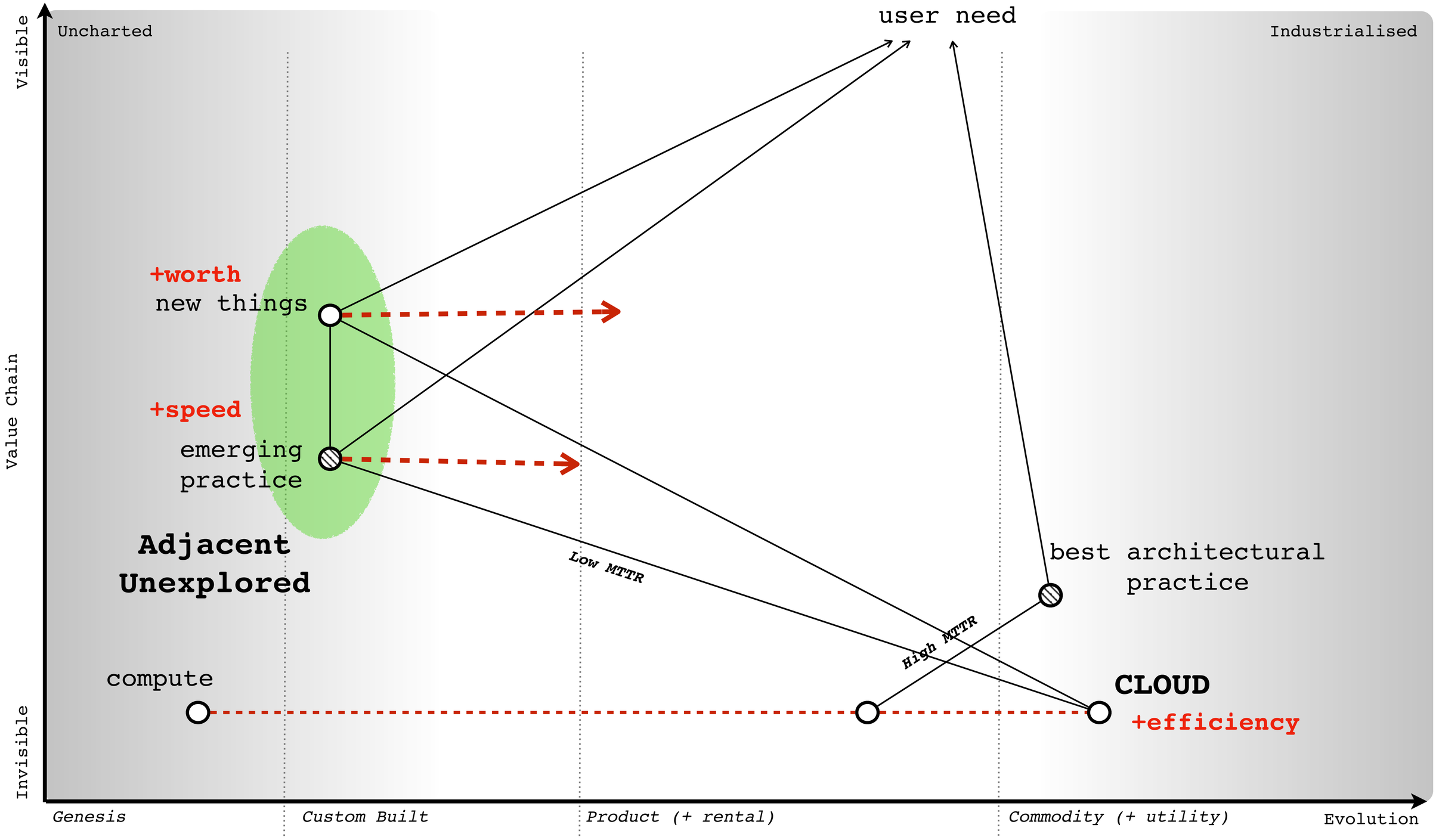

Visible
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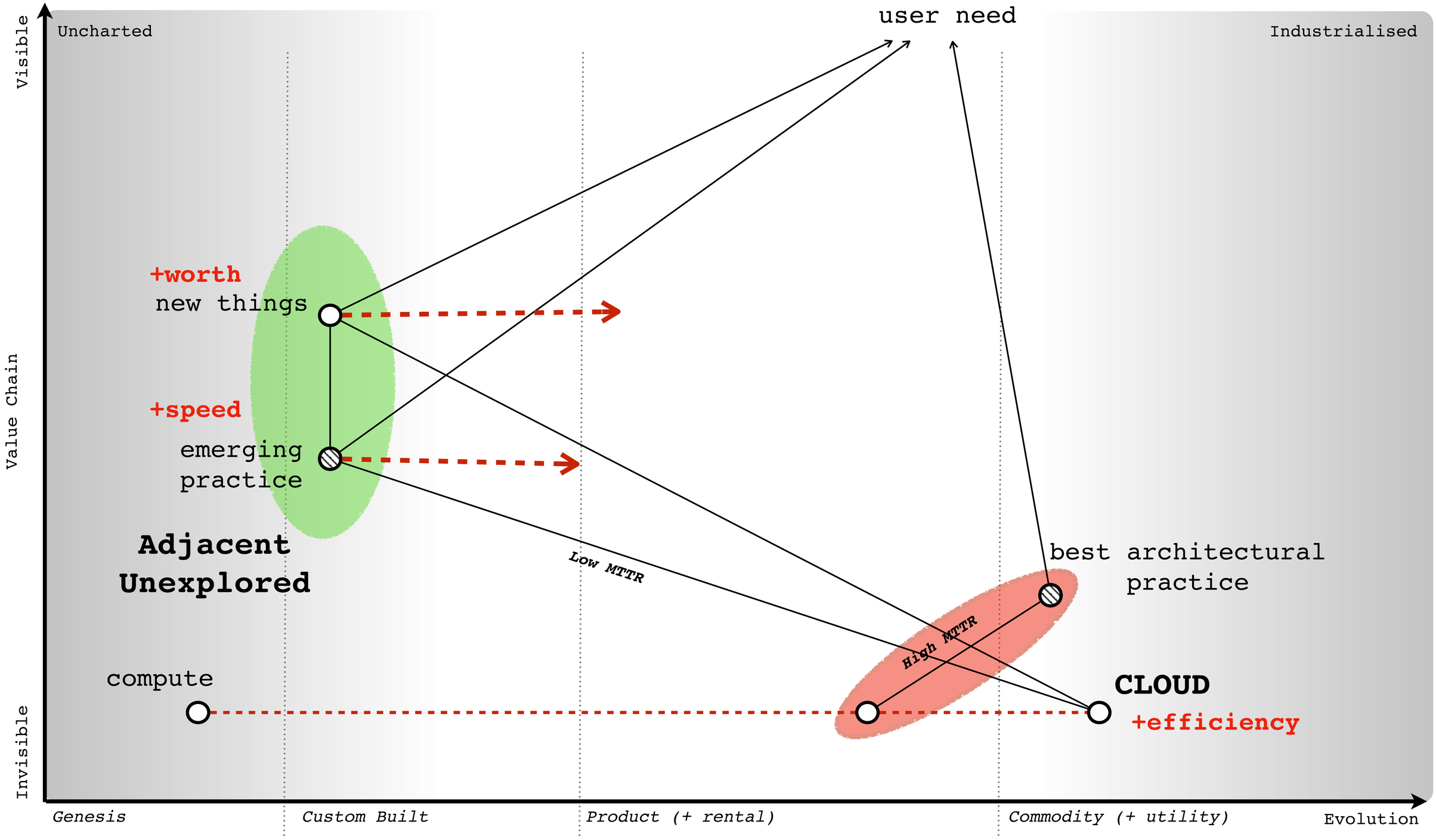

Visible
Uncharted
user need
Industrialised
Value Chain
best architectural
practice
High MTTR
compute
CLOUD
+efficiency
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Product (+ rental)
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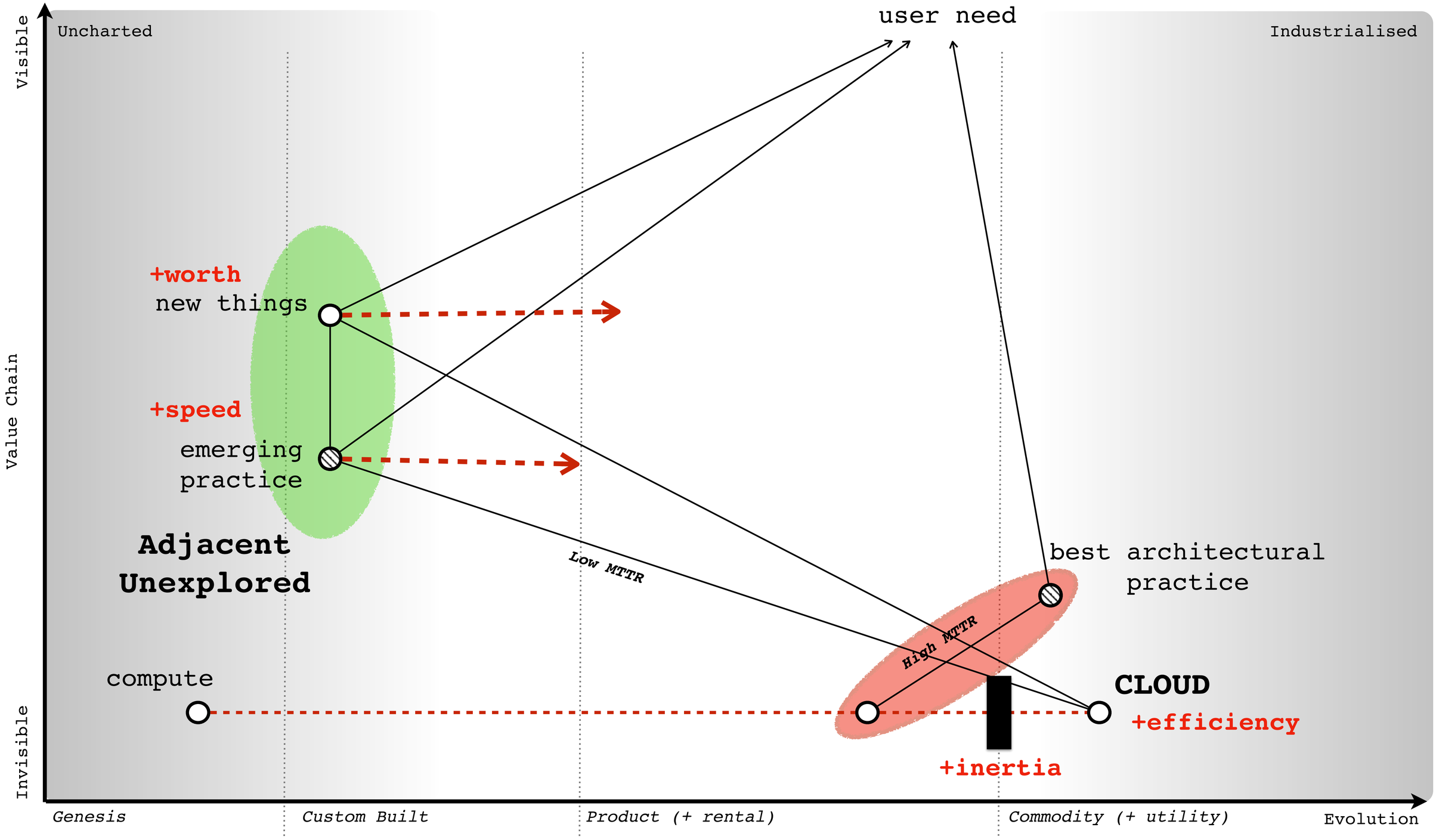

Visible
Uncharted
user need
Industrialised
Value Chain
+speed
emerging
practice
Low MTTR
best architectural
practice
High MTTR
compute
CLOUD
+efficiency
Invisible
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

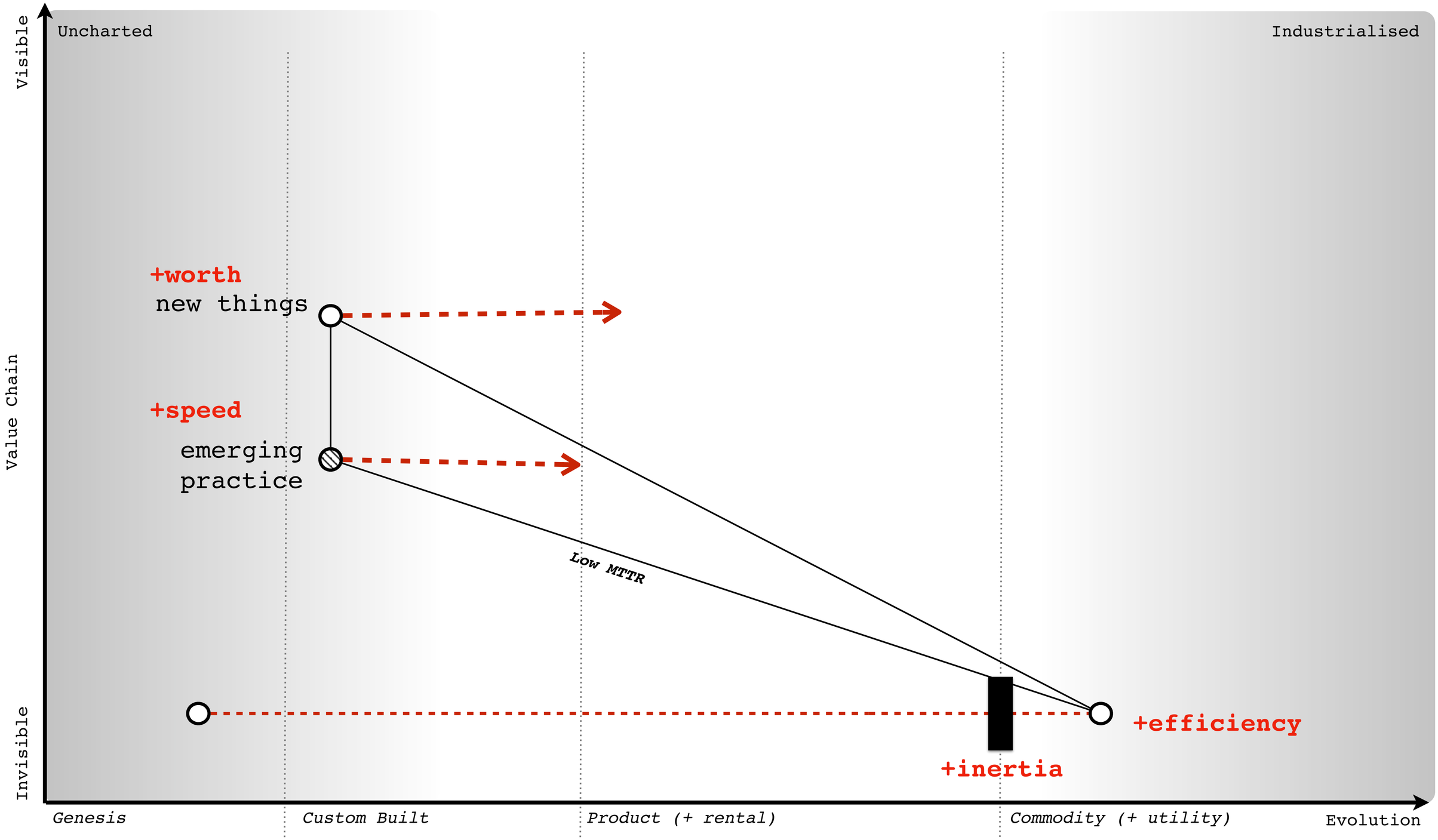

user need
Uncharted
Industrialised
Visible
Value Chain
Invisible
+worth
new things
+speed
emerging
practice
Low MTTR
High MTTR
best architectural
practice
compute
CLOUD
+efficiency
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

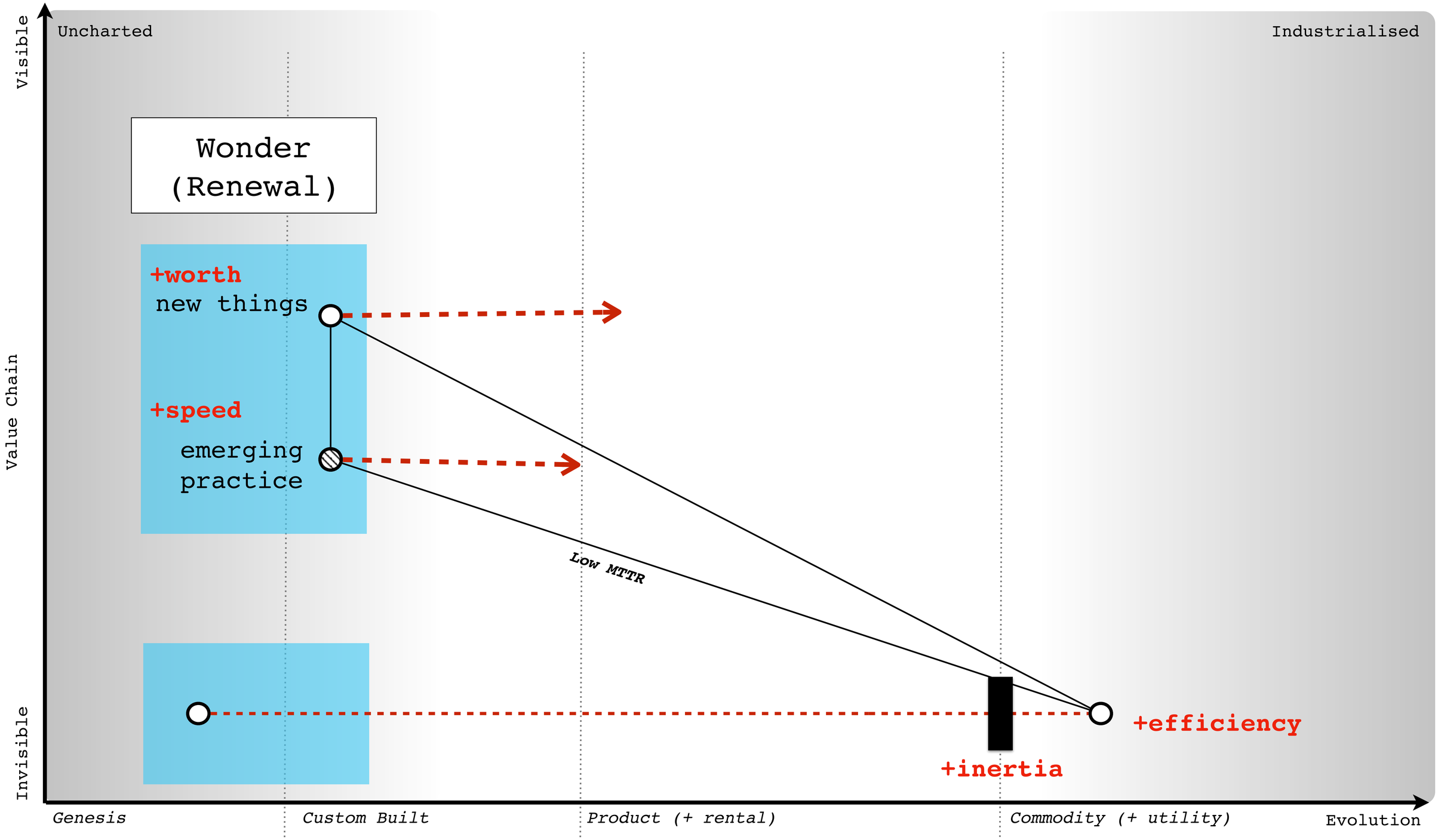

user need
Uncharted
Industrialised
Visible
Invisible
Value Chain
+worth
new things
+speed
emerging
practice
Adjacent
Unexplored
Low MTTR
High MTTR
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practice
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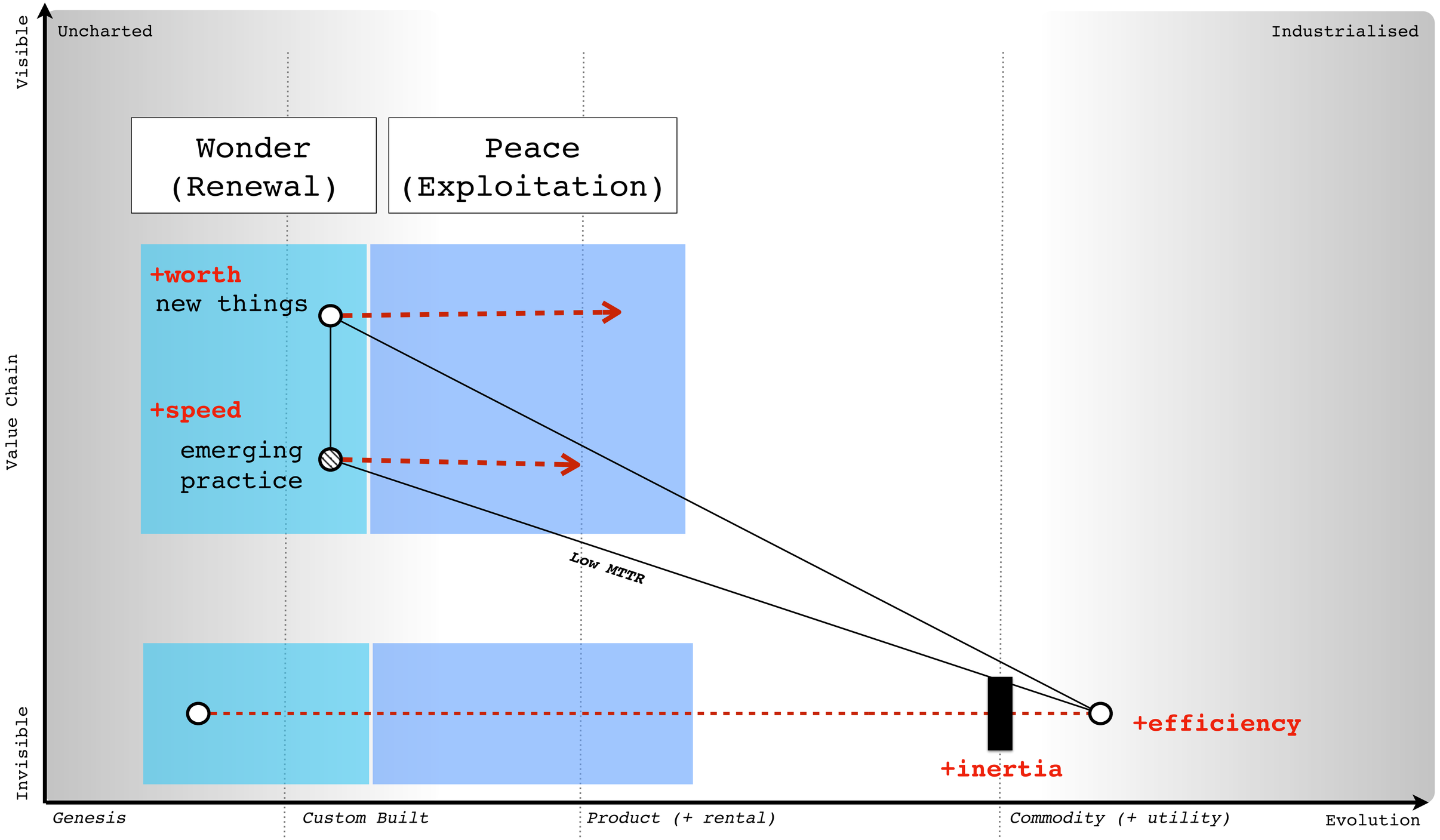

user need
Uncharted
Industrialised
Visible
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Value Chain
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new things
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emerging
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Low MTTR
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Product (+ rental)
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Evolution

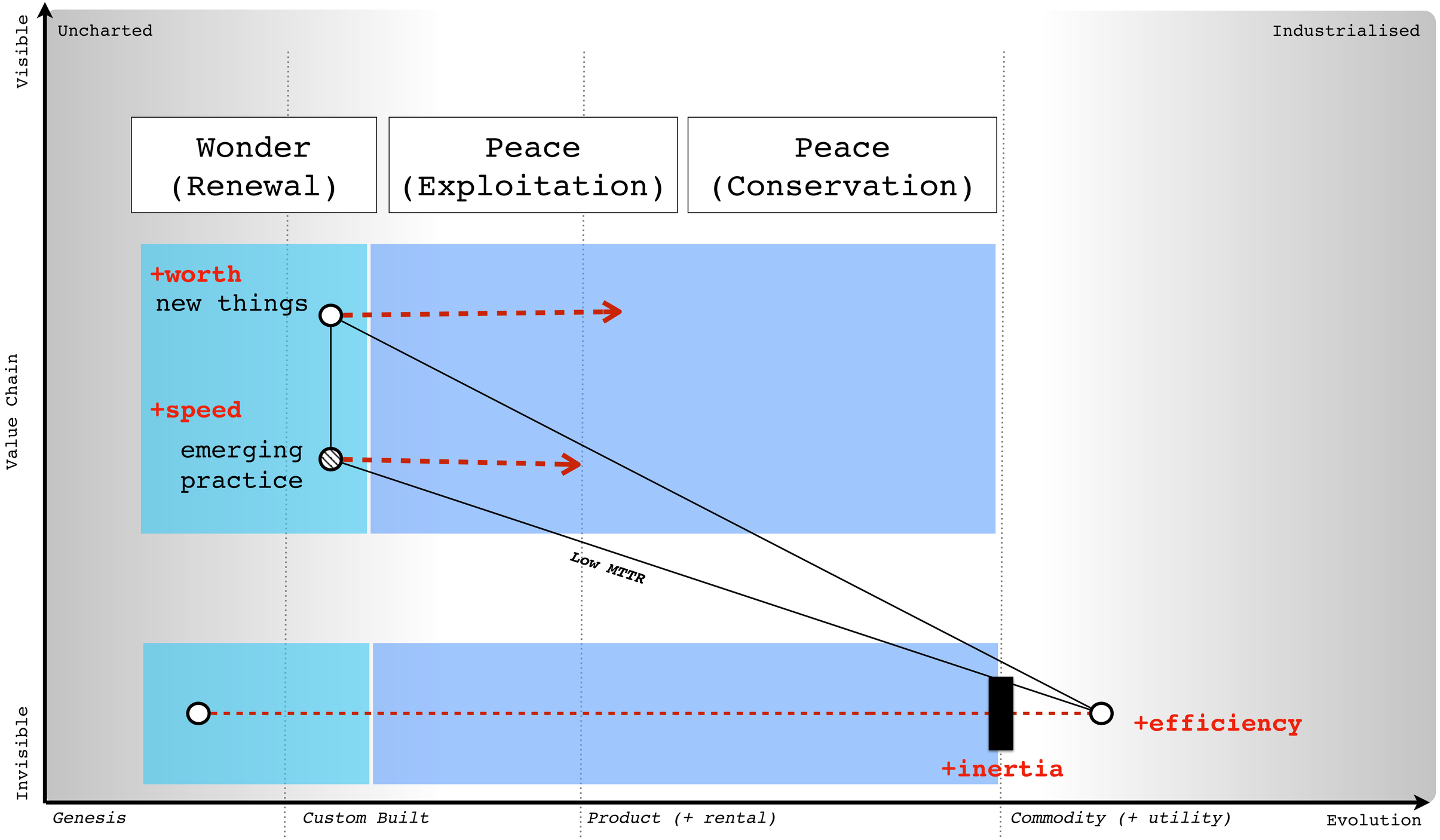

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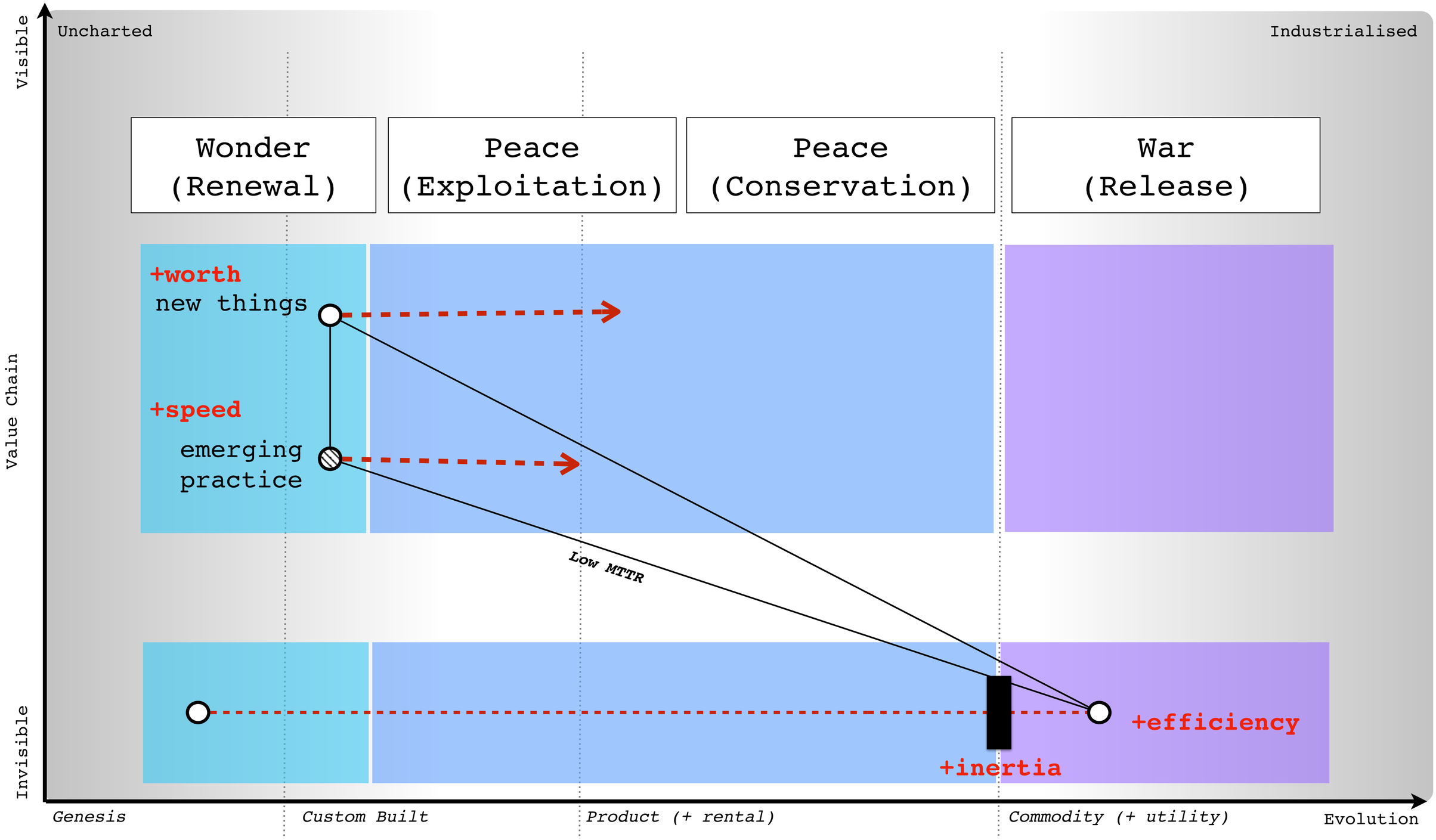

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Invisible
Value Chain
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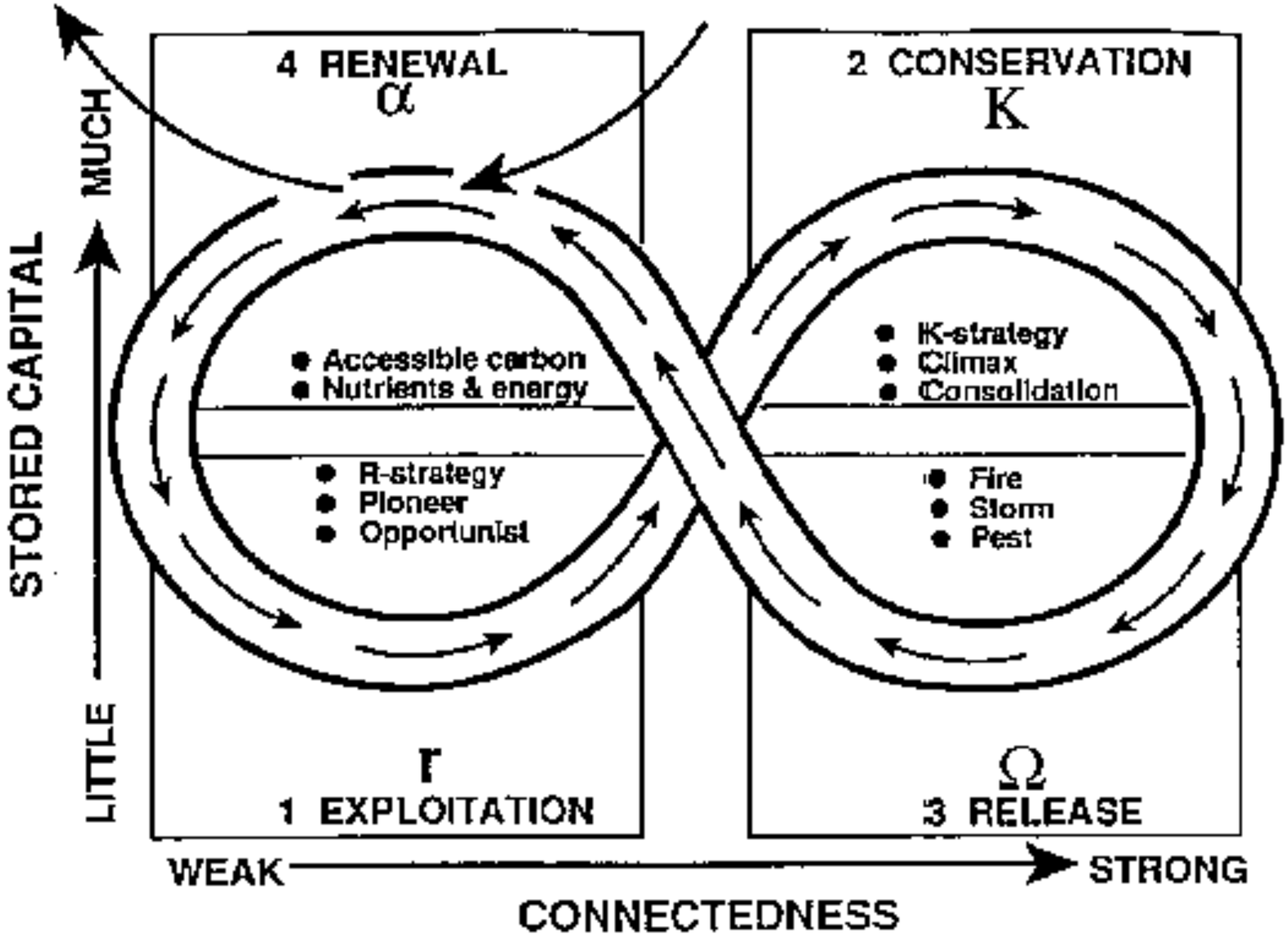

Visible
Uncharted
Industrialised
Value Chain
+worth
new things
+speed
emerging
practice
Low MTTR
+efficiency
+inertia
Invisible
Genesis
Custom Built
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Commodity (+ utility)
Evolution


Visible
Uncharted
Industrialised
Wonder
(Renewal)
+worth
new things
+speed
emerging
practice
Low MTTR
+efficiency
+inertia
Invisible
Value Chain
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Visible
Uncharted
Industrialised
Wonder
(Renewal)
Peace
(Exploitation)
+worth
new things
+speed
emerging
practice
Low MTTR
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+inertia
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Value Chain
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Evolution

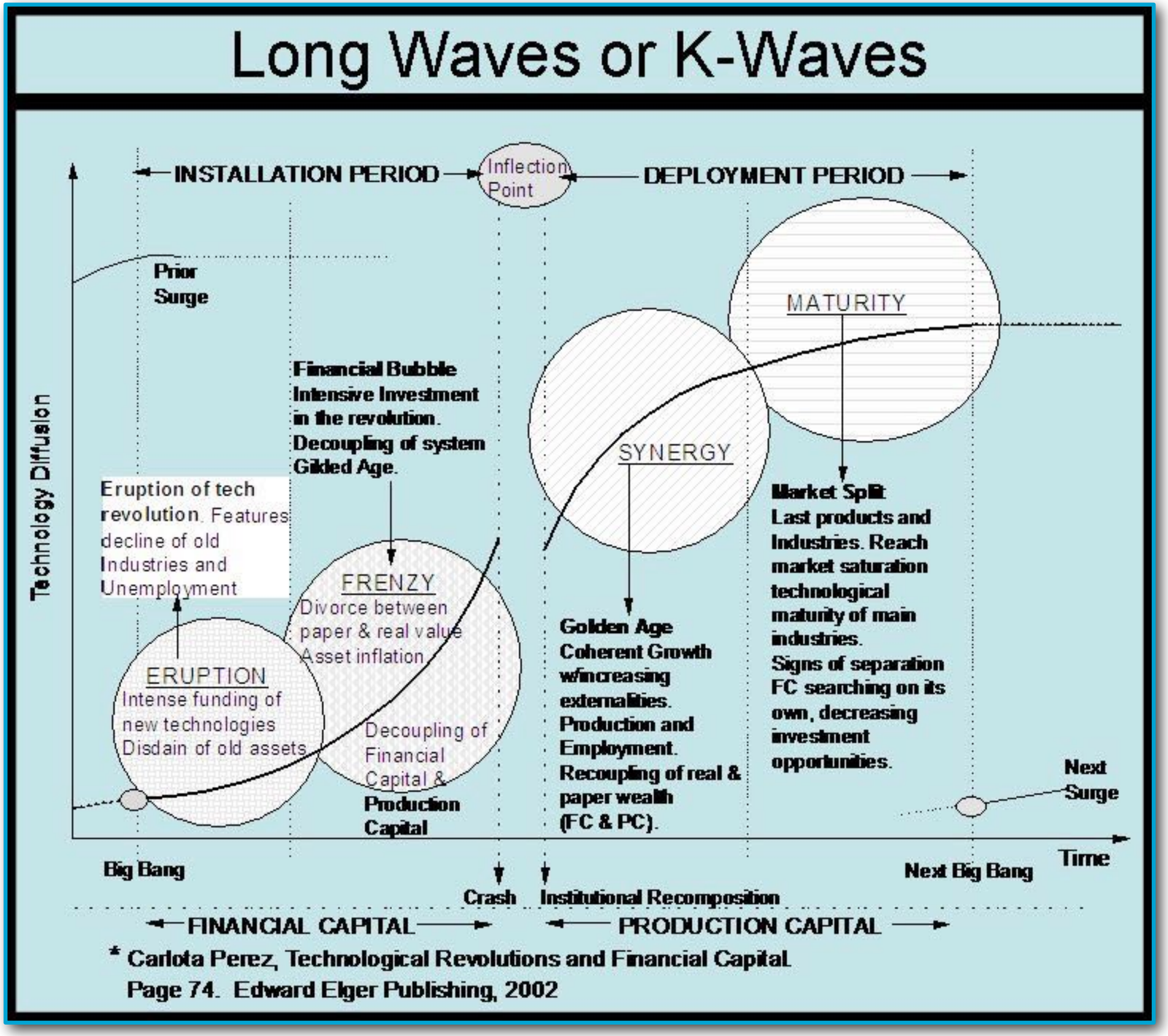

Visible
Uncharted
Industrialised
Wonder
(Renewal)
Peace
(Exploitation)
Peace
(Conservation)
+worth
new things
+speed
emerging
practice
Low MTTR
+efficiency
+inertia
Invisible
Value Chain
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Visible
Uncharted
Industrialised
Wonder
(Renewal)
Peace
(Exploitation)
Peace
(Conservation)
War
(Release)
+worth
new things
+speed
emerging
practice
Low MTTR
+efficiency
+inertia
Invisible
Value Chain
Genesis
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Commodity (+ utility)
Evolution



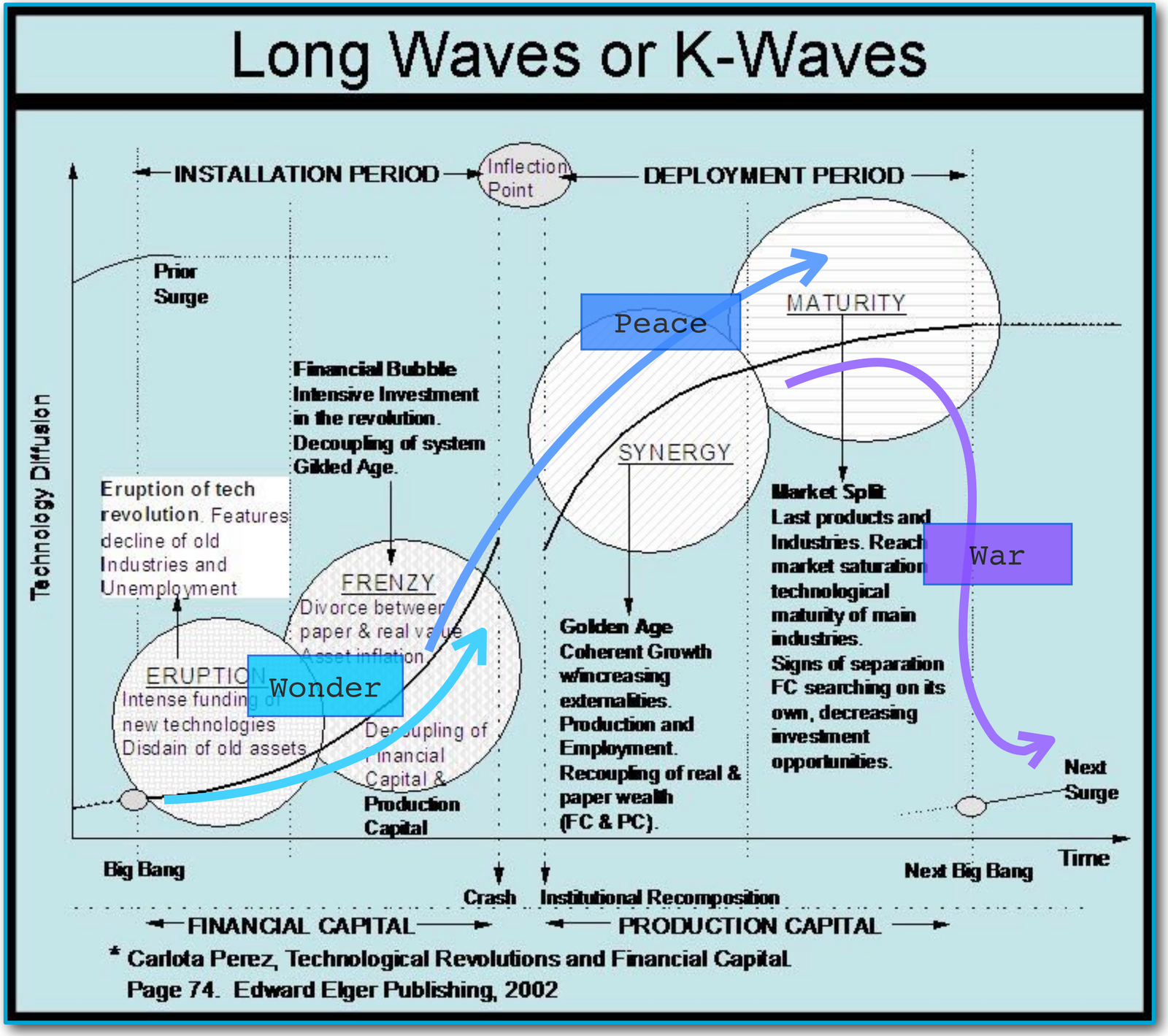
Hollings Adaptive Renewal Cycle, 1996

Long Waves or K-Waves

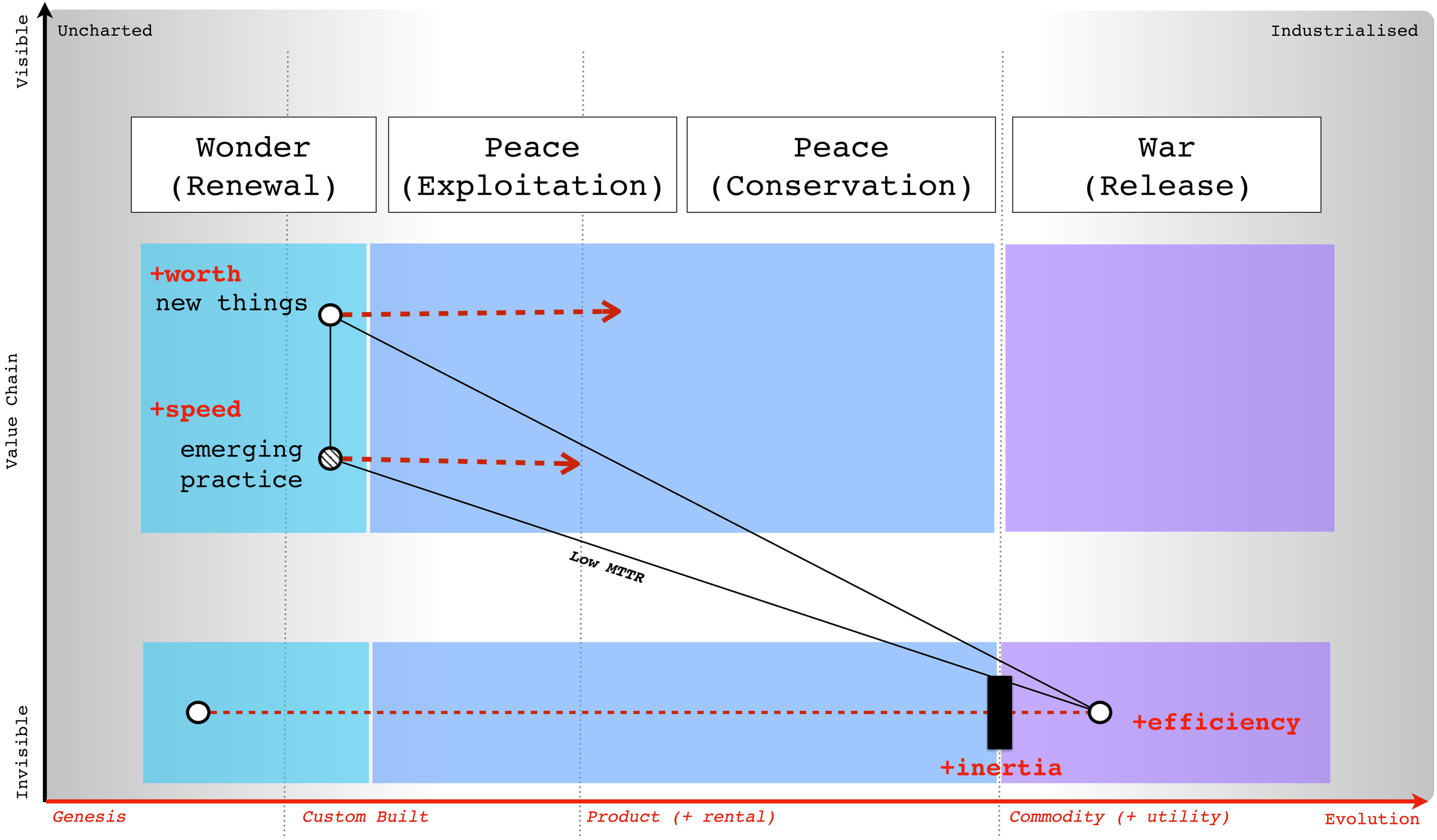


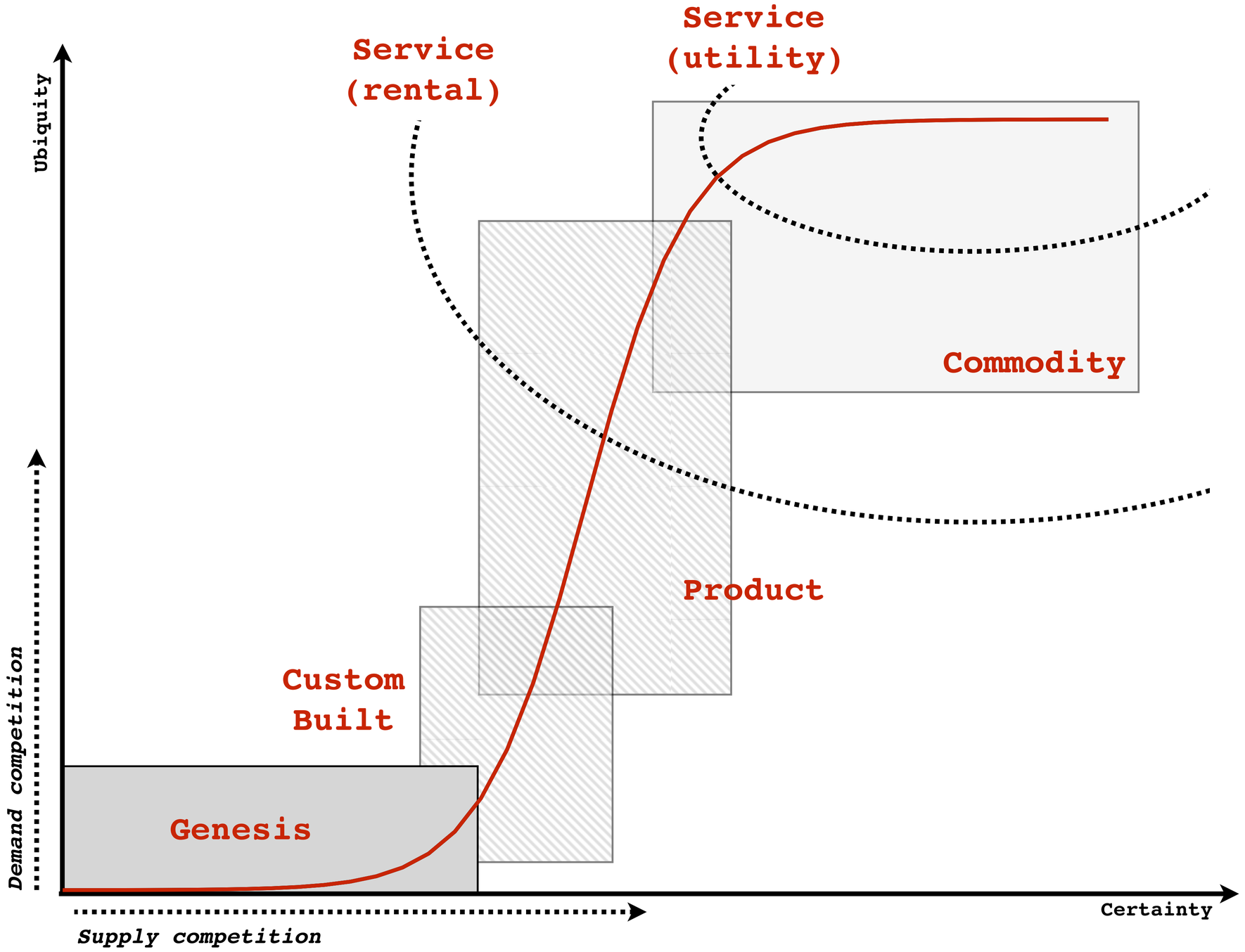
* Carlota Perez, Technological Revolutions and Financial Capital
Page 74. Edward Elger Publishing, 2002

Long Waves or K-Waves



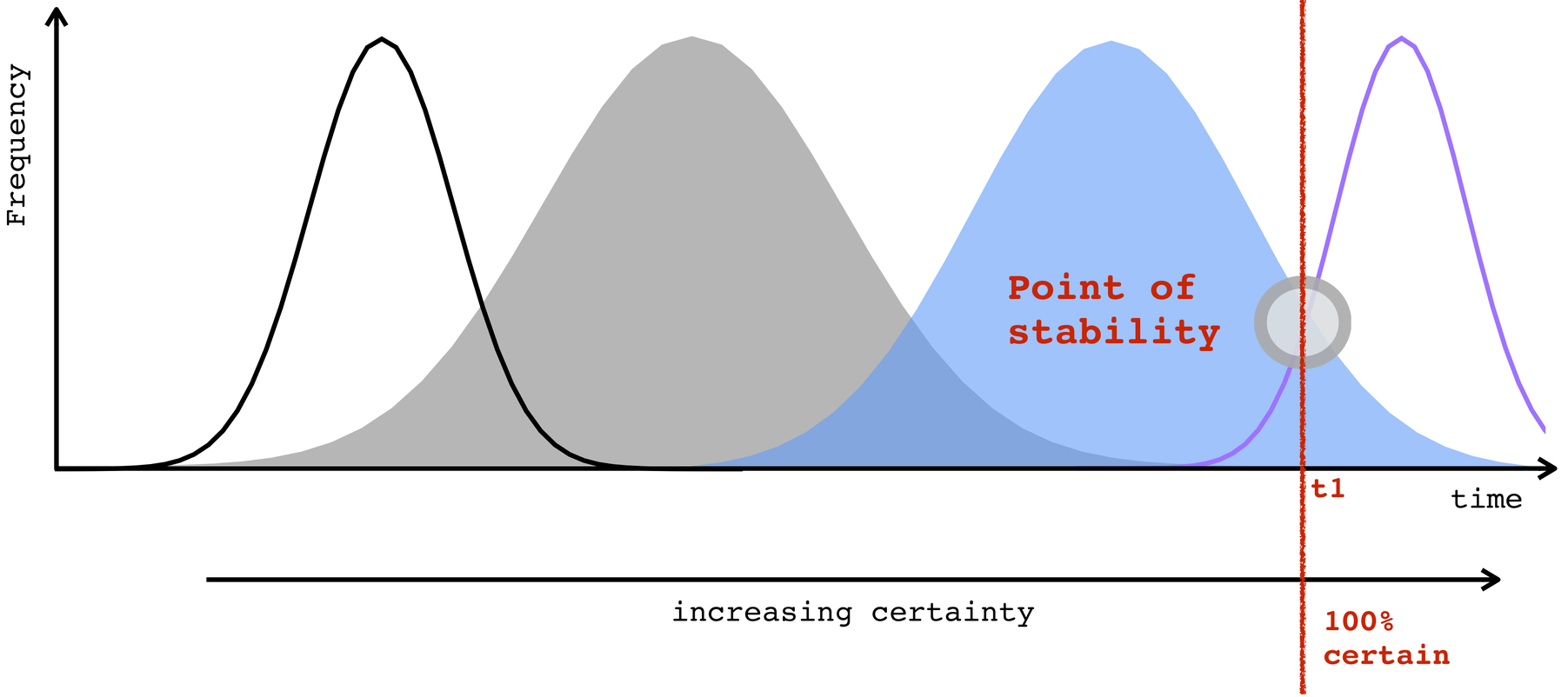
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Commodity (+ utility)
Evolution


Service
(rental)
Service
(utility)
Ubiquity
Commodity
Product
Custom
Built
Genesis
Demand competition
Supply competition
Certainty

Peace | War

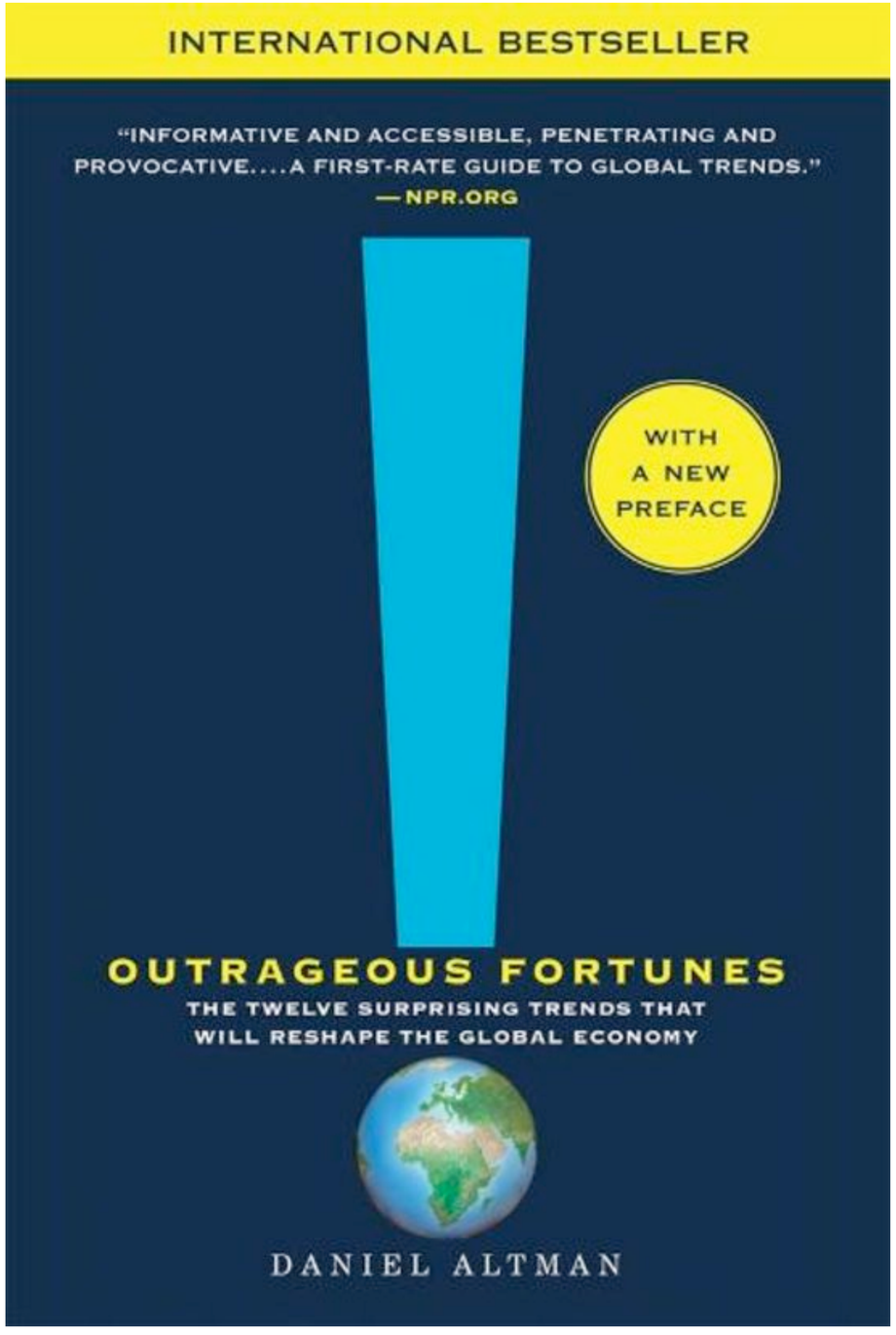
Stage	I	II (key)	III (key)	IV
Publication Type	**Wonder**	**building, construction** and **awareness**	**operation, maintenance** and **feature differences**	**use**

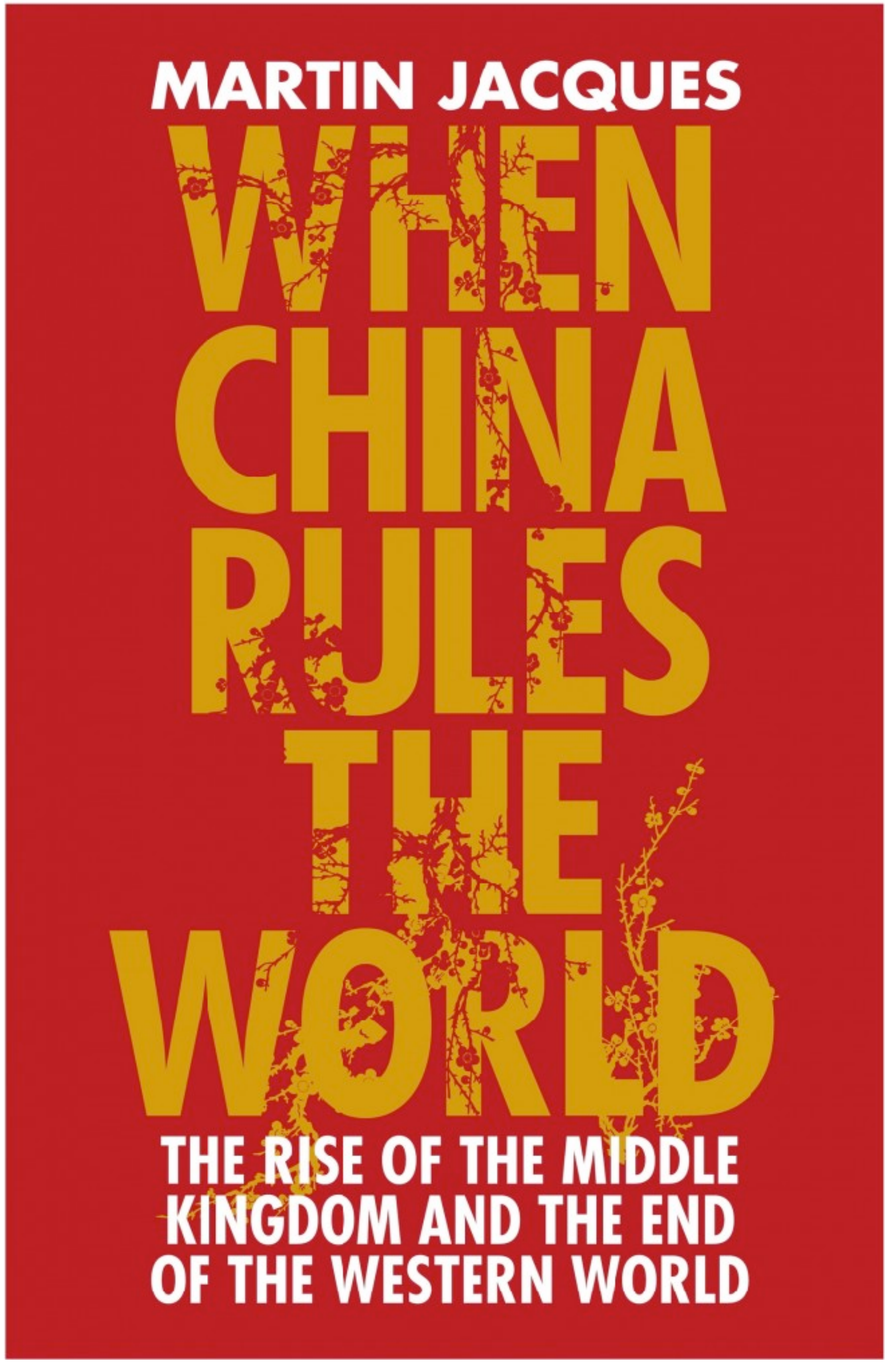


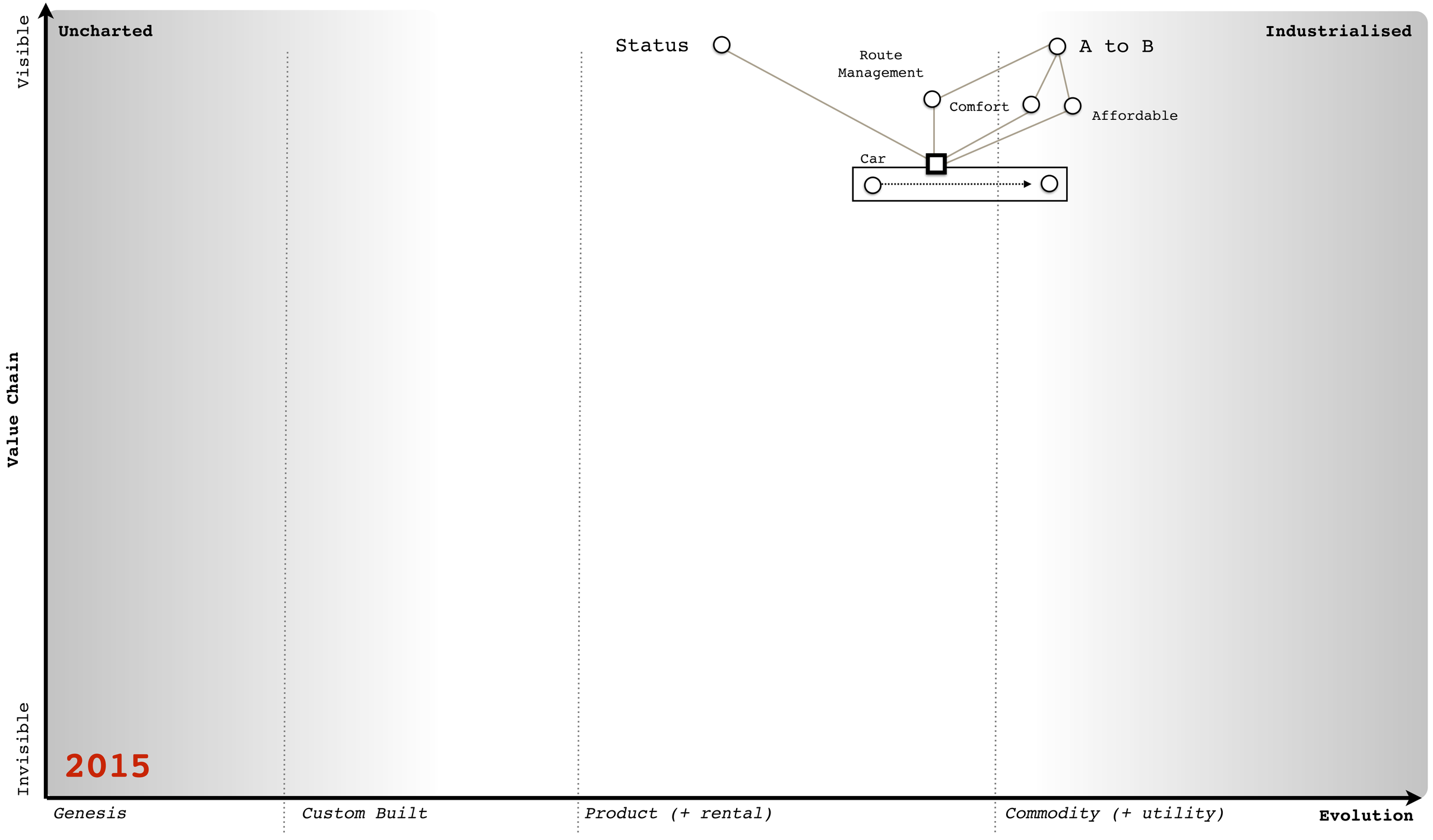
Points of Change	2014	2015-2020	2020-2025	2025-2030	2030-203	2035-204	2040-204	2045-205
	Now	Near			Far			
IaaS	War							
PaaS	War							
SaaS	War							
Big Data		War						
Robotics			War					
Currency (blockchain)			War					
Sensor as a Service			War					
IoT				War				
Immersive				War				
3D printing				War				
GMO				War				
Genetic Engineering				War				
Intelligent Agents					War			
Printed Electronics					War			
Hybrid Printing						War		
Bio Manufacturing						War		
Epigenetics						War		
Materials						War		

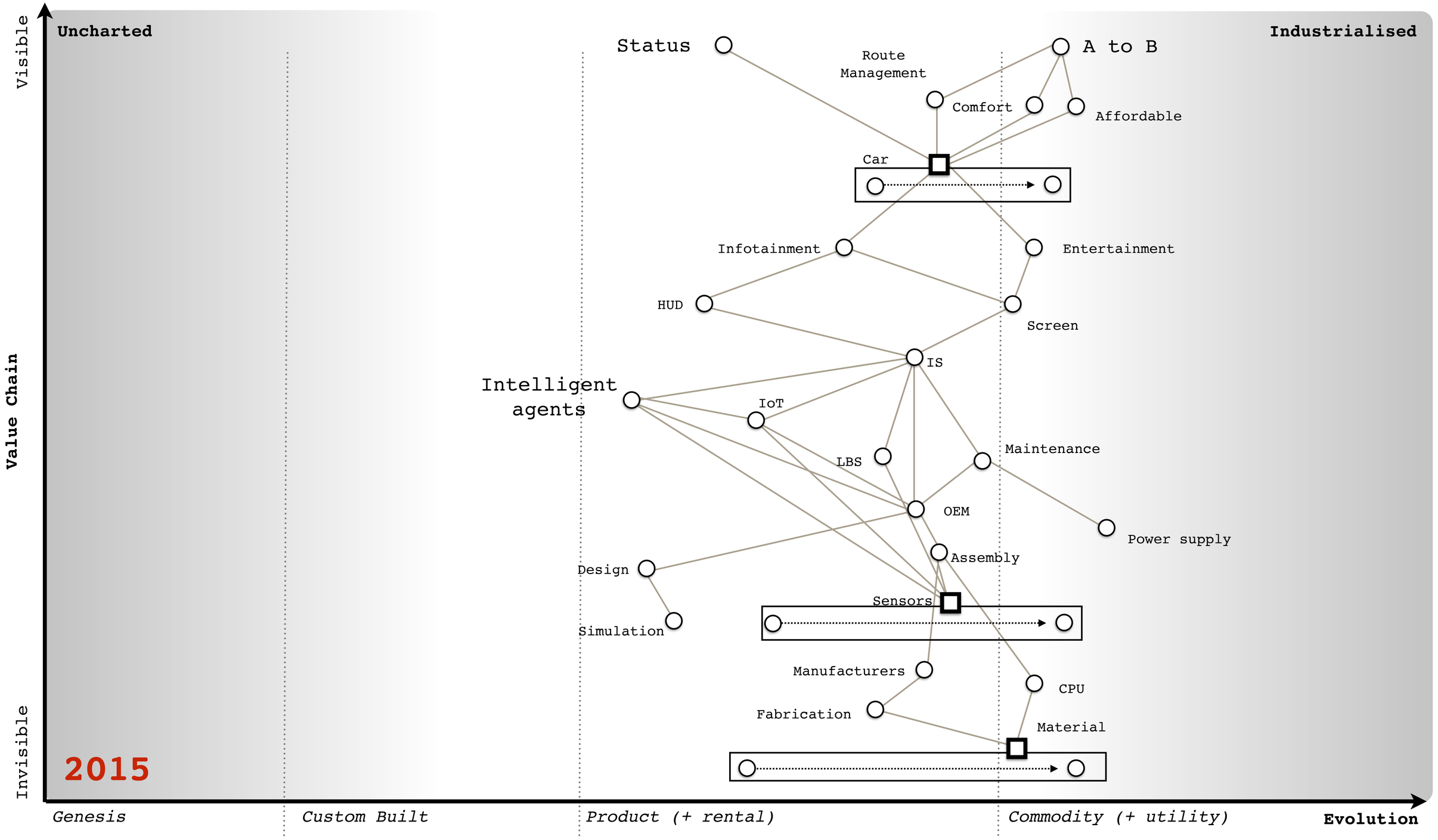
Unpredictable — Predictable

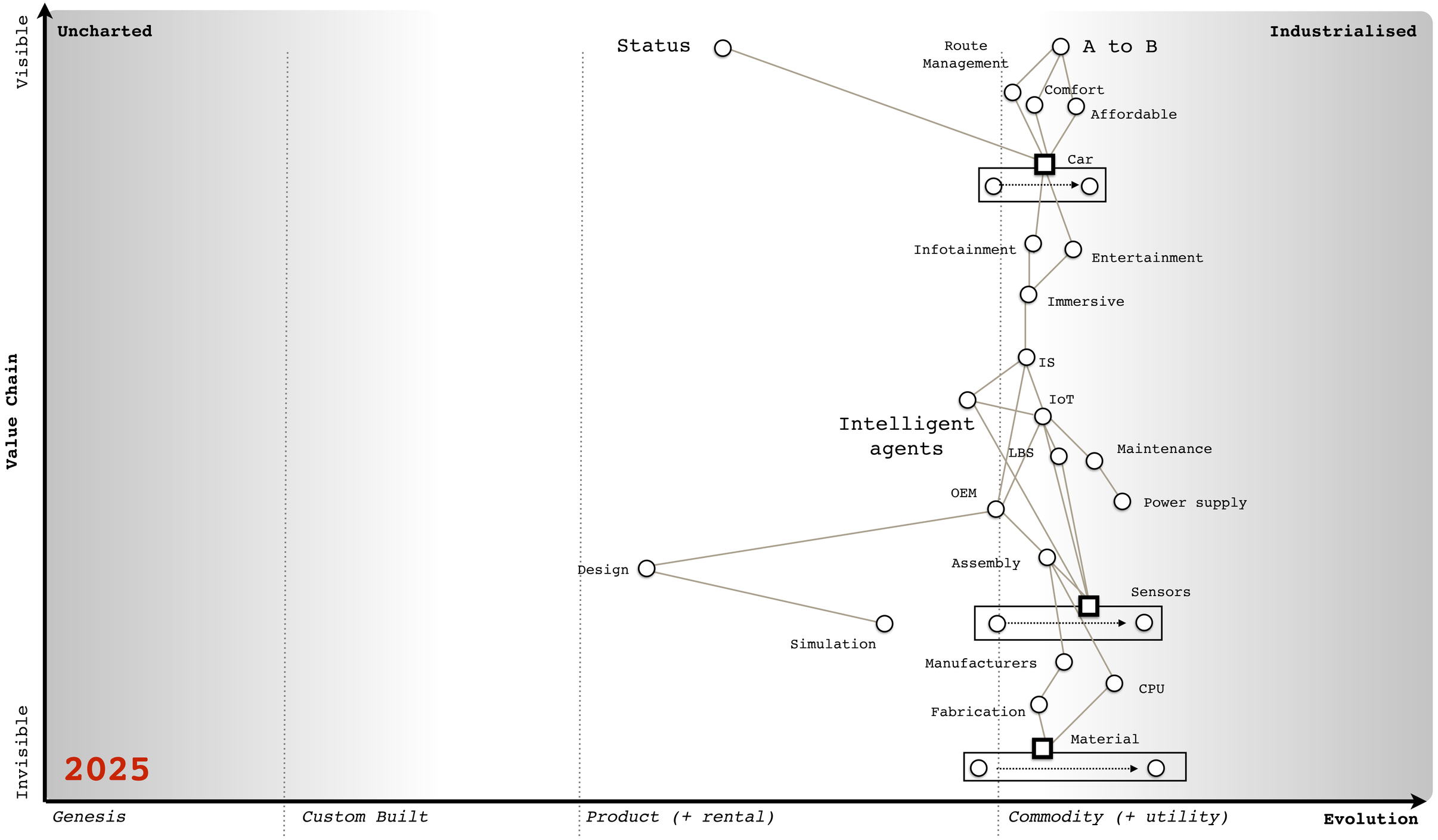
Weak signal analysis, 2014

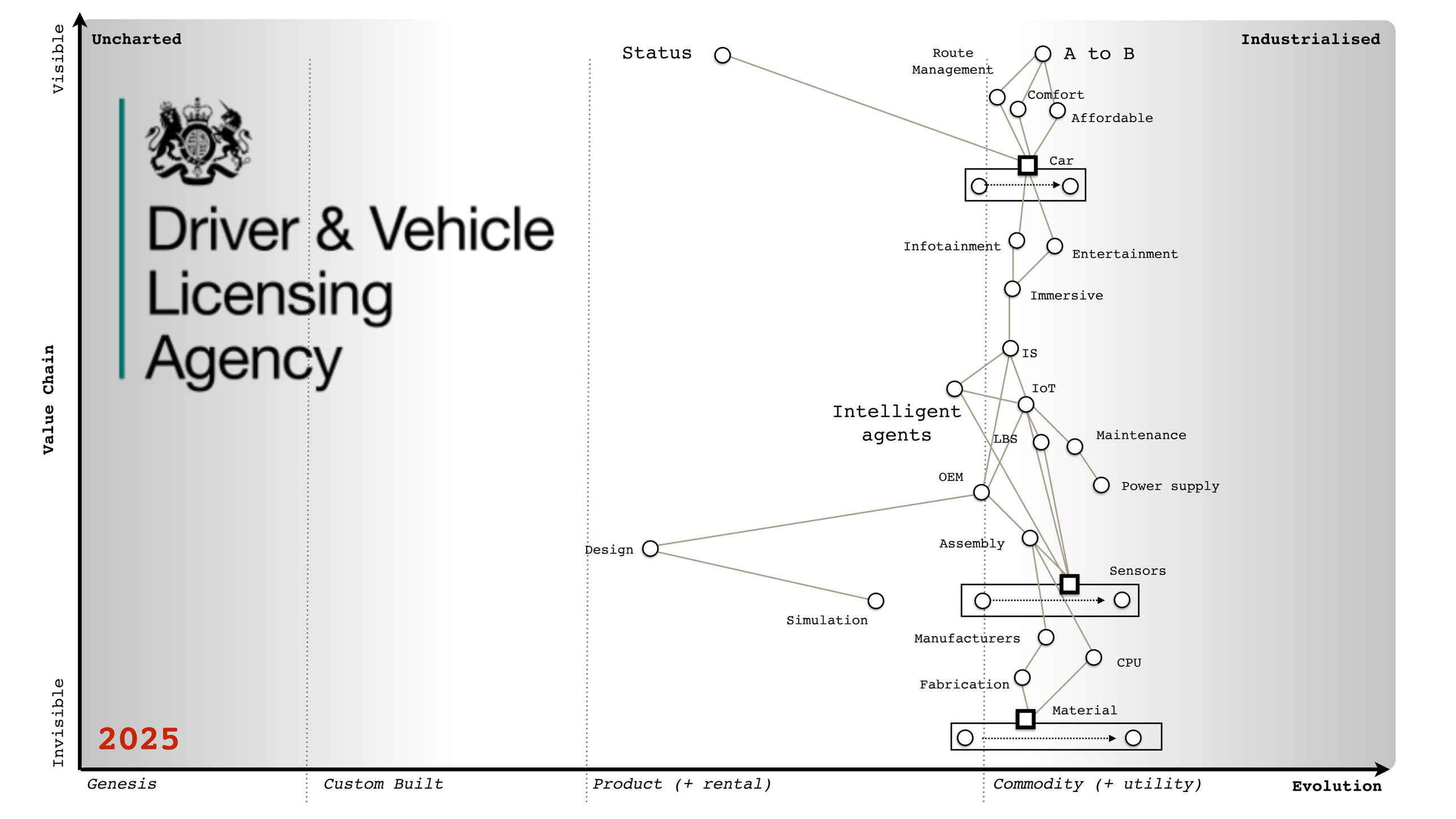

INTERNATIONAL BESTSELLER
"INFORMATIVE AND ACCESSIBLE, PENETRATING AND PROVOCATIVE....A FIRST-RATE GUIDE TO GLOBAL TRENDS."
—NPR.ORG
WITH A NEW PREFACE
OUTRAGEOUS FORTUNES
THE TWELVE SURPRISING TRENDS THAT WILL RESHAPE THE GLOBAL ECONOMY
DANIEL ALTMAN

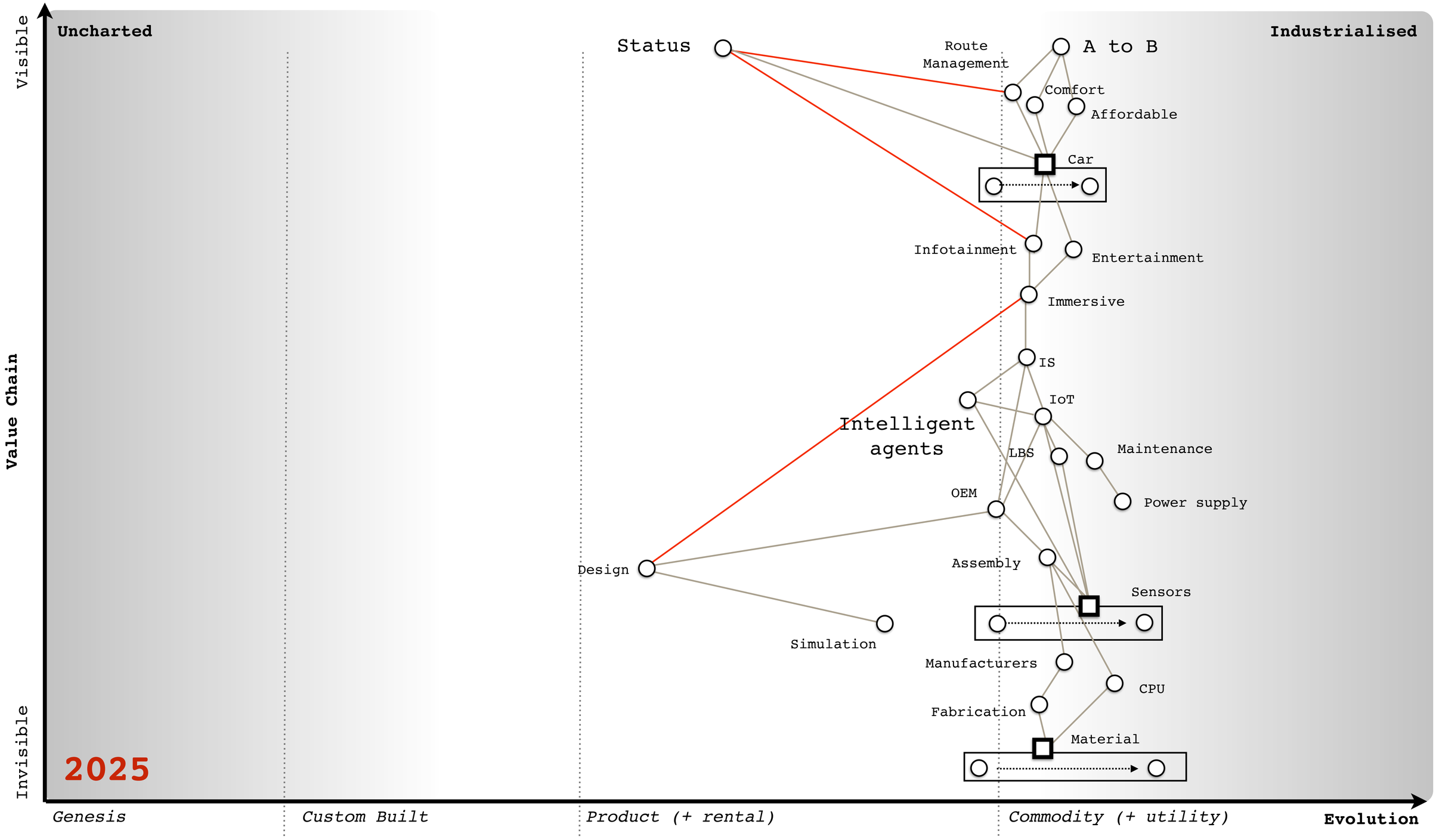

MARTIN JACQUES
WHEN CHINA RULES THE WORLD
THE RISE OF THE MIDDLE KINGDOM AND THE END OF THE WESTERN WORLD

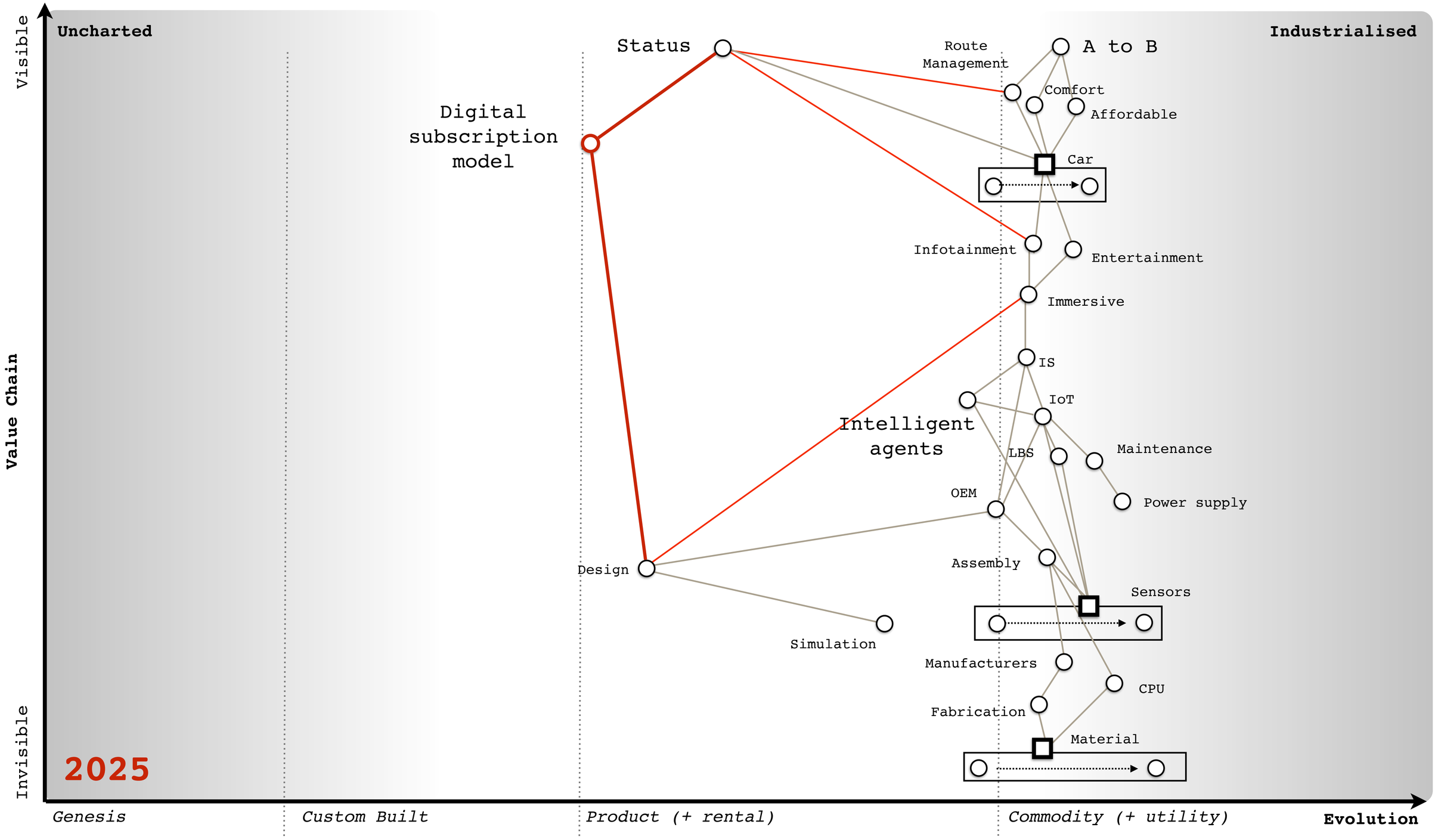

Uncharted
Industrialised
Visible
Value Chain
Invisible
Status
A to B
Route
Management
Comfort
Affordable
Car
2015
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

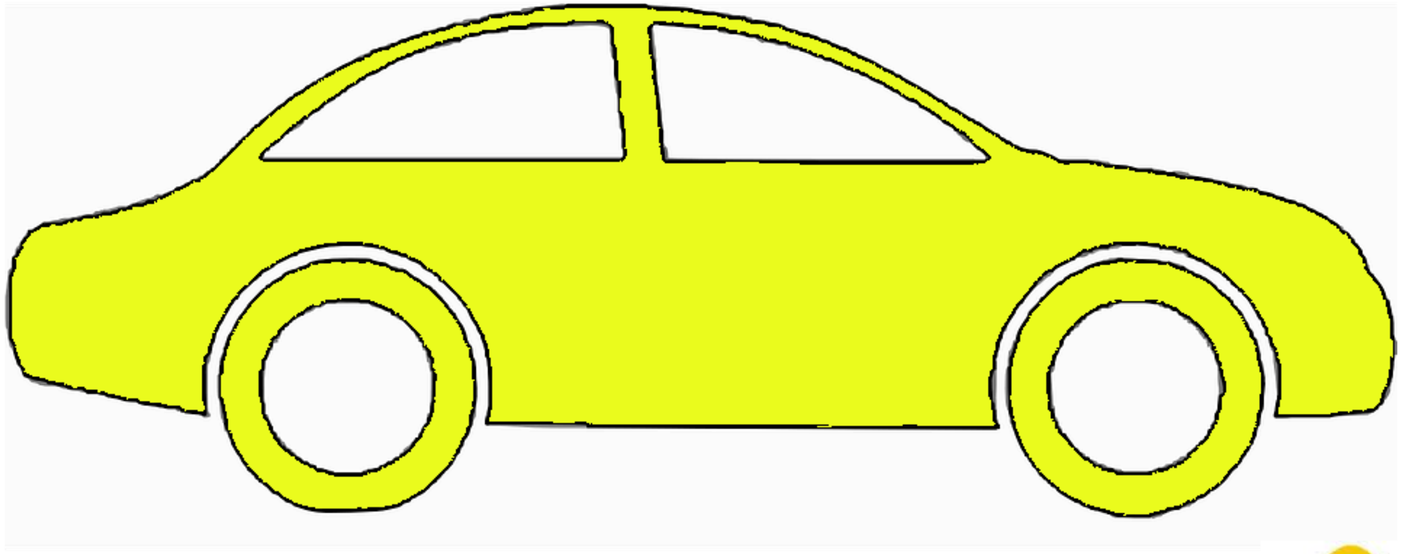

Uncharted
Industrialised
Visible
Invisible
Value Chain
Status
A to B
Route
Management
Comfort
Affordable
Car
Infotainment
Entertainment
HUD
Screen
IS
Intelligent
agents
IoT
LBS
Maintenance
OEM
Power supply
Assembly
Design
Sensors
Simulation
Manufacturers
CPU
Fabrication
Material
2015
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Uncharted
Industrialised
Visible
Invisible
Value Chain
Status
Route Management
A to B
Comfort
Affordable
Car
Infotainment
Entertainment
Immersive
IS
IoT
Intelligent agents
LBS
Maintenance
Power supply
OEM
Design
Assembly
Sensors
Simulation
Manufacturers
CPU
Fabrication
Material
2025
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

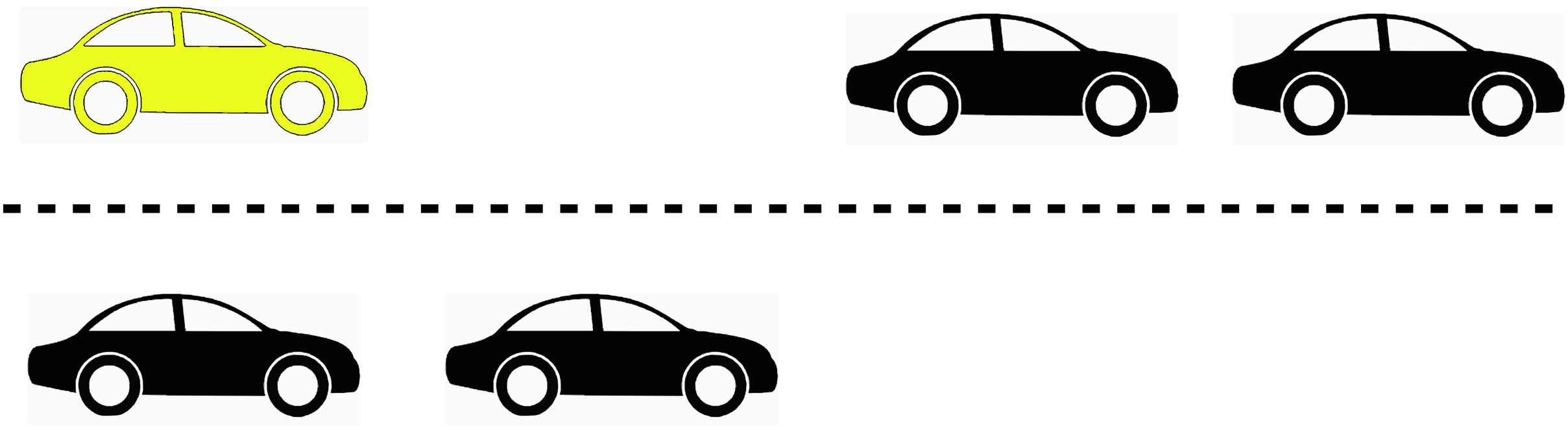

Uncharted
Industrialised
Visible
Invisible
Value Chain
Driver & Vehicle Licensing Agency
2025
Status
Route Management
A to B
Comfort
Affordable
Car
Infotainment
Entertainment
Immersive
IS
IoT
Intelligent agents
LBS
Maintenance
Power supply
OEM
Design
Assembly
Sensors
Simulation
Manufacturers
CPU
Fabrication
Material
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

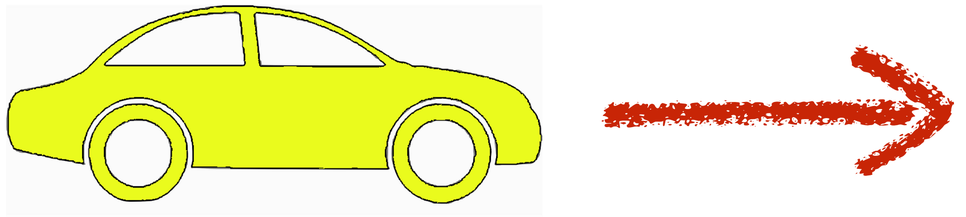

Uncharted
Industrialised
Visible
Invisible
Value Chain
Status
Route Management
A to B
Comfort
Affordable
Car
Infotainment
Entertainment
Immersive
IS
IoT
Intelligent agents
LBS
Maintenance
Power supply
OEM
Design
Assembly
Sensors
Simulation
Manufacturers
CPU
Fabrication
Material
2025
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

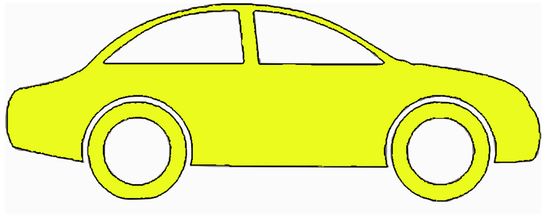

Uncharted
Industrialised
Visible
Invisible
Value Chain
Status
Digital subscription model
Route Management
A to B
Comfort
Affordable
Car
Infotainment
Entertainment
Immersive
IS
IoT
Intelligent agents
LBS
Maintenance
Power supply
OEM
Design
Assembly
Sensors
Simulation
Manufacturers
CPU
Fabrication
Material
2025
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution




i'm lovin' it
Walmart
Save money. Live better.
FOX NEWS channel

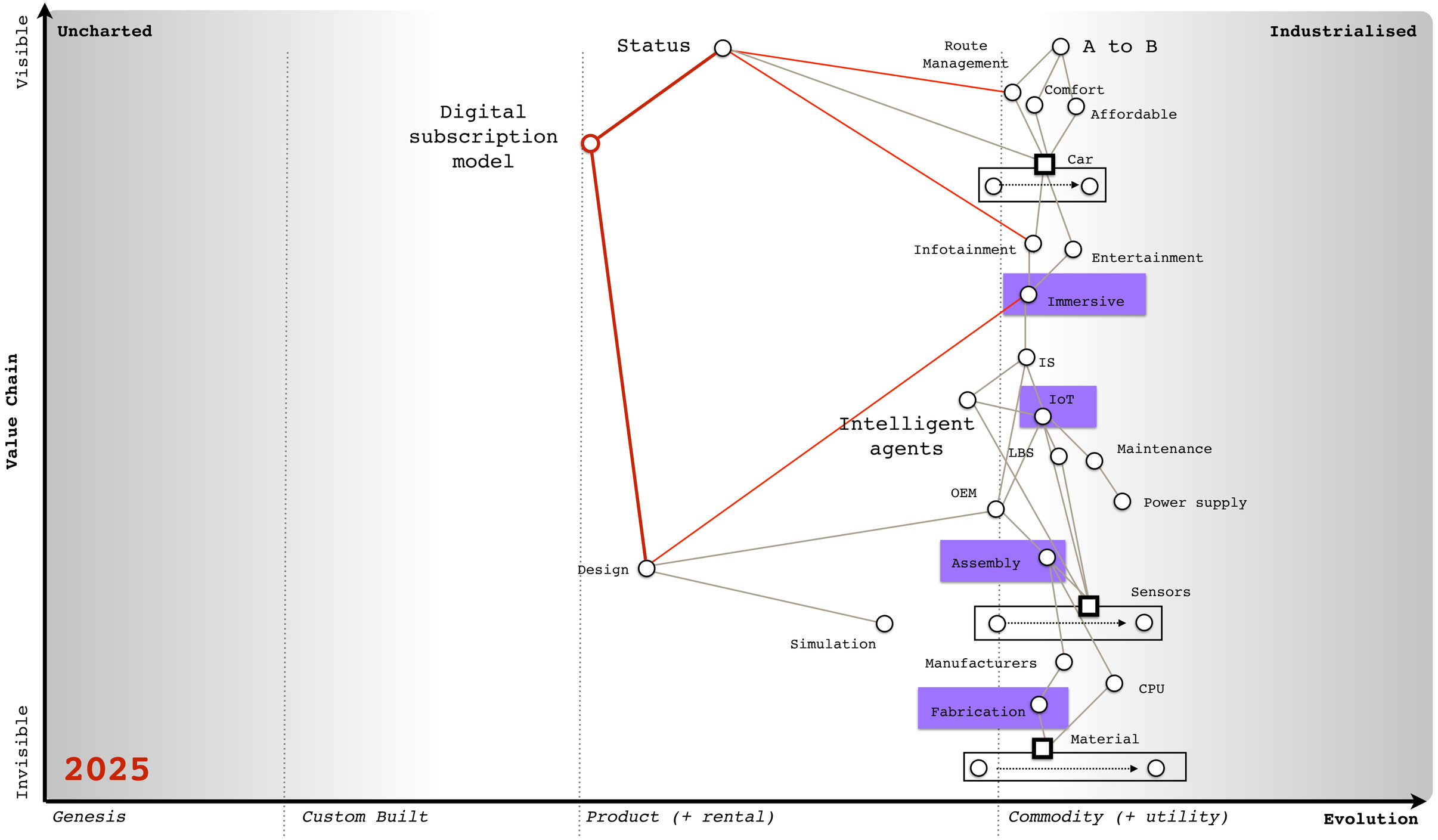











Uncharted
Industrialised
Visible
Invisible
Value Chain
Status
Digital subscription model
Route Management
A to B
Comfort
Affordable
Car
Infotainment
Entertainment
Immersive
IS
IoT
Intelligent agents
LBS
Maintenance
Power supply
OEM
Assembly
Design
Sensors
Simulation
Manufacturers
CPU
Fabrication
Material
2025
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

Visible

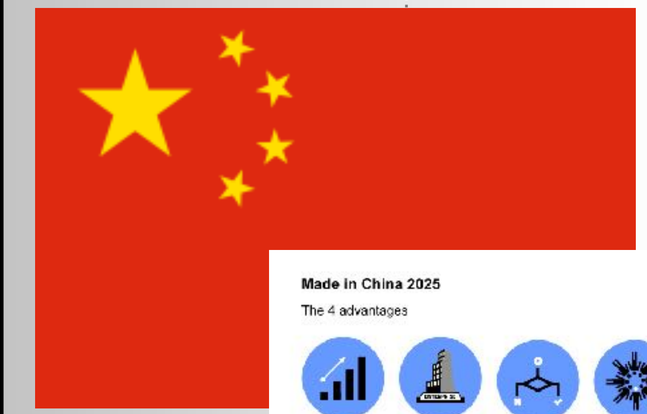
Invisible

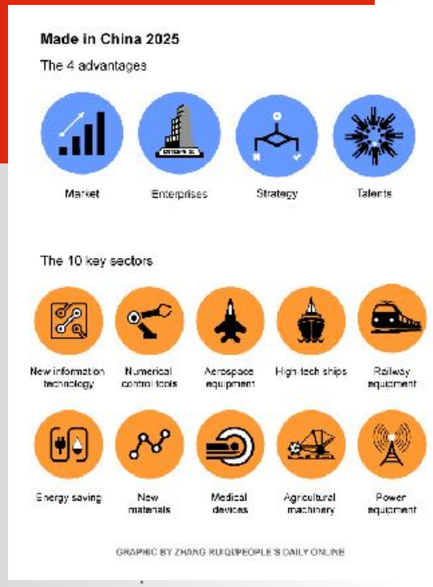
Value Chain

Uncharted

Industrialised

Digital subscription model





2025

Status

Route Management

A to B

Comfort

Affordable

Car

Last man standing

Infotainment

Entertainment

Strategic investment

IS

Strategic investment

Intelligent agents

LBS

Maintenance

OEM

Power supply

Strategic investment

Assembly

Design

Sensors

Simulation

Manufacturers

CPU

Fabrication

Strategic investment

Material

Constraint

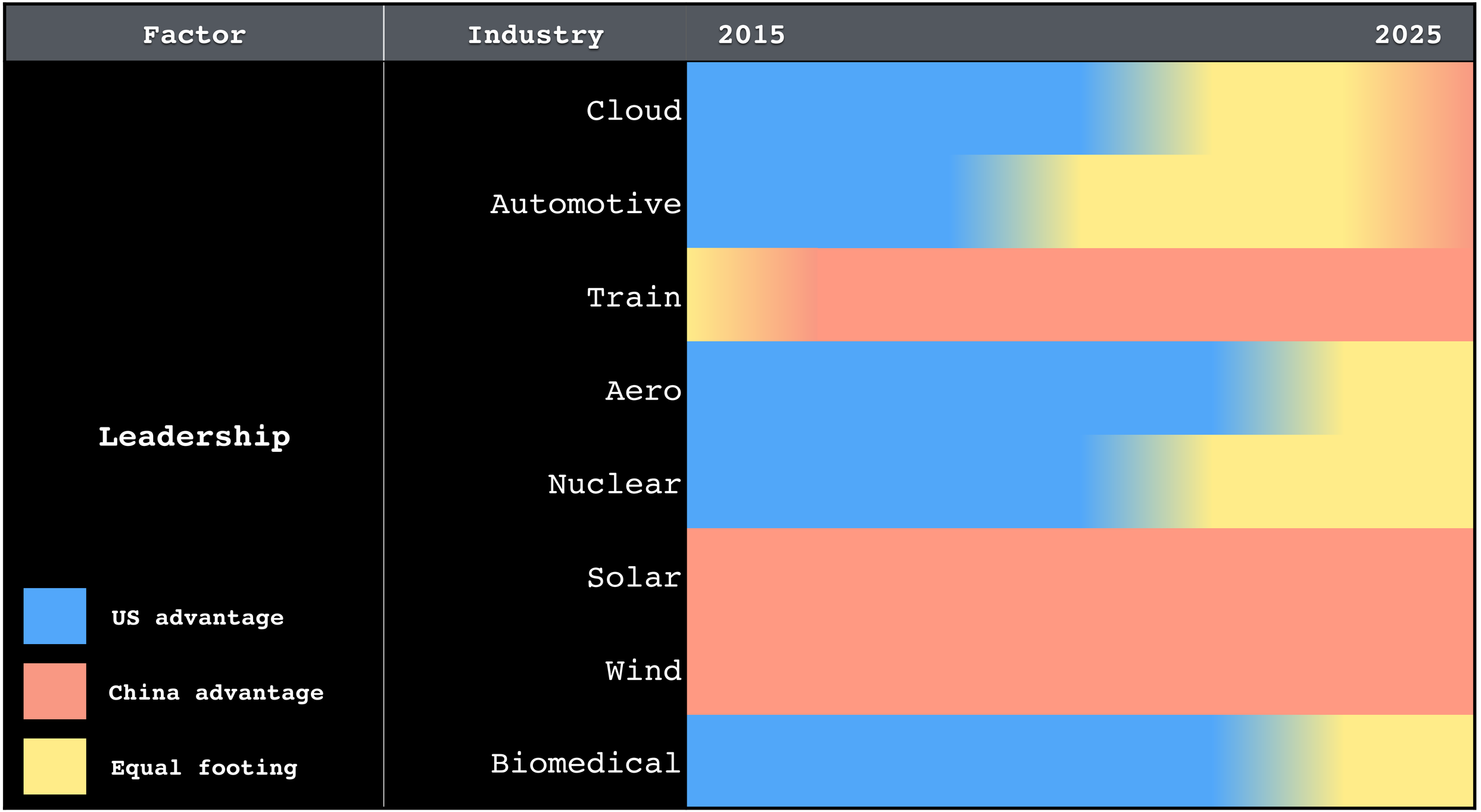
Genesis

Custom Built

Product (+ rental)

Commodity (+ utility)

Evolution


Factor
Industry
2015
2025
Leadership
Cloud
Automotive
Train
Aero
Nuclear
Solar
Wind
Biomedical
US advantage
China advantage
Equal footing

MAP MAPPING?

ORGANISATION

THE PROBLEM WITH DOCTRINE

WEAK SIGNALS

POLICY

BREXIT

pba

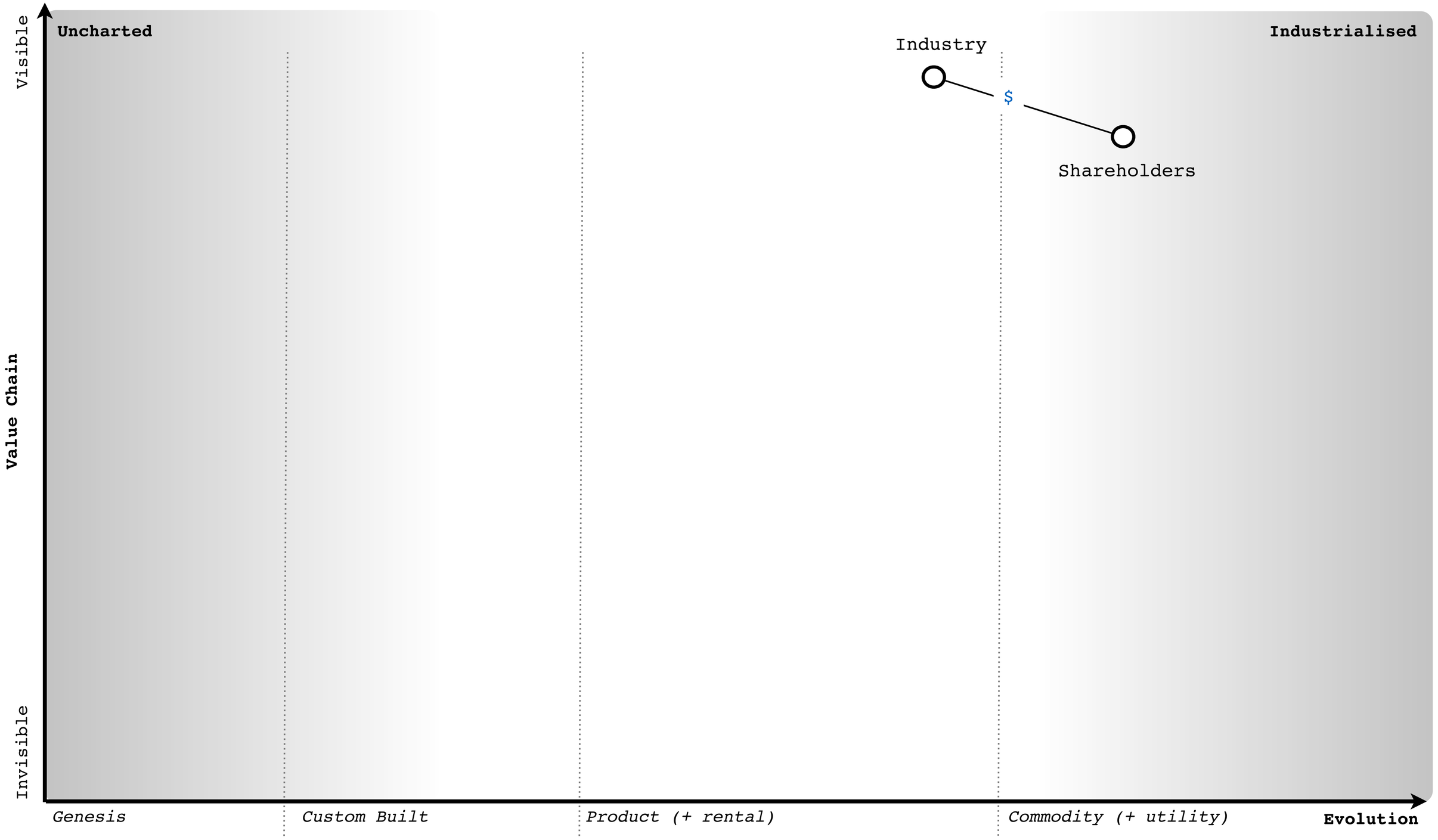
the network for the post-bureaucratic age

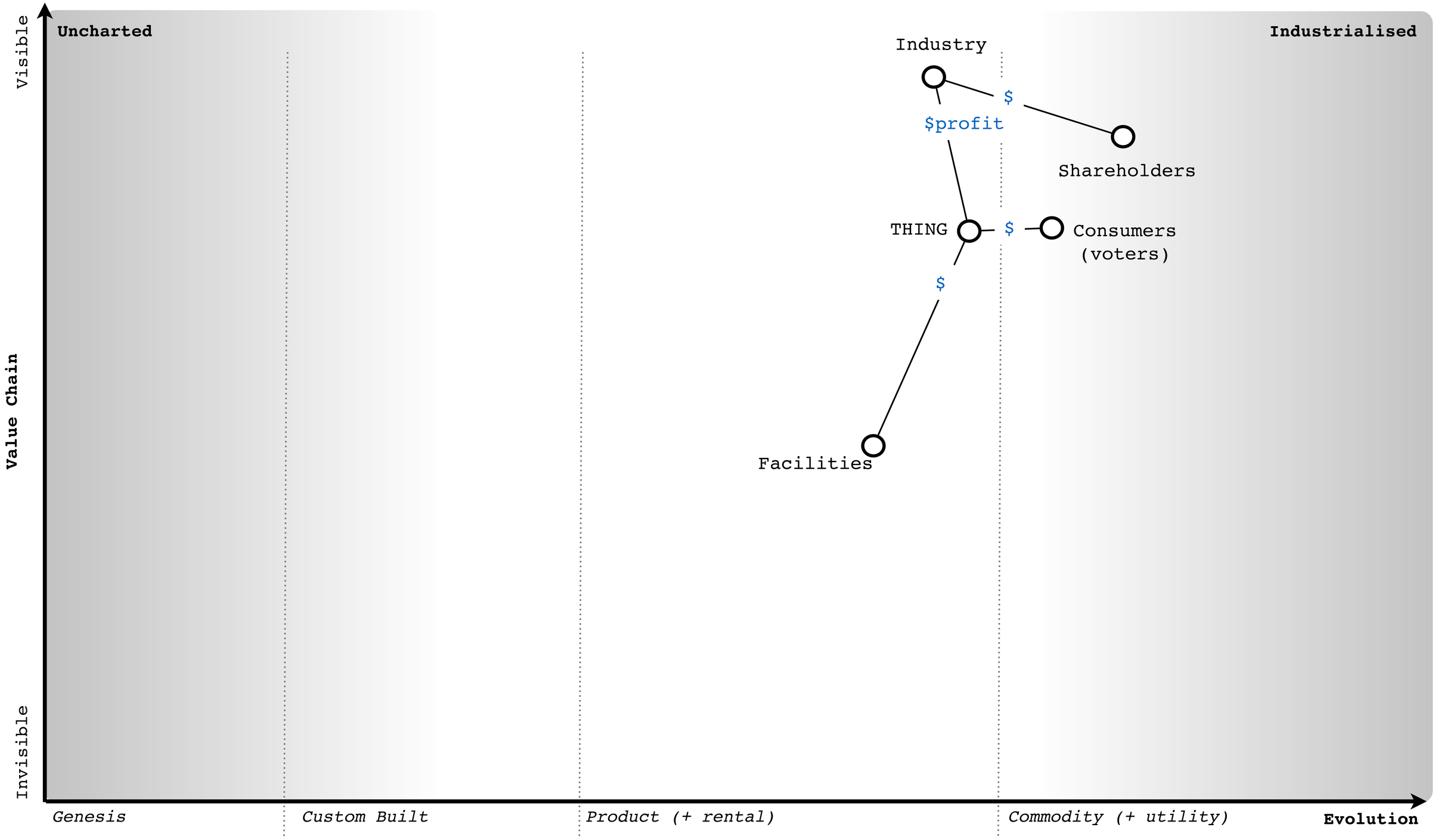
"Better for Less"

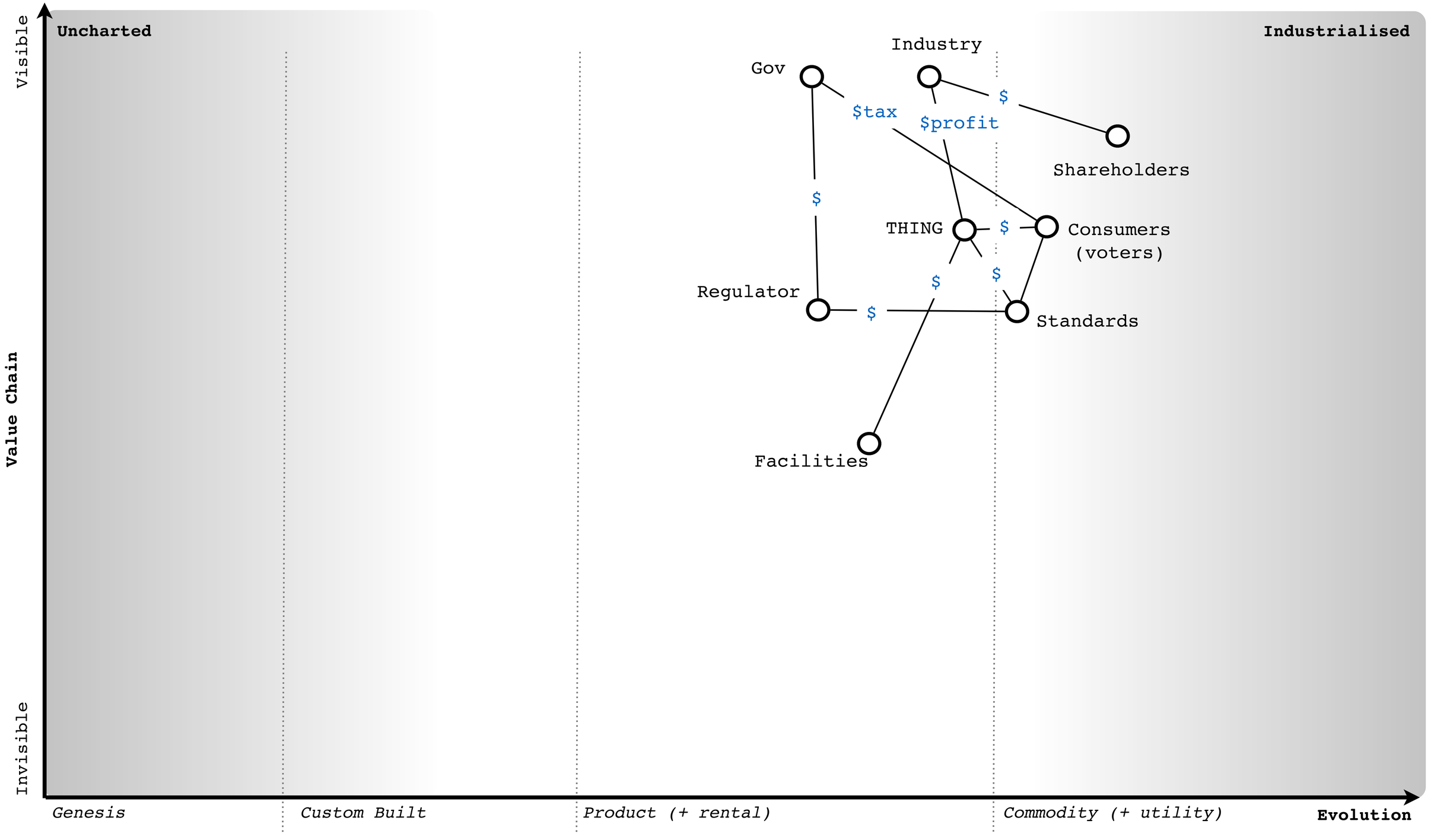
How to make Government IT deliver savings.

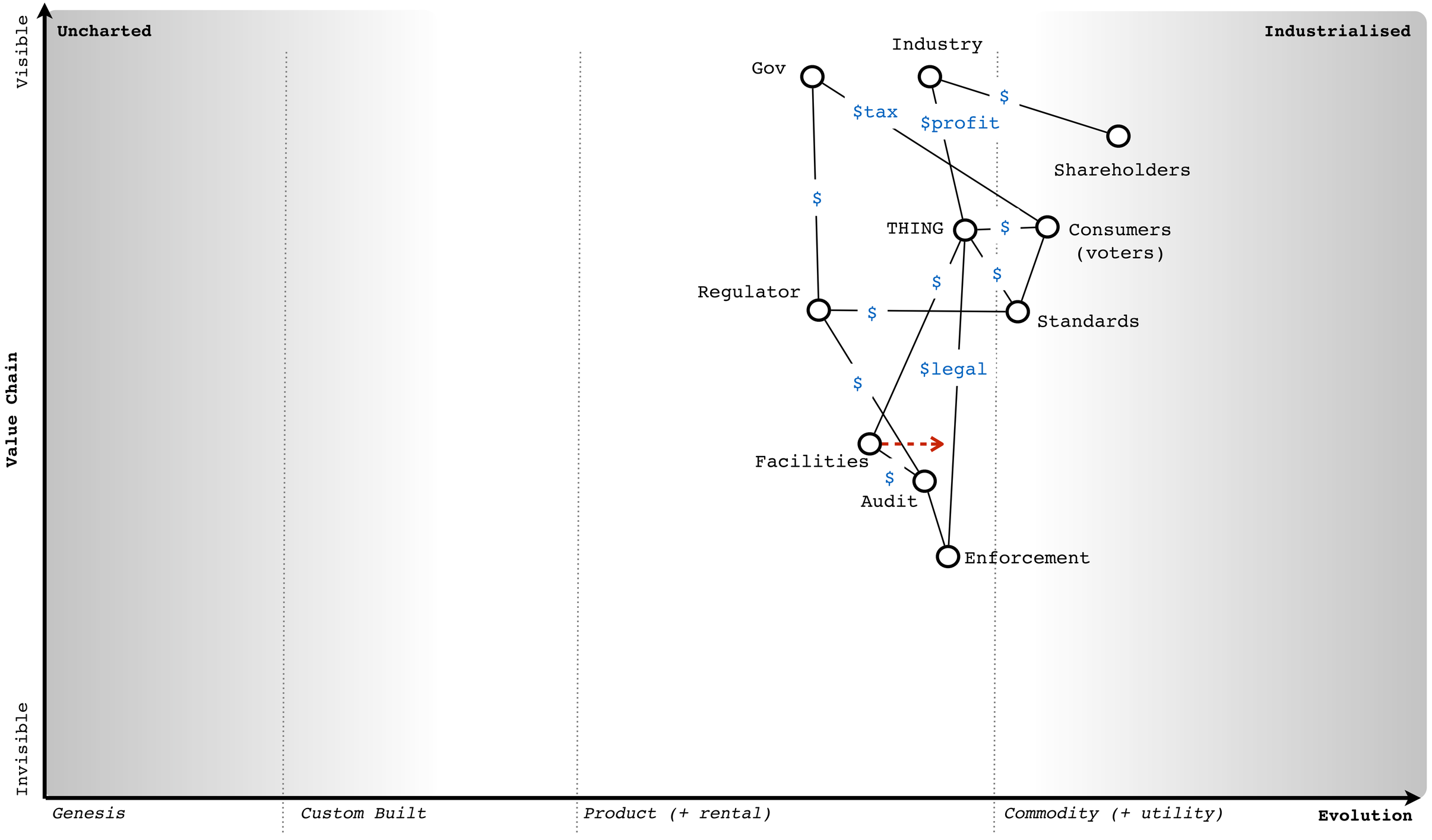
Liam Maxwell

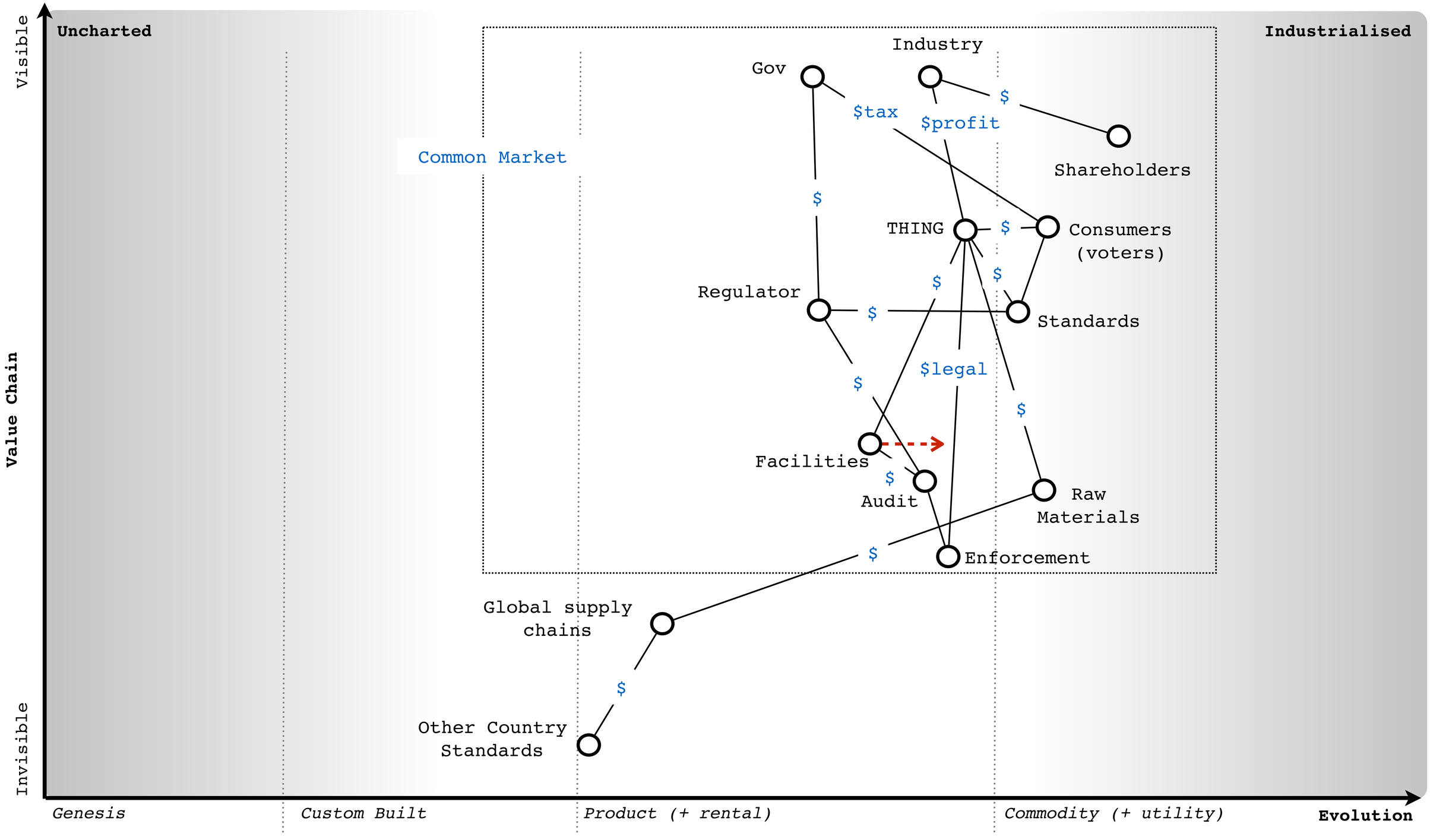
with contributions from
Jerry Fishenden
William Heath
Jonathan Sowler
Peter Rowlins
Mark Thompson
Simon Wardley.

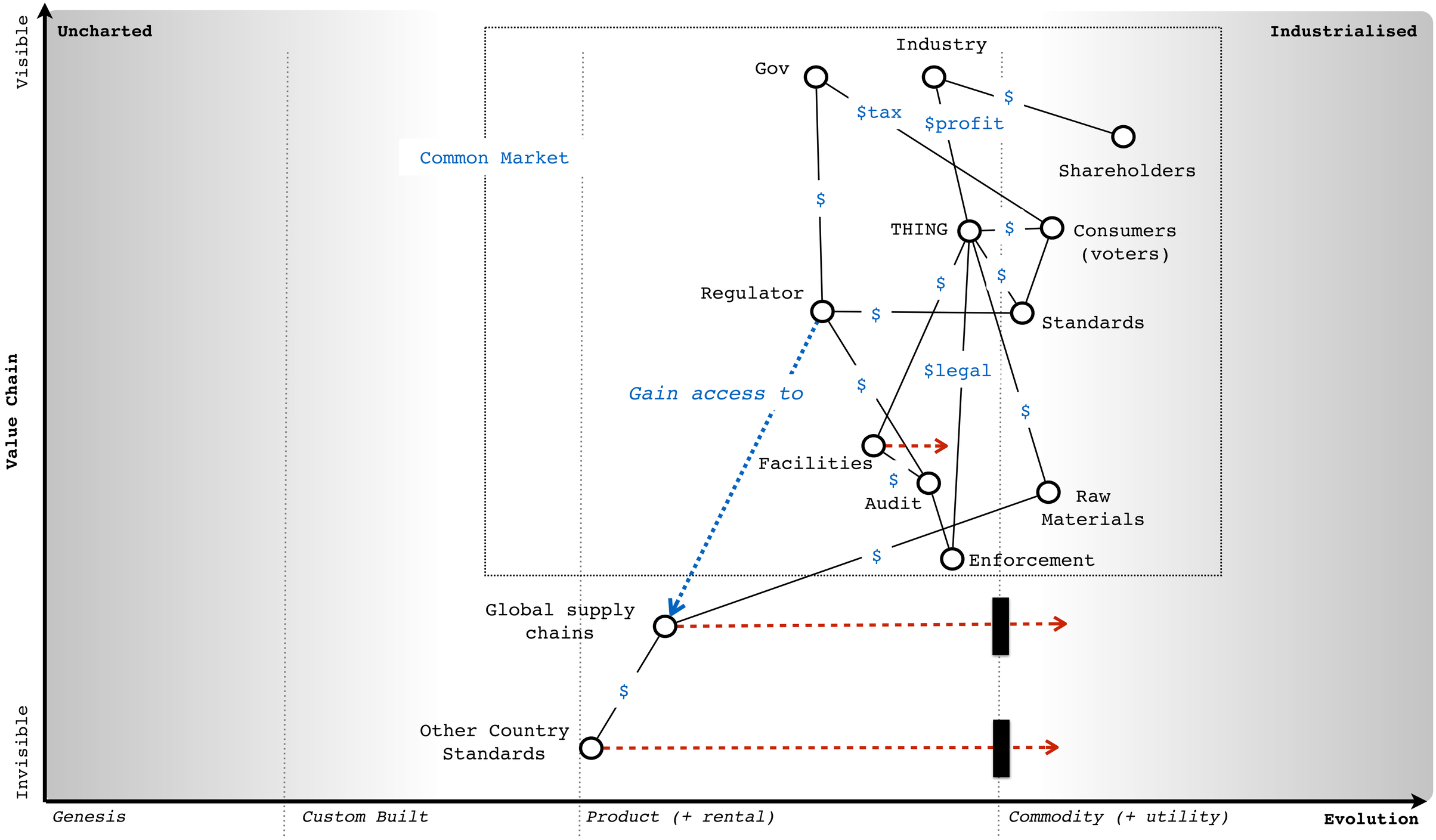

Visible
Uncharted
Industrialised
Industry
$
Shareholders
Value Chain
Invisible
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

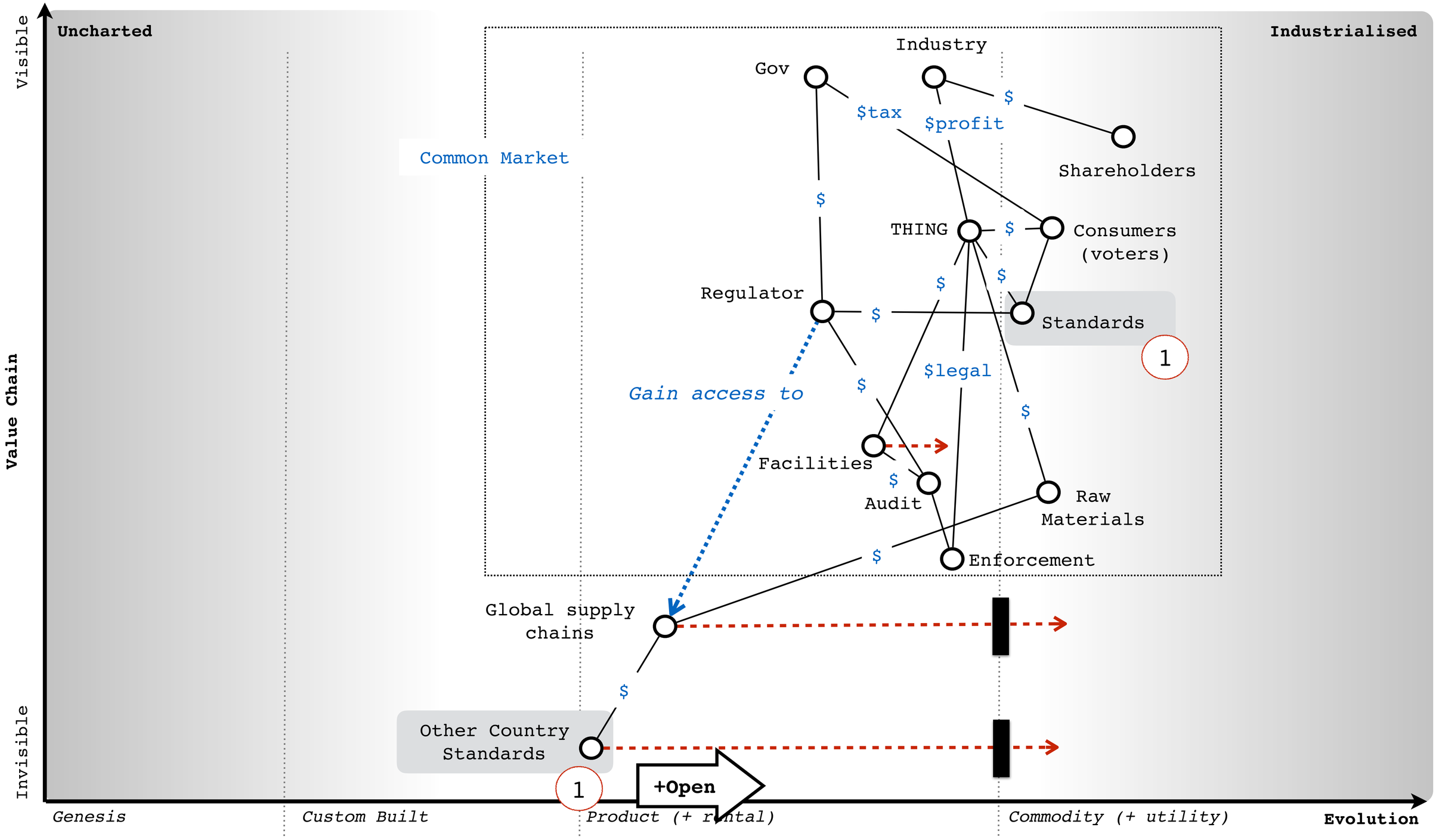

Uncharted
Industrialised
Visible
Invisible
Value Chain
Industry
$
$profit
Shareholders
THING
$
Consumers
(voters)
$
Facilities
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

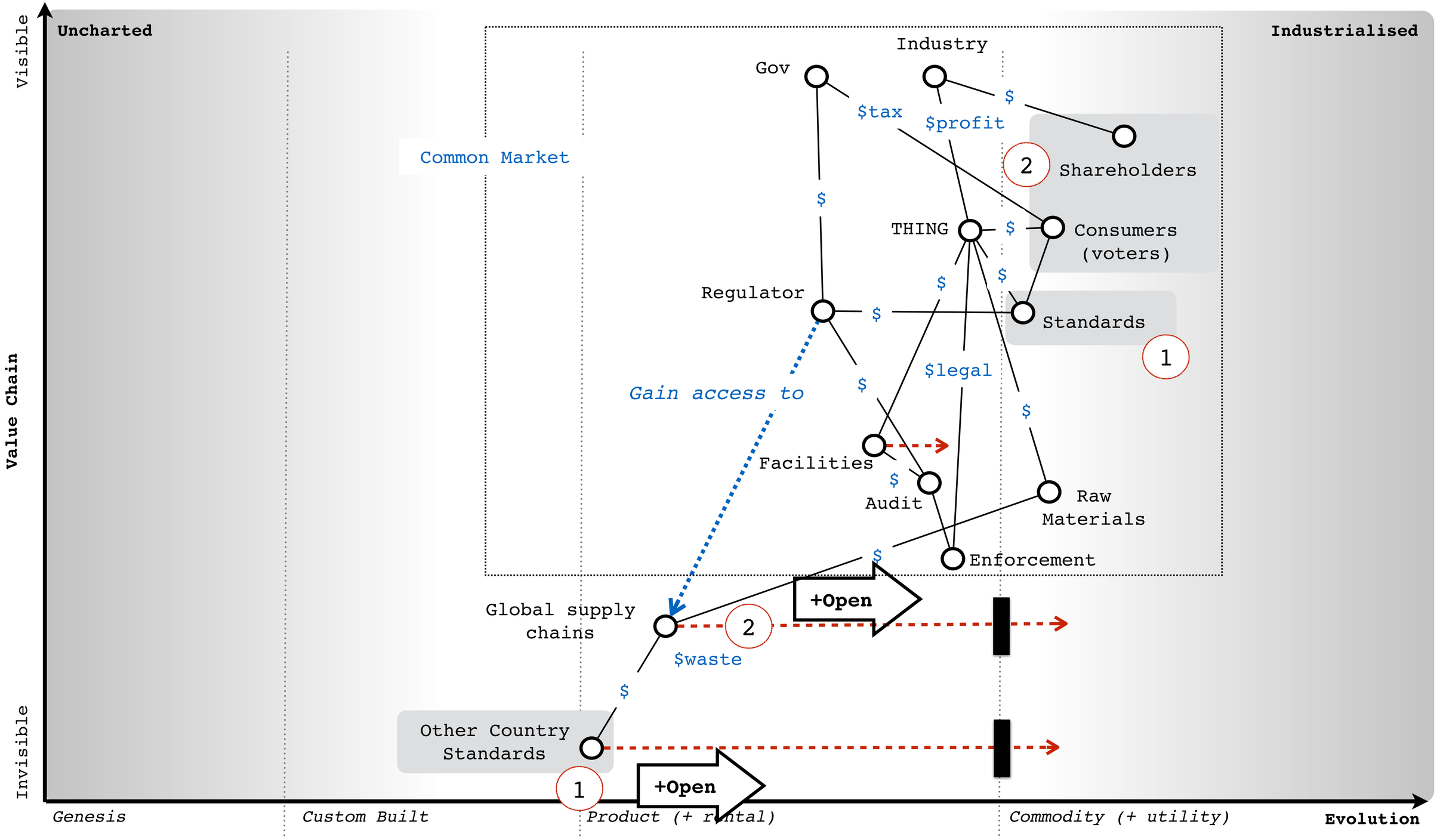

Uncharted
Industrialised
Visible
Invisible
Value Chain
Industry
Gov
$
$tax
$profit
Shareholders
$
THING
$
Consumers
(voters)
$
$
Regulator
$
Standards
Facilities
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Uncharted
Industrialised
Visible
Invisible
Value Chain
Industry
Gov
$
$tax
$profit
Shareholders
$
THING
$
Consumers
(voters)
$
$
Regulator
$
Standards
$legal
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Facilities
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Audit
Enforcement
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Uncharted
Industrialised
Visible
Invisible
Value Chain
Common Market
Industry
Gov
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Shareholders
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THING
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Consumers
(voters)
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Regulator
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Standards
$legal
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Audit
Raw
Materials
$
Enforcement
Global supply
chains
$
Other Country
Standards
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Uncharted
Industrialised
Visible
Invisible
Value Chain
Common Market
Industry
Gov
$tax
$profit
$
Shareholders
THING
Consumers
(voters)
Regulator
Standards
$legal
Gain access to
Facilities
Audit
Raw
Materials
Enforcement
Global supply
chains
Other Country
Standards
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution

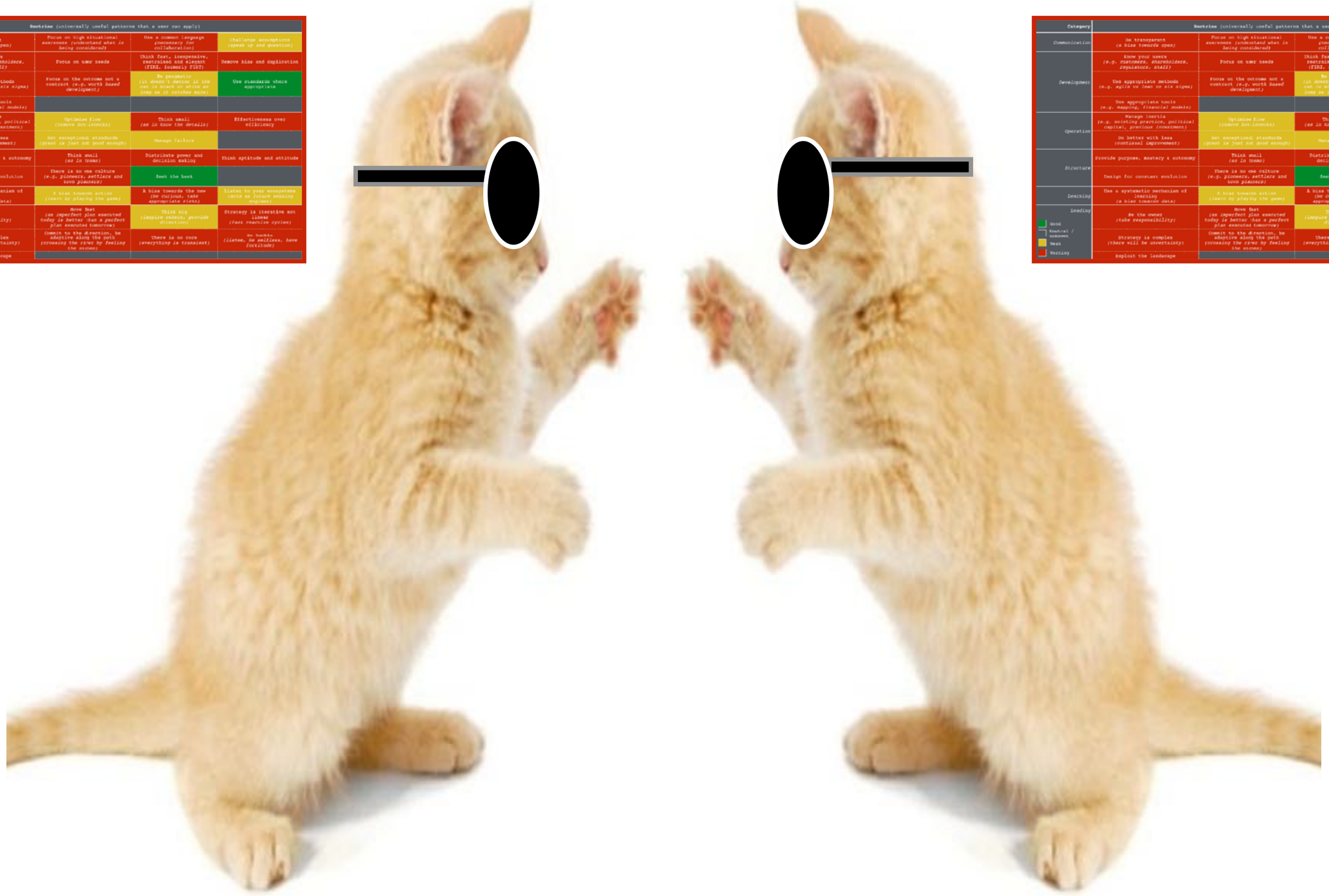

Uncharted
Industrialised
Visible
Invisible
Value Chain
Common Market
Industry
Gov
$tax
$profit
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Shareholders
THING
Consumers
(voters)
Regulator
Standards
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Gain access to
Facilities
Audit
Raw
Materials
Enforcement
Global supply
chains
Other Country
Standards
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+Open
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Evolution


Uncharted
Industrialised
Visible
Invisible
Value Chain
Evolution
Genesis
Custom Built
Product (+ rental)
Commodity (+ utility)
Common Market
Industry
Gov
$tax
$profit
$
2
Shareholders
THING
Consumers
(voters)
Regulator
Standards
1
$legal
Gain access to
Facilities
Audit
Raw
Materials
Enforcement
Global supply
chains
+Open
2
$waste
Other Country
Standards
1
+Open


N243FJ

Category	Doctrine (universally useful patterns that a user can apply)			
Communication	Be transparent *(a bias towards open)*	Focus on high situational awareness *(understand what is being considered)*	Use a common language *(necessary for collaboration)*	Challenge assumptions *(speak up and question)*
Development	Know your users *(e.g. customers, shareholders, regulators, staff)*	Focus on user needs	Think fast, inexpensive, restrained and elegant *(FIRE, formerly TIGT)*	Remove bias and duplication
	Use appropriate methods *(e.g. agile vs lean vs six sigma)*	Focus on the outcome not a contract *(e.g. worth based development)*	Be pragmatic *(it doesn't matter if the cat is black or white as long as it catches mice)*	Use standards where appropriate
	Use appropriate tools *(e.g. mapping, financial models)*			
Operation	Manage inertia *(e.g. existing practice, political capital, previous investment)*	Optimise flow *(remove bottlenecks)*	Think small *(as in know the details)*	Effectiveness over efficiency
	Do better with less *(continual improvement)*	Set exceptional standards *(great is just not good enough)*	Manage failure	
Structure	Provide purpose, mastery & autonomy	Think small *(as in teams)*	Distribute power and decision making	Think aptitude and attitude
	Design for constant evolution	There is no one culture *(e.g. pioneers, settlers and town planners)*	Seek the best	
Learning	Use a systematic mechanism of learning *(a bias towards data)*	A bias towards action *(learn by playing the game)*	A bias towards the new *(be curious, take appropriate risks)*	Listen to your ecosystems *(acts as future sensing engines)*
Leading	Be the owner *(take responsibility)*	Move fast *(an imperfect plan executed today is better than a perfect plan executed tomorrow)*	Think big *(inspire others, provide direction)*	Strategy is iterative not linear *(fast reactive cycles)*
	Strategy is complex *(there will be uncertainty)*	Commit to the direction, be adaptive along the path *(crossing the river by feeling the stones)*	There is no core *(everything is transient)*	Be humble *(listen, be selfless, have fortitude)*
	Exploit the landscape			

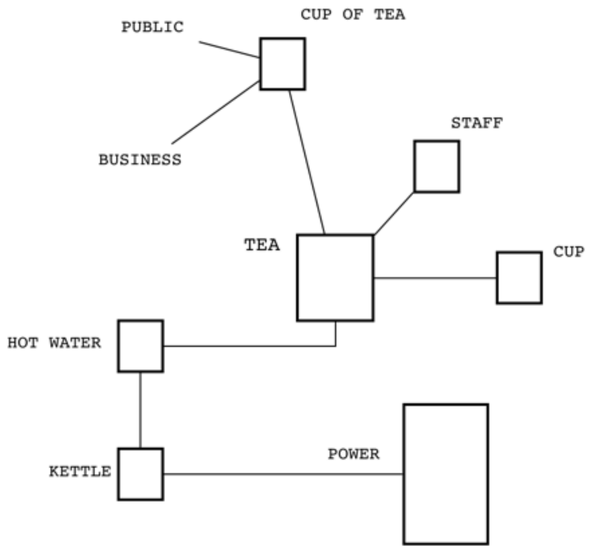
Good
Neutral / unknown
Weak
Warning



Category	Doctrine (universally useful patterns that a user can apply)			
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Weak
Warning

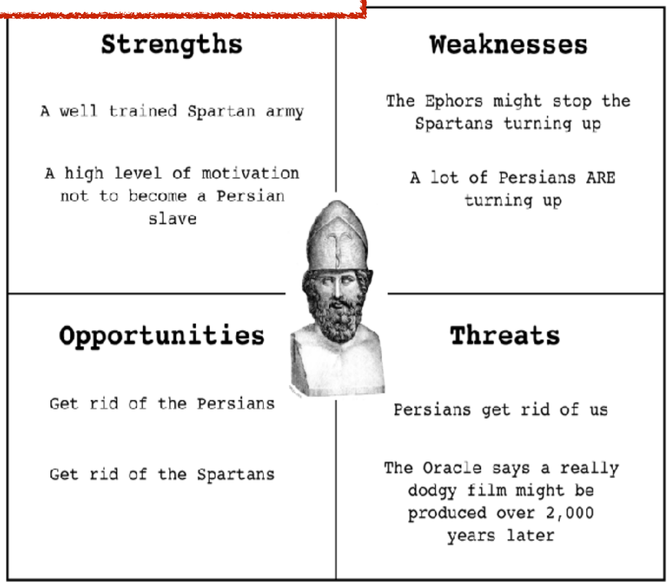
Systems Diagram



+ Finance

Company	unit
Revenue	0.55
Cost of Goods sold	0.40
Tea	0.15
Water	0.05
Power	0.05
Staff	0.10
Cup	0.05
Operating Profit	0.15
Other Expense	
Depreciation (Kettle)	0.10
Net Income	**0.05**

+ SWOT



+ STORY

From Hernam, head due west towards Hvarf, and you will have sailed north of Hjaltland, so that you just glimpse it in clear weather, but south of the islands, so that the sea is right in between the distant mountains and thus also south of Iceland.

BUSINESS CASE

Fotango, 2003

Our strategy is **customer focused.** We will lead a **innovative** effort in the market through our use of **agile techniques** and **open source** to become a leading provider of open standard solutions to the digital world. To develop products of the highest standards we make our clients part of the team. Our final measure of success is the satisfaction of the team at the end of the project.

MAP MAPPING?

ORGANISATION

THE PROBLEM WITH DOCTRINE

WEAK SIGNALS

POLICY

BREXIT

LEADING EDGE FORUM

Thank you

@swardley
medium.com/wardleymaps
leadingedgeforum.com
simon.wardley@leadingedgeforum.com