Applying Design Thinking and Complexity Theory in Agile Organizations

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growth
good
change
weird
An Agile Adoption Story
5000
Bureaucracy
“Cookbook Agile”
Algorithm
FOLLOW
the
PLAN
Lack of innovation
Diminishing customer base
Escalation
Agile
“blame game”
“MOST Organizations have what appear to be suicidal tendencies”
Agile adoptions need to leverage the science of complexity
Agile adoptions need to leverage the discipline of design thinking
Our journey must embrace vision with hunches, exploration and empathy
3 thoughts
Don’t latch onto a cookbook of Agile practices
Invite principles and practices outside of Agile as your organization matures.
Combine emergence and resilience for sustained Agile innovation
Benefits you’ll derive
Death by Agile
Thrive versus merely survive
Leverage the wildly unexpected
Why
4 Dots
6 Connections
64 Patterns
10 Dots
45 Connections
？ Patterns
Patterns

35,184,372,088,832
We live in an unordered, complex world
We have complexity of...
Organizations
Code-base
Customers
Market
We can’t afford to latch onto recipes of...
Order
Control
Algorithm
Are you complex?
“What you predict doesn’t come true.”
“What worked yesterday, doesn’t seem to be working today.”
“What you don’t know is unknown.”
Are you a chef or a recipe follower?
Analysis and induction alone cannot manage complexity
We should **must** invite abductive logic
We must invite mystery to allow innovative patterns to emerge.
How
How do we make sense of environments like this?
Gaussian Probability is not sufficient
But where are the low probability, high impact events?
Pareto Plausibility seeks outliers

Research & monitoring

Prediction

Hypothesis/inductive
Null-hypothesis/abductive

Gaussian world
Possible
Plausible

Log of event frequency

Log of event size

Trigger Anticipatory awareness
Seek the low signal outliers
Cynefin
David Snowden
The relationship between cause and effect
Complex

only coherent in retrospect, and not repeatable

Complicated

requires analysis or expertise

Chaotic

not perceivable

Simple

obvious & repeatable

Plausible

Probable

Unordered

Ordered

Disorder
What practices are appropriate?
Chaotic

Simple

Complicated

Probable

Complex

Plausible

Ordered

Unordered

Best practices

Emergent practices

Good practices

Action

Disorder

Simple
How to organise a Children's Party
Relisience vs Robustness
Effectiveness vs Efficiency
Design Thinking
TECHNOLOGY (feasibility)

BUSINESS (viability)

HUMAN VALUES (usability, desirability)

DESIGN INNOVATION
George Kembel
d.school, Stanford University
THE DESIGN OF BUSINESS

WHY DESIGN THINKING IS THE NEXT COMPETITIVE ADVANTAGE

ROGER MARTIN

AUTHOR OF THE OPPOSABLE MIND

HARVARD BUSINESS PRESS
“It is not possible to prove any new thought, concept or idea in advance.”

— Charles Sanders Pierce
Balance exploitation and exploration
Reliability vs Validity
The “Prediliction Gap”
Combining design thinking and complexity theory
What
We have practices based on these principles
Probe, Sense, Respond
Explore, Exploit
Emergence and resilience
Cynefin
Cognitive Distribution
Complex Domain

Probe, Sense, Respond

Frequent experiments
Pattern matching
Exploring hunches

15 – 30 people
Evaluating your system

Complex

Complicated

Disorder

Chaotic

Simple
Safe fail probes
Actions in the Complex Domain
**Actions in the complex domain**

In the complex domain we focus on safe-fail experiments rather than fail-safe design. For any coherent perspective or theory an experimental probe or series of probes are created. Experiments are not necessarily designed to succeed but to create insight and understanding about what is possible. Experiments can be parallel and may even contradict each other as the domain is unknowable.

<table>
<thead>
<tr>
<th>Name of experiment:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of experiment</td>
<td>Rationale for experiment</td>
</tr>
<tr>
<td>Indications of success</td>
<td>Indications of failure</td>
</tr>
<tr>
<td>Amplification strategy</td>
<td>Recovery strategy</td>
</tr>
<tr>
<td>Actions</td>
<td>Responsibility for actions</td>
</tr>
</tbody>
</table>
Success, Failure, Amplification, Recovery
“Shallow dives” into Chaos
Design Thinking
Non-linear design thinking practices
Create space for the wildly unexpected
REFRAME

redefine the need based on insights you discovered

Zach: "B"

[Handwritten notes on the paper]
CREATE

- think of common to shared experiences
- list of possible gifts
- friends' interests
- writer's interests

Possible gifts that would have meaning
- feedback to writer

Feedback to writer
Vision & Empathy
“MOST Organizations have what appear to be suicidal tendencies”
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Our journey must embrace vision with hunches, exploration and empathy
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