



MindTheSystem

What Service Designers Should Know About Complexity

NYC Service Design Network

22 June 2021

1230 EST/ 1730 CET



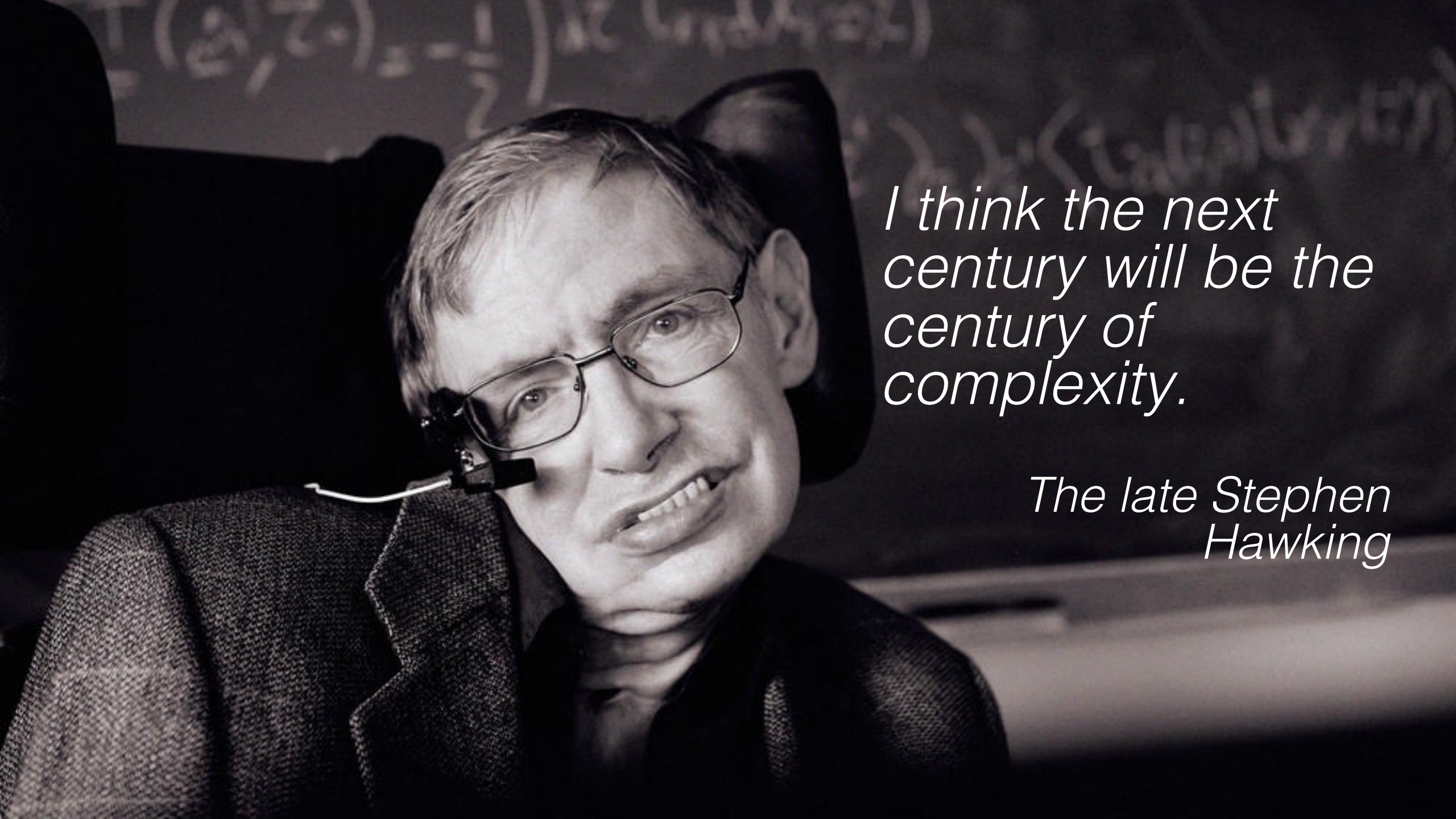
HELLO!

- I UNDERSTANDING COMPLEXITY
"Why can't they implement this great idea?"
- II IMPLICATIONS FOR DESIGNERS
- III PRACTICES FOR NAVIGATING
COMPLEXITY



PART I UNDERSTANDING COMPLEXITY



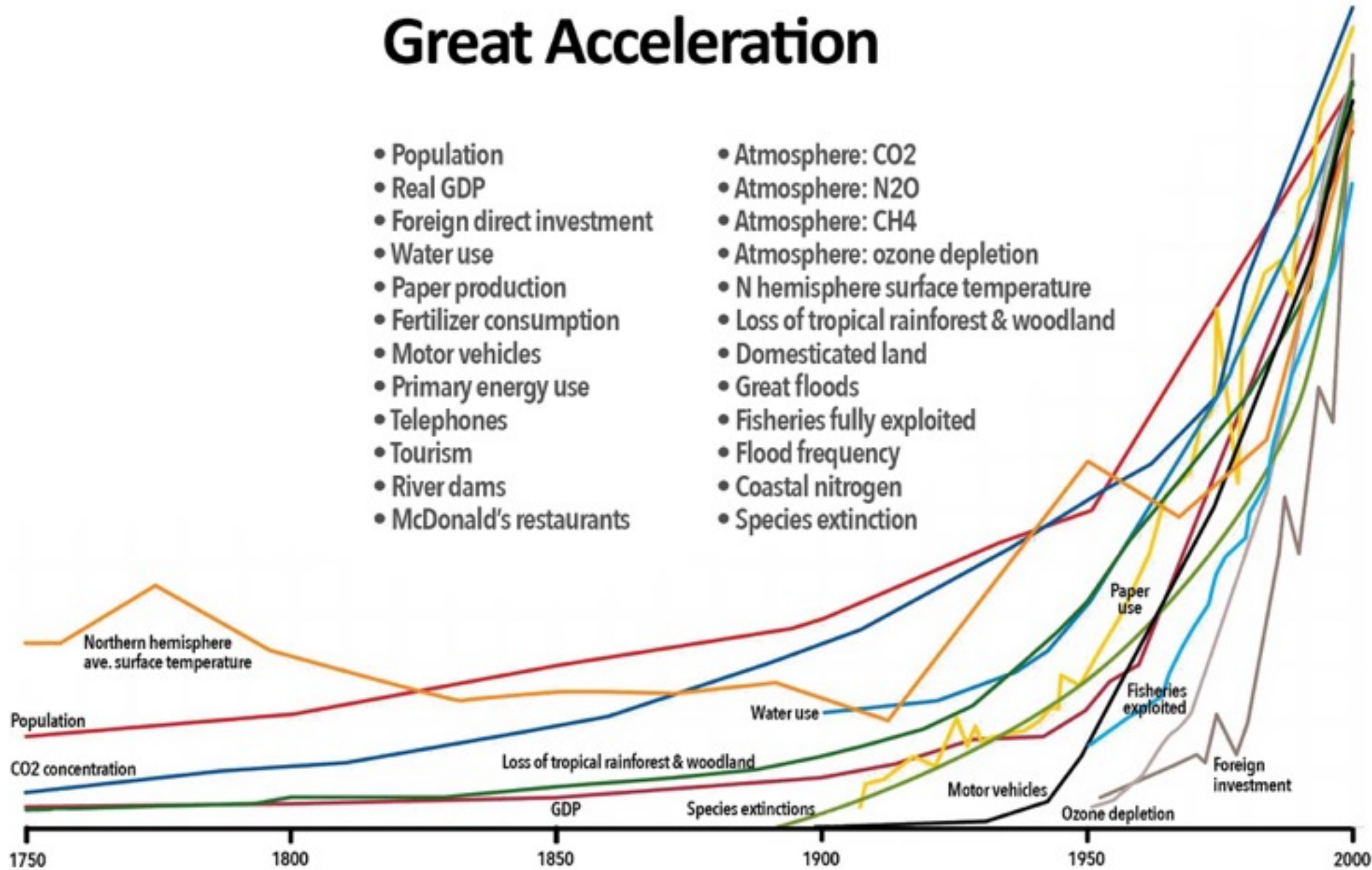


I think the next century will be the century of complexity.

The late Stephen Hawking

Great Acceleration

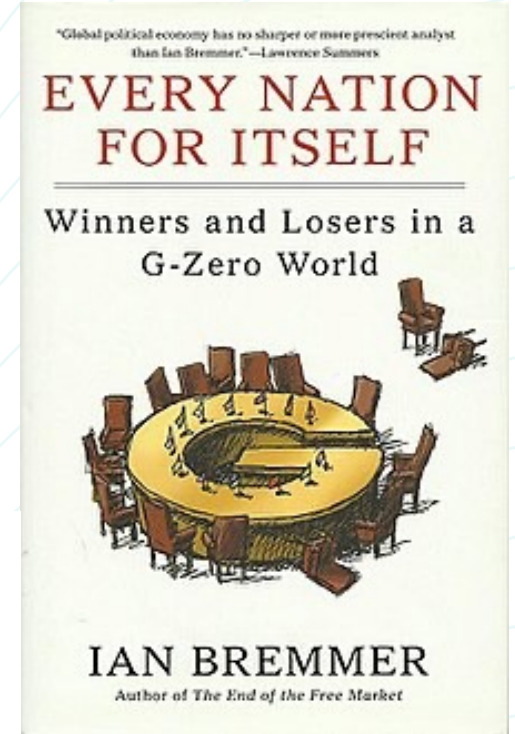
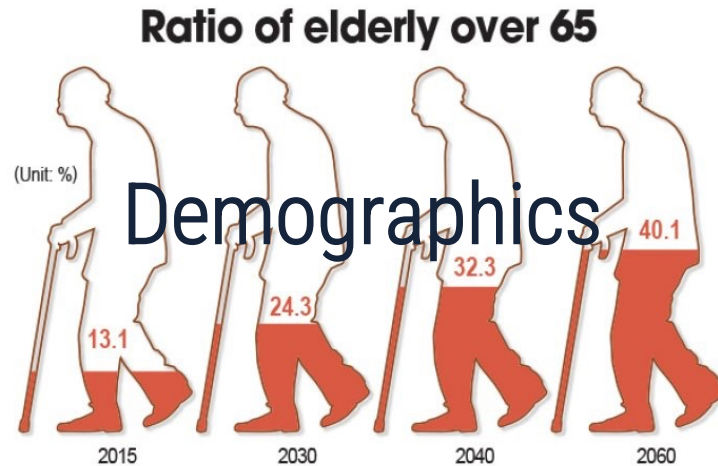
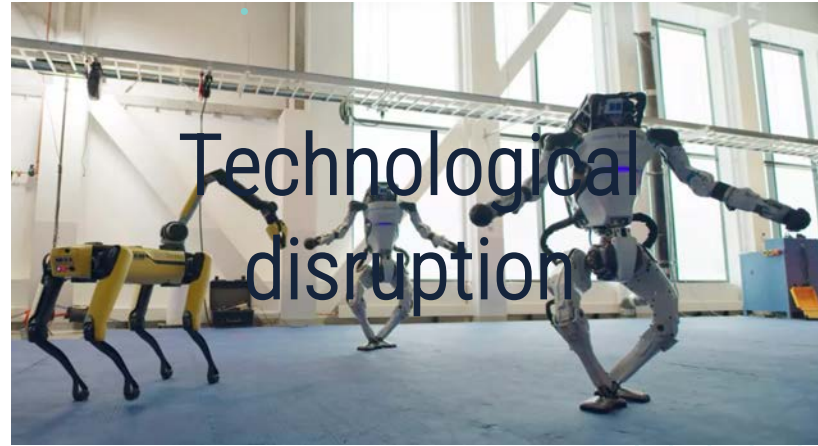
- Population
- Real GDP
- Foreign direct investment
- Water use
- Paper production
- Fertilizer consumption
- Motor vehicles
- Primary energy use
- Telephones
- Tourism
- River dams
- McDonald's restaurants
- Atmosphere: CO2
- Atmosphere: N2O
- Atmosphere: CH4
- Atmosphere: ozone depletion
- N hemisphere surface temperature
- Loss of tropical rainforest & woodland
- Domesticated land
- Great floods
- Fisheries fully exploited
- Flood frequency
- Coastal nitrogen
- Species extinction



Source: fos.cmb.ac.lk
 New Scientist (2008)
 Global Change and Earth System
 (2004)



A GATHERING STORM...



Geo-Politics



*As we know, there are known knowns.
These are things we know that we know.
There are known unknowns. That is to
say, there are things that we know we
don't know. But there are also unknown
unknowns. These are things we don't
know we don't know.*

Donald Rumsfeld

Ex-Secretary of Defense

USA



EMERGENCY AMBULANCE



KEEP CLEAR

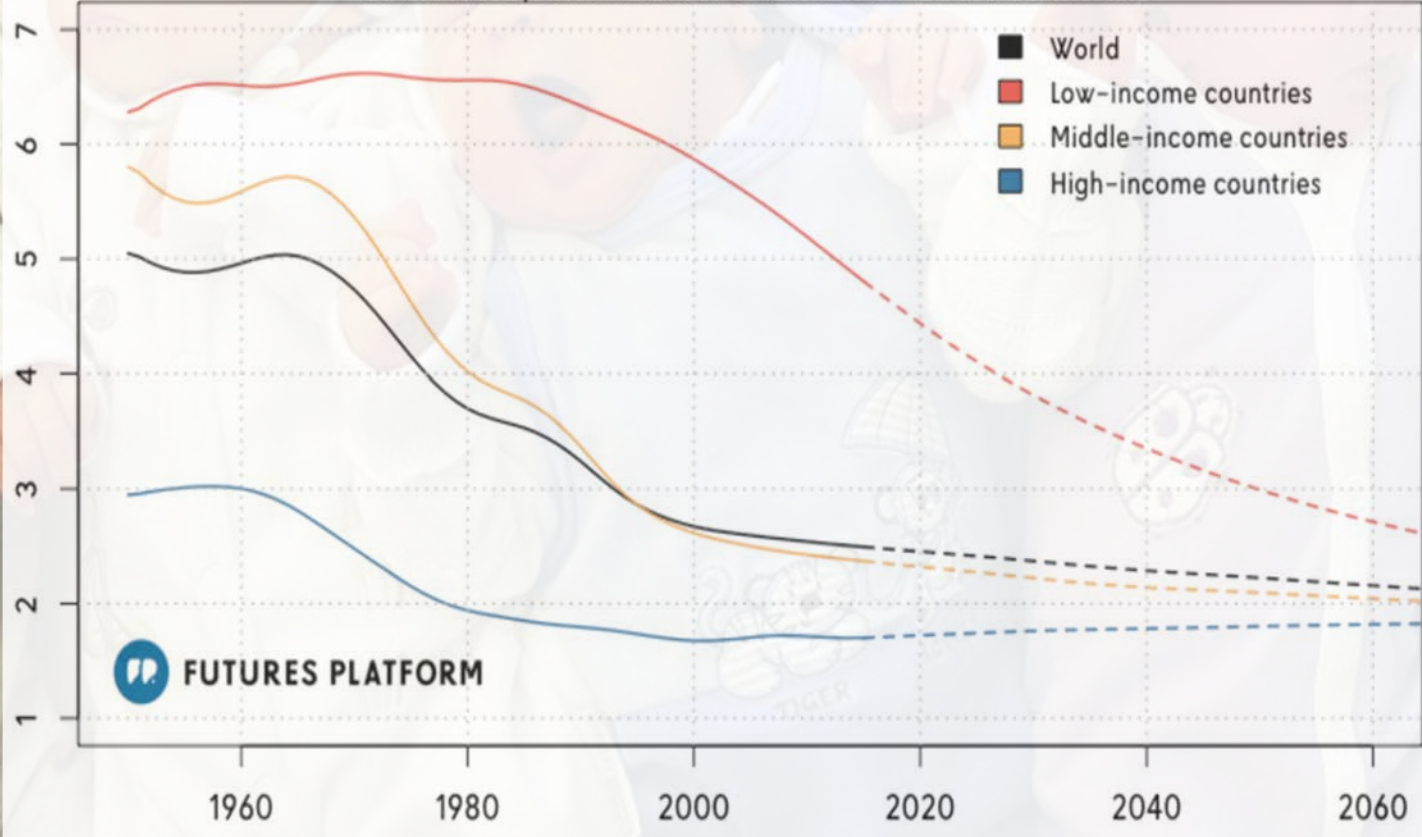
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Total fertility rates & UN projections

Source: UN Population Division (2017 Revision) & Our World in Data



 FUTURES PLATFORM



COMPLEX PROBLEMS

WHAT THEY LOOK LIKE

CHARACTERISTICS

Multi-dimensional: no one individual can see the whole system.

Bifurcation: trends can change suddenly.

Butterfly effect: small change in conditions can have a significant long-term impact.

Non-deterministic: behaviour cannot be predicted.

WHAT IT MEANS FOR US

IMPLICATIONS

Different perspectives to uncover; different goals to navigate. Hard to agree on outcomes.

Past data not helpful in predicting what's next.

What works in one context may not work in another

"Feedback" in the system can either support or cancel out what you do

NO CERTAINTY - LINEAR REASONING WON'T APPLY ("IF I DO A, I'LL GET B")

NO MAGIC BULLET – REQUIRES A PORTFOLIO OF SOLUTIONS



COMPLEXITY IS GETTING PREVALENT IN BUSINESSES TOO



Just 12 ecosystems will account for 30% of global revenues by 2025, representing \$60 trillion in revenues (McKinsey).

PRINCIPLES OF BUSINESS ECOSYSTEMS:

1. Value-chains are linear; ecosystem relationships "co-dependent on strategies"
2. Purpose-driven, user-centred: ownership of user touchpoints trumps ownership of assets.
3. "Art of managing assets that one doesn't own."
4. "Members are engaged rather than conscripted or contracted"
5. "Bet on many unknowns, instead of depending on the right one."

Source: *Ecosystems Inc, Understanding, Harnessing and Developing Organisational Ecosystems*. Thinkers50.

<https://thinkers50.com/thinkers50-books/ecosystems-inc/>



EMERGING STRONGER TASKFORCE

STRONGER ECONOMIC GROWTH AND BETTER JOBS IN A CHANGING GLOBAL ECONOMY

Singapore Together Alliances for Action (AfAs)

Industry-led alliances working with the Govt
on growth opportunities



ENVIRONMENT

- Transform the sector through advanced building technologies
- Enhance productivity with Common Data Standards



SMART COMMERCE

- Create e-commerce opportunities
- Export Singaporean brands globally



EMERGING STRONGER

SUSTAINABILITY

- Hub for green solutions to mitigate carbon footprint
- Contribute to economy and create jobs



PART II IMPLICATIONS FOR DESIGNERS





SIGNS YOU ARE IN THE COMPLEX SPACE

NATURE OF PROBLEM

- Ground-hog Day: despite solutions, the same problem crops up again and again
- Whack-a-Mole: once you solve a problem, another crops up.
- Well-intended actions make things worse
- Problems keep morphing: you think you had understood, then it keeps changing

NATURE OF GOALS

- Hard to find agreement on what is a good outcome;
- You have diverse stakeholders with diverse needs/ motivations

NATURE OF ENVIRONMENT

- You are overwhelmed by the pace of change
- Solutions that worked in another context didn't work in yours

+ 2 ARCHETYPES OF COMPLEX PROBLEMS



IMPORTANT BUT MURKY

"I ask 10 different people what is 'Digital' and I get 10 different answers"

- Usually an ambitious, inspiring but vague vision (e.g. "Digital Transformation")
- Diverse stakeholders, different opinions
- Hard to agree on outcomes
- Understanding of the problem keeps morphing



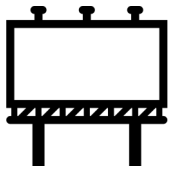
CLEAR BUT QUESTIONABLE

"Bollards only prevent the stupid terrorists".

- Usually clearly scoped – possibly too tightly scoped.
- Problem description has a pre-supposed solution
- "We've tried something like that before"
- Treating the symptoms of a larger problem
- "Boss said we just had to do it"

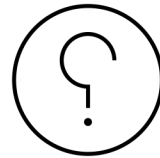
+ EVOLUTION OF THE ROLE OF DESIGNER IN COMPLEXITY

DESIGNING THE DESIGN



Craft Mastery

DESIGNING THE BRIEF



User-centricity
Business Models
Service/ Experience Design

DESIGNING THE POLITICS OF THE BRIEF



Futures thinking
Systems thinking
Psychological Change Management



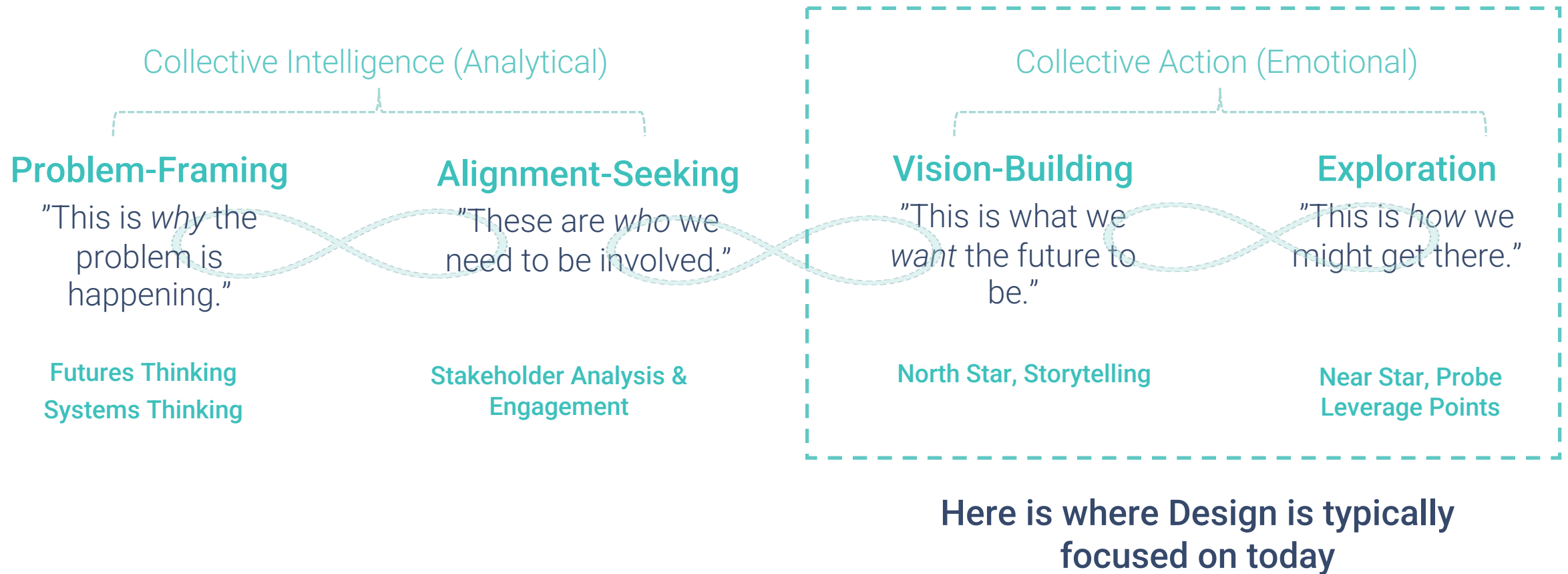
PART III PRACTICES FOR NAVIGATING COMPLEXITY





4 PRACTICES IN COMPLEXITY

P.A.V.E.





4 PRACTICES IN COMPLEXITY

P.A.V.E.



But complex challenges requires designers to invest time and effort here.

+ PROBLEM-FRAMING AND ALIGNMENT: QUESTIONS YOU SHOULD ASK YOURSELF/ YOUR CLIENT



IMPORTANT BUT MURKY

"I ask 10 different people what is 'Digital' and I get 10 different answers"

- Why should anybody care?
- Which stakeholders should you focus on first?
- What are their pain points and motivations?
- Can you think of 3 key areas where you might start?



CLEAR BUT QUESTIONABLE

"Bollards only prevent the stupid terrorists".

- Step back and see what other factors are connected to your problem. They might not lie in your team/ organization.
- Ask "If this is no longer a problem, what would it look like?"
- Who else needs to know/ be persuaded about your assessment? What do they need?

HOW IS THIS ANY DIFFERENT FROM THE "HOW MIGHT WE"?

MOMENTS OF LIFE

“What are all the different touchpoints with government?”

Stakeholder analysis came before user research

Many clients, not just one

Anchored in context of other policy tools (Baby Bonuses, workplace policies)



4 PRACTICES IN COMPLEXITY

P.A.V.E.



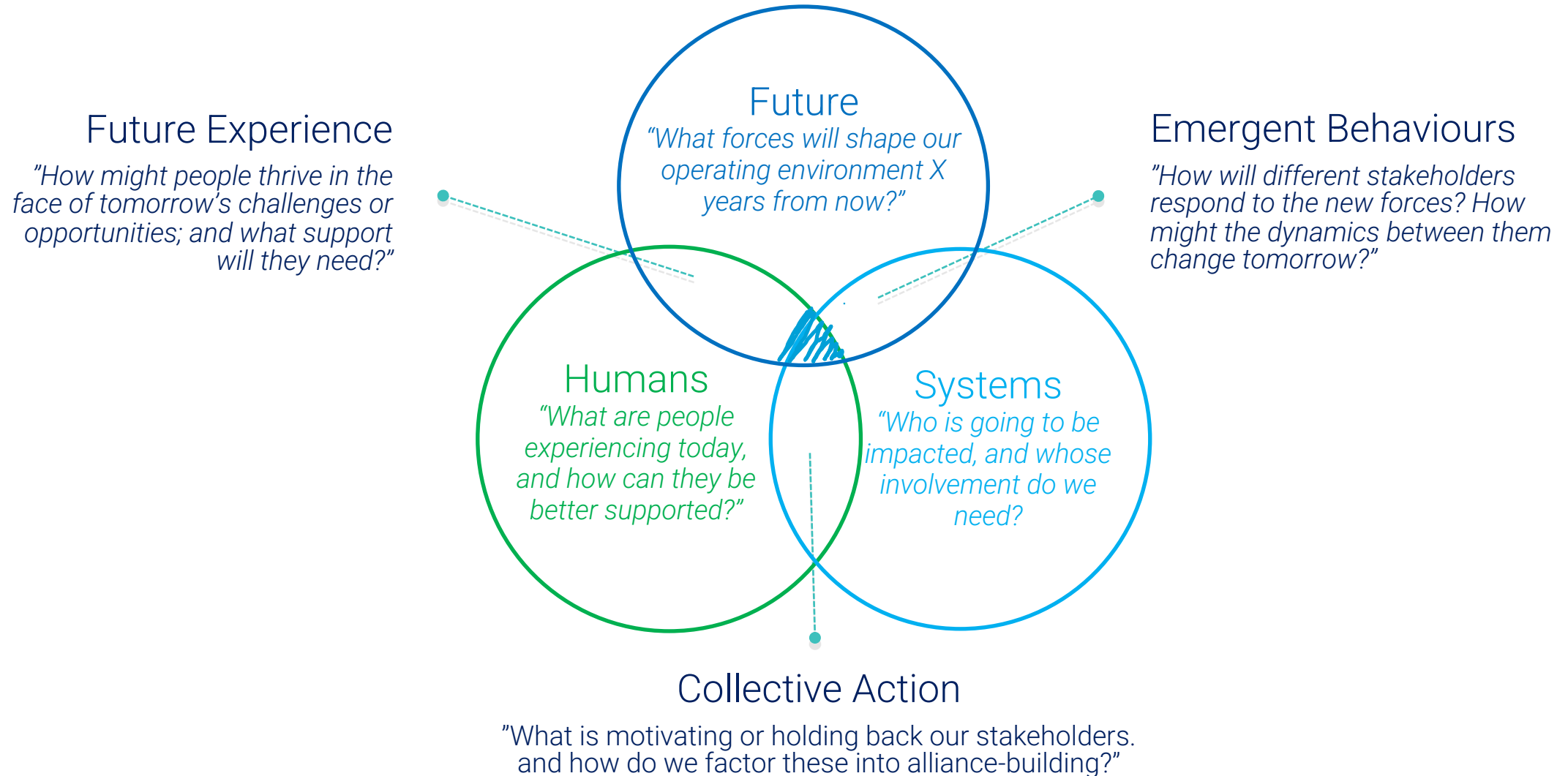
A far longer period of Hypothesis Building is required:

- How does the Challenge present itself?
- What are possible interventions?
- Who is involved in the system?

"How Might We" comes here.

Designing the Future

What challenges or opportunities might the future bring, and what does success look like?
Who do we need to design solutions for, and who holds the keys to those?





LEADERSHIP MINDSETS

FROM

Command and Control

"Mission Accomplished"

Binary ("Either Or")

Having all the Answers

TO

Influence and Persuasion

Infinite Mindset: constant improvement

Embrace Polarity ("And")

Asking Great Questions



BARRIERS TO PRACTISING COMPLEXITY

EXTERNAL

Performative pressures: *"must have something to show"*

Time pressures: *"we must have it out in a month"*

Quarterly numbers: *"we are losing to our competitors"*

Tick-the-box mentality: *"just get it done"*

INTERNAL

Hidden Demands: *"I must get this right the first time"*

Low Frustration Tolerance: *"I can't stand that it's so messy"*

All-or-Nothing Thinking: *"If I fail this, my career is over"*

Self-Labeling: *"If I cannot solve it, I am useless"*

WHEN COMPLEXITY CONFRONTS PERFECTIONISM

MALADAPTIVE PERFECTIONISM

1. Setting unrealistic, excessive personal standards for self or others. (*“must, should, have to”*)
2. Overly harsh evaluation of performance; difficulty in tolerating failures or setbacks. (*“I can’t stand it...”*)
3. Magnifying the negative - ruminate over mistakes, self-blame, discount positive information.
4. Self-worth is equated to achieving standards, taking things personally (*“I failed, I’m useless”*)
5. Binary thinking: there is a “correct” response to everything.

COMPLEX PROBLEMS DON’T LEND THEMSELVES TO “SUCCEED OR FAIL”, “WIN OR LOSE”.

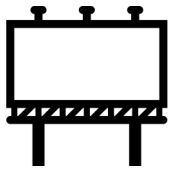
EMERGENT: you learn new things as you probe and try

MULTI-DIMENSIONAL: it's normal you don't have all the answers

NOT A FINITE GAME: only constant improvement of the system over time.

+ EVOLUTION OF THE ROLE OF DESIGNER IN COMPLEXITY

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Business Models
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DESIGNING THE POLITICS OF THE BRIEF



Futures thinking
Systems thinking
Psychological Change Management



Thank You!

Contact me: agnes_kwek@mindthesystem.com

Transformation Coaching
Complexity Training
Advisory





HELPFUL RESOURCES

Corrie and Palmer, Coaching individuals with perfectionistic tendencies: When high standards help and hinder. The Danish Journal of Coaching Psychology Volume 3, Edition 1 July 2014

Dave Snowden, Cognitive Edge. <https://www.youtube.com/watch?v=N7oz366X0-8>

Ecosystems Inc, Understanding, Harnessing and Developing Organisational Ecosystems. Thinkers50. <https://thinkers50.com/thinkers50-books/ecosystems-inc/>

Michael Neenan (2018), Cognitive Behavioural Coaching: Distinctive Features. Routledge.

Neenan & Palmer (2000). Introduction to Counselling and Psychotherapy: The Essential Guide. London: Sage.

Palmer and Cooper (2013), How to Deal with Stress, Koga

Peter Ho, Hunting Black Swans and Taming Black Elephants: Governance in a Complex World. The Challenges of Governance in a Complex World, IPS-Nathan Lecture Series (January 2018).

Rob Ricigliano, Systems Practice, The Omidyar Group. Free course by Acumen Academy, <https://plusacumen.novoed.com/#!/courses/systems-practice-2021-2/home>