Trustworthy public services

Bringing humans and machines together for better outcomes and more trustworthy governance

Pia Andrews
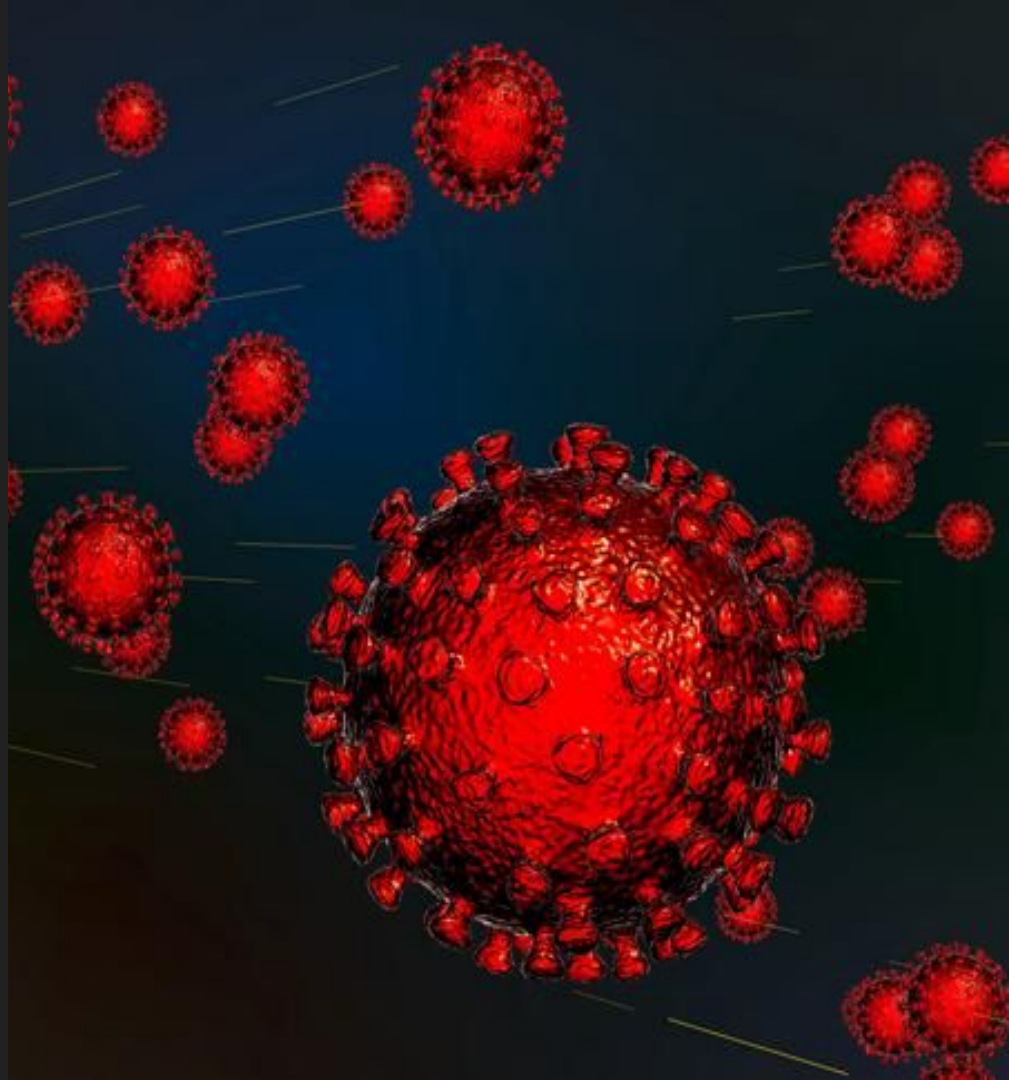
A reminder:

we invented this,
we can reinvent it.

If we don't,
who will?

COVID-19:

- Exacerbated gaps
- Created appetite for change
- Accelerated iteration

A paradoxical situation

# Trust is not optional, especially for public sectors

Trust is the currency of business. Companies which provide context, ensure transparency, and maintain auditability for their AI systems and algorithms will prosper. These companies will create intelligible AI, and in turn gain their customers' trust.

Mensa Canada article

Linear solutions will not meet the emerging and exponential needs of society.
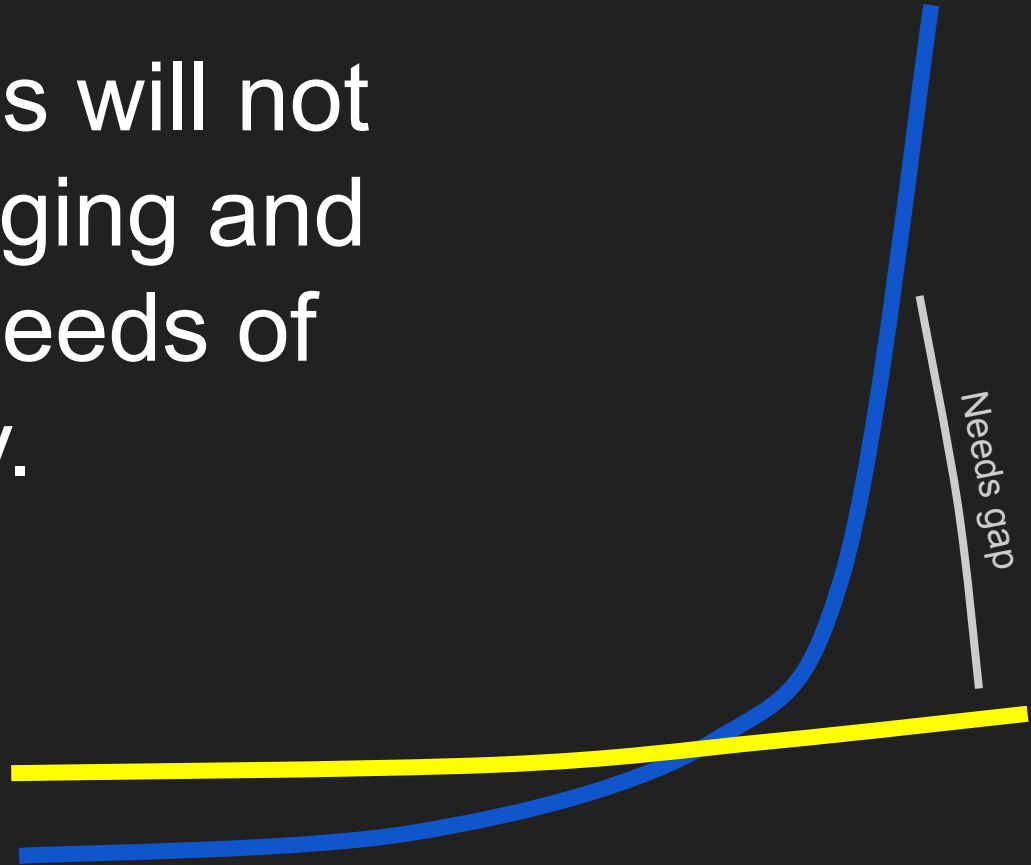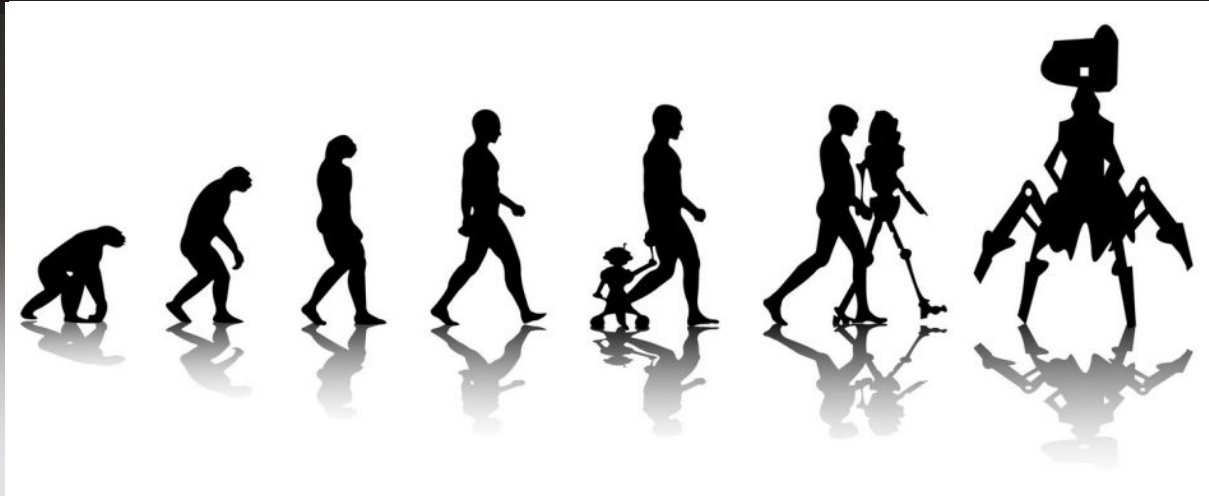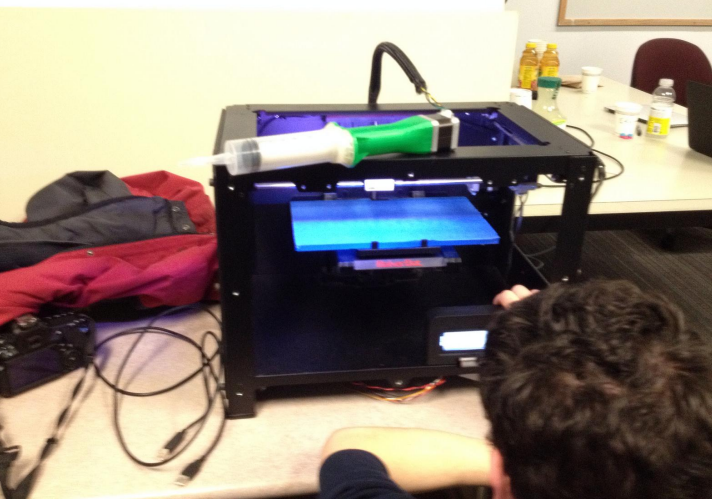
Needs gap

Government use of AI is growing....

Identifying spreading diseases early

Generating dynamic data dashboards to help answer citizen questions

"Listening" to social media for public feedback on government-relevant topics

Logging/checking into various systems in order to quickly find the source of a server problem

Enabling self-driving shuttles that could bring passengers to or from transit stations

Preventing cyberattacks by learning what malicious behavior looks like

"Listening" to social media for quick notifications of emergency situations

Delivering dynamic activity reports to IT departments

Identifying fraudulent benefits claims

Helping to schedule meetings

Creating "synthetic data" to quickly train machine learning algorithms

Helping to speed up HR paperwork

Finding possible health code violations

Counting pedestrians in a given area at a given time

Connecting hard-to-reach citizens to government services

Suggesting additional services and resources to citizens who are applying for something

Quickly compiling and analyzing police body cam evidence

Guiding a citizen to the service they're looking for by answering questions regardless of phrasing (e.g., "How do I file my taxes" or "Where do I go to file my taxes")

Predicting traffic congestion and car accidents

Predicting crime/ suggesting optimal police patrol presence

Measuring whether new child welfare policies helped reduce the harm done to children

Handling the most common types of service requests

Anticipating road infrastructure maintenance/ replacement needs

Understanding traffic patterns for planning purposes

Anticipating water infrastructure failures

...we urgently need an trustworthy infrastructure.

What do we each do best?

Humans

- Quality
- Designing solutions
- Transformation
- Empathy, creativity
- Policy (and futures)
- Discretion & intent
- Engagement

Machines

- Quantity
- Detecting problems
- Faster/cheaper at scale
- Repeatable processes
- Pattern recognition
- Modelling complexity
- Transparency

An augmented workforce rather than an automated one.

Considerations for solving 21st century problems

1) Complexity requires multi-disciplinary solutions
2) Functional segmentation of disciplines has led to increasingly unsustainable gaps between domains
3) All disciplines need to learn how to overcome discipline friction to create collective impact and holistic solutions
4) Participatory governance is critical for human centred outcomes

What are the pre-conditions for trustworthy AI, for trustworthy gov?

Transparency, traceability, accountability, auditing and appealability of gov decision making.

Key principle:
We need to move from asking for trust to being trustworthy

Tests: auditing, appeal, responsiveness

Ensure explainability where either of these trust tests apply.

Key questions/epics you need to be able to answer

1. How would you audit the process and decisions, in real time, and proactively?
2. How would a citizen appeal a decision?
3. How would you know whether something is having a negative effect on people?
4. What does the public need from you to be considered trustworthy?

We need to avoid **unintentionally** dropping **empathy**.

Key pillars for 21st century trust infrastructure

1. Traceability & accountability
2. Human outcomes
3. Machines as users, proactive models
4. Safe & ethically motivated structures

1) Traceability and accountability

Requires:
- Ensure and assure principle and practices of Administrative Law (for gov)
- Authoritative and publicly available legislation and regulation as code
- Delineation and clarity of leg/reg and policy
- A record captured of decisions, based on what rules with what authority
- Ease of auditing, ease of records recall, visibility by users on their records
- Assurance of compliance internally, not just externally

Suggestions:
- Rules as Code and Better Rules approach, from policy to delivery
- Immutable and accessible records for citizens, federated data architecture
- api.legislation.gov.xx and automation of auditing rules compliance

Draft of Government (CX)

The Citizen Experience

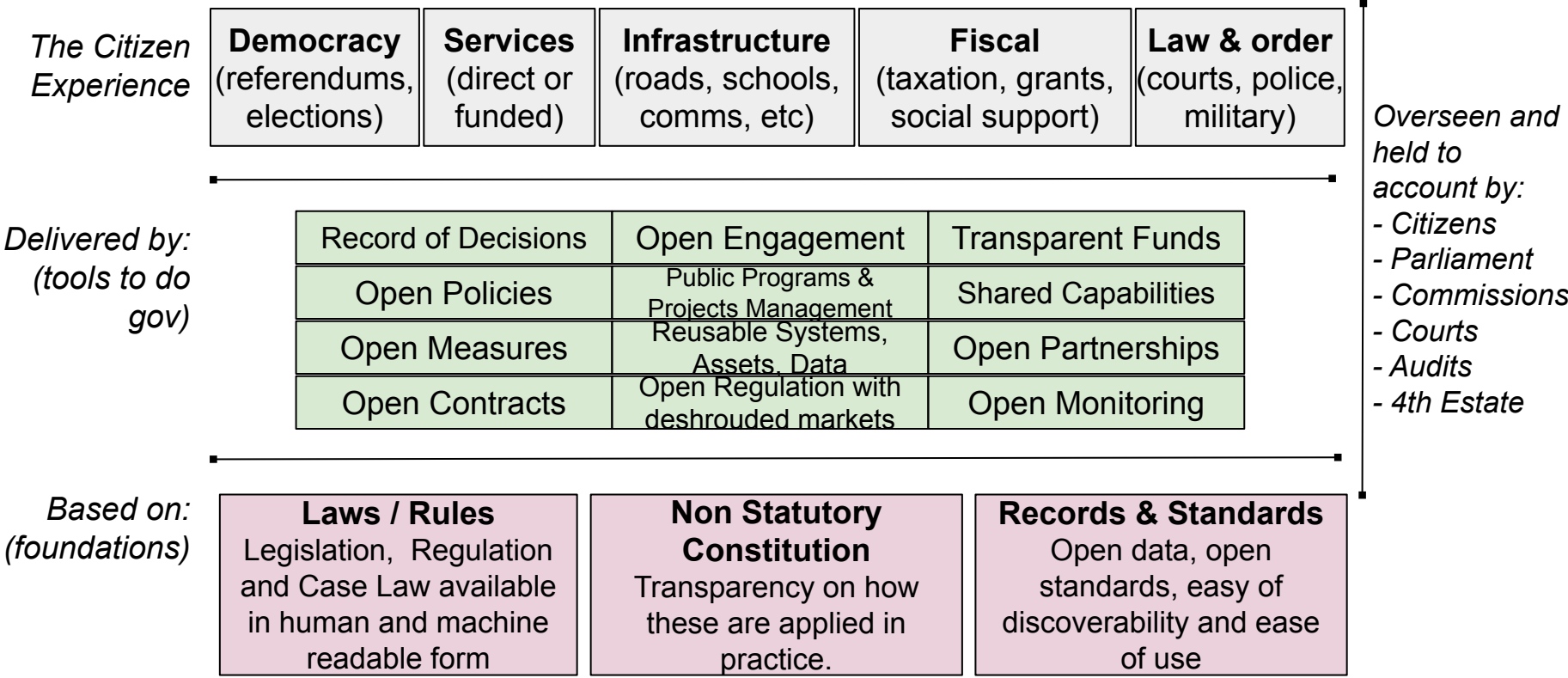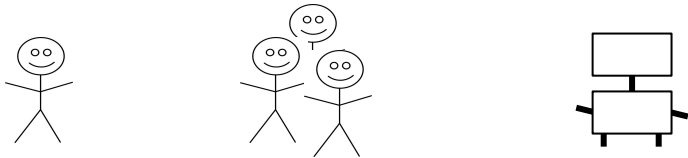| **Democracy** (referendums, elections)	**Services** (direct or funded)	**Infrastructure** (roads, schools, comms, etc)	**Fiscal** (taxation, grants, social support)	**Law & order** (courts, police, military)

Delivered by: (tools to do gov)

Decisions	Public Engagement	Funds
Policies (P & p)	Programs/Projects	Capabilities
Success Measures	Systems, Assets, Data	Partnerships
Contracts	Regulation	Monitoring

Overseen and held to account by:
- *Citizens*
- *Parliament*
- *Commissions*
- *Courts*
- *Audits*
- *4th Estate*

Based on: (foundations)

Laws / Rules (legislation, OIA, PSA, regulations, case law, statutory constitution)	**Non Statutory Constitution** (Te Tiriti, Cabinet Manual, Letters Patent)	**Records & Standards** (births, deaths, marriages, stats, measurements)

Draft of GaaP areas

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Delivered by: (tools to do gov)

Record of Decisions	Open Engagement	Transparent Funds
Open Policies	Public Programs & Projects Management	Shared Capabilities
Open Measures	Reusable Systems, Assets, Data	Open Partnerships
Open Contracts	Open Regulation with deshrouded markets	Open Monitoring

Based on: (foundations)

Laws / Rules Legislation, Regulation and Case Law available in human and machine readable form	**Non Statutory Constitution** Transparency on how these are applied in practice.	**Records & Standards** Open data, open standards, easy of discoverability and ease of use

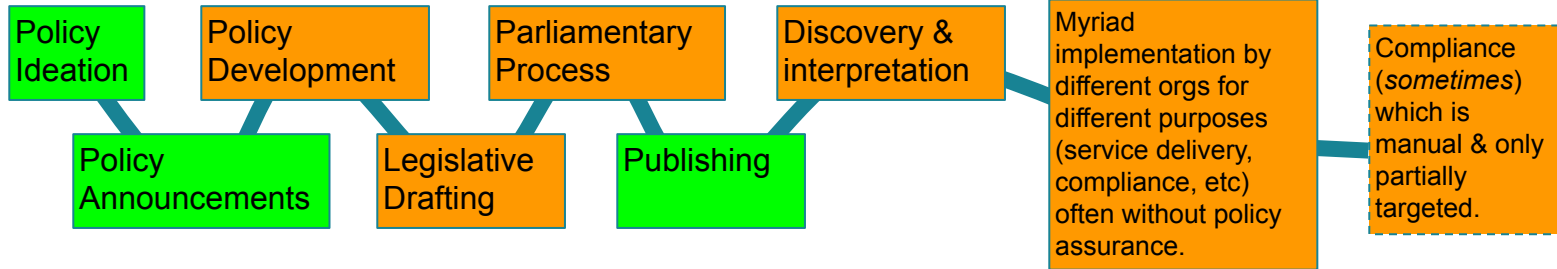# Idea: Transforming the delivery of new policies
Leveraging agile, test driven, user centred & digital methods for policy
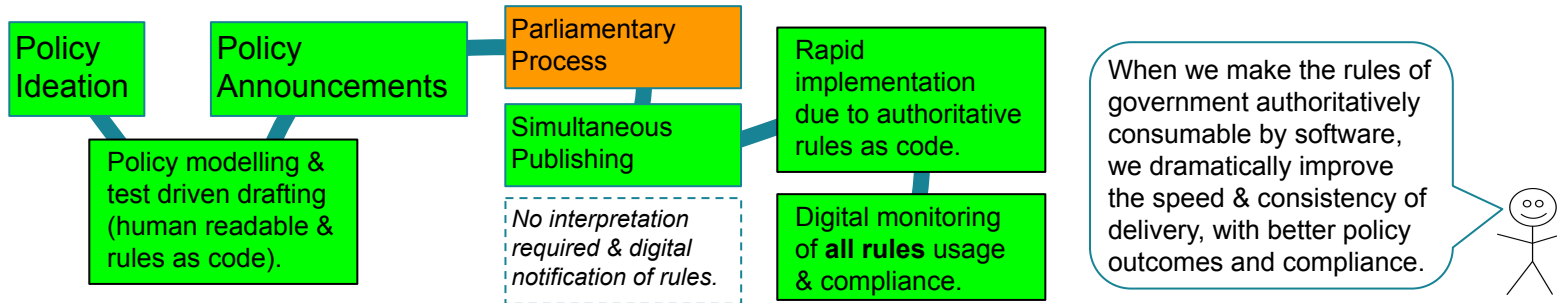
Imagine being able to rapidly develop new policies, that are enacted by parliament (with the usual democratic rigour) and available for implementation that same moment for rapid & consistent implementation through new service, benefits or regulation. It is possible, but only through transforming the policy/service continuum.

Time

Fast — Slow

Current Policy Approach

Policy Ideation

Policy Development

Parliamentary Process

Discovery & interpretation

Policy Announcements

Legislative Drafting

Publishing

Myriad implementation by different orgs for different purposes (service delivery, compliance, etc) often without policy assurance.

Compliance (*sometimes*) which is manual & only partially targeted.

Proposed Policy Approach

Policy Ideation

Policy Announcements

Parliamentary Process

Rapid implementation due to authoritative rules as code.

Policy modelling & test driven drafting (human readable & rules as code).

Simultaneous Publishing

No interpretation required & digital notification of rules.

Digital monitoring of **all rules** usage & compliance.

When we make the rules of government authoritatively consumable by software, we dramatically improve the speed & consistency of delivery, with better policy outcomes and compliance.

Current State for RaC

**Take rules in legislation/policy**

Myriad interpretations to provide functional specs to implement.

Myriad efforts to code into myriad business systems/logic.

Myriad squared people interfacing with rules through myriad systems the rules were added to.

Very limited reuse and conflicting interpretations of same rules in different systems.

Gov doesn't provide rules assurance.
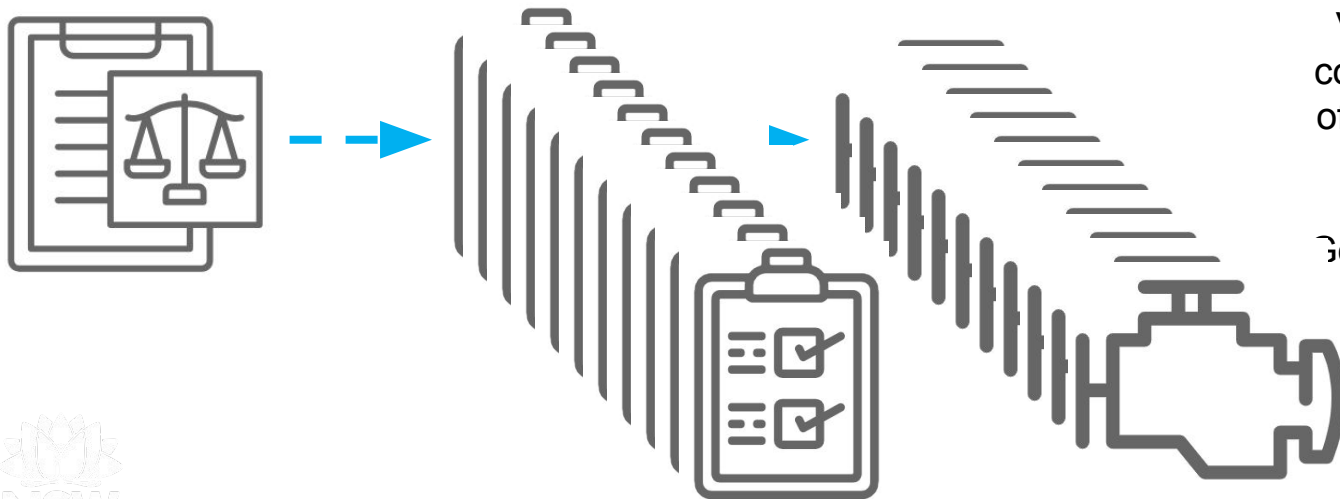
Future: Better Rules

Co-drafting of policy intent, concept model., logic flow.
Better Rules

Co-draft HR/MR rules using test driven HCD design approach. Test APIs available.

HR form enacted by Government, official API available immediately.

Reduced time and cost for all agencies & orgs across sectors consume gov rules as code for myriad use cases

- **Services**
- **Compliance tools**
- **Automated auditing**
- **Testing**

Use of rules can be monitored for patterns and prioritisation of regulation efforts
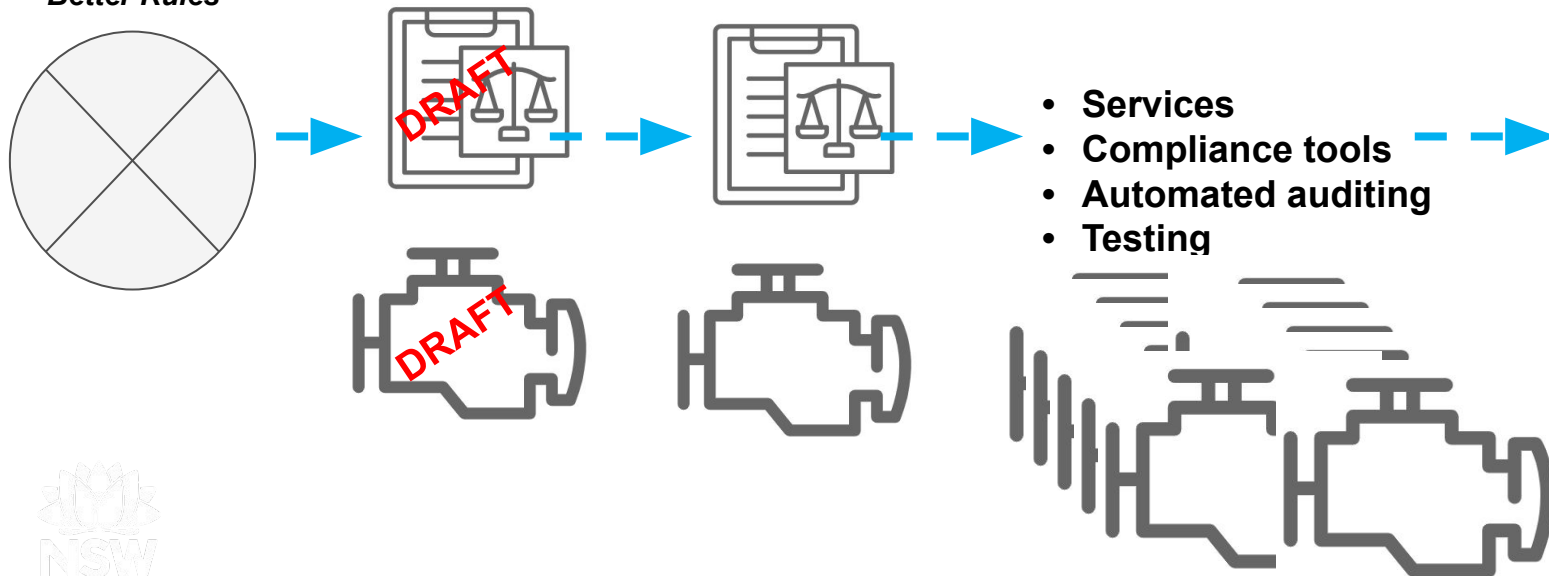
Mes Aides is a social benefits simulator.

Built by BetaGouv, the French government innovation team.

Mes Aides informs French citizens on their eligibility to national and local social benefits. In less than 7 minutes, the service gives an answer on more than 30 benefits.

Mes Aides also designed some custom-made extensions such as city local benefits or tools to trace the calculation details and navigate through it.

Visit Mes Aides

Simulate the impact of tax reforms on citizens.
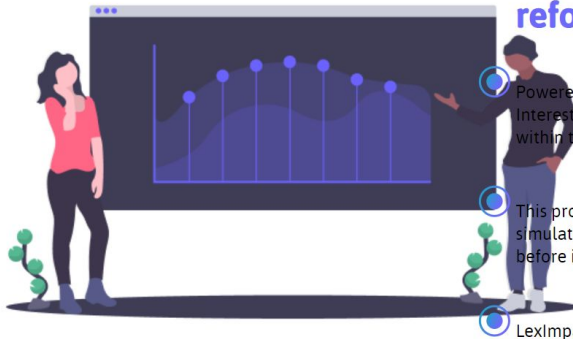
Powered by Etalab and part of the EIG program (General Interest Entrepreneur), the team works with administrator within the French National Assembly.

This project aims at helping administrators and deputees to simulate the impact of reforms on the government budget before its vote.

LexImpact started in 2019 and is still in progress.

Visit LexImpact

TaxIPP is a microsimulation model.
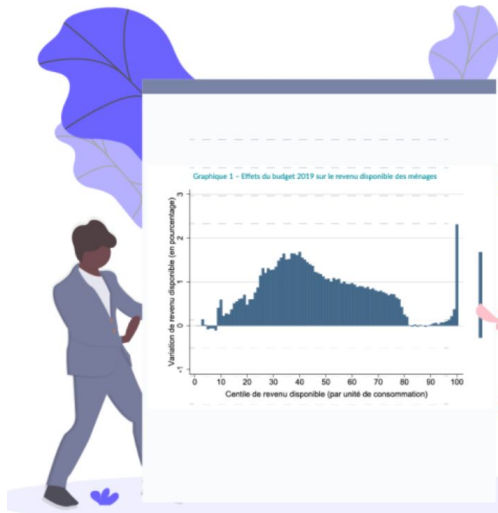
This model mixes survey data and administrative data to get a representative sample of households. The data is then injected into OpenFisca to analyse the impact of a tax & benefit system on households.

TAXIPP is used by the IPP (The Institute for Public Policy) which animate public debate since 2012.

Among other subjects, TaxIPP analyses the French government Finance Law every year.

Visit TaxIPP

2) Human outcomes

Requires:
- Human measurements framework (HSOF, Wellness Framework, etc)
- Build human measurements into assessment and budgetary requirements
- Proactive monitoring for quality of life and policy outcomes
- Being able to link all activities to purpose, human outcomes and policy intent

Suggestions:
- Human Services Outcomes Framework (NSW), Wellness Framework (NSW)
- Budget and business case reform
- Government Service Standards that embed and normalize human outcomes

Trust or trustworthiness?

- Accountability
- Transparency
- Traceability
- Openness
- Bias

What trust infrastructure do we need?

Here be dragons

We must all maintain privacy, ethics, transparency, accountability, traceability in an increasingly automated world

Difficulty **isn't** an excuse. Design a **better** future.

A **humane future** where humans thrive.

To make a measurable difference in people's lives
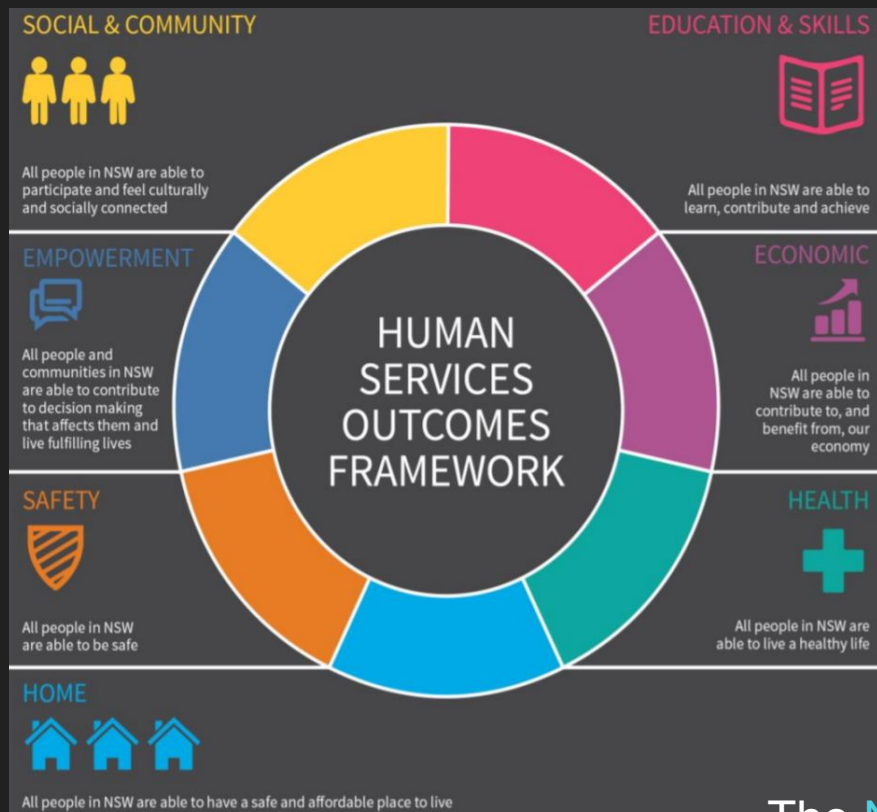
"Priority outcomes from the Logic Model can be translated into a measurable set of indicators that:

- can be monitored
- provide data about progress
- have a clear link to the desired outcomes
- are practical and can be validated."

The NSW Human Services Outcomes Framework

To make a measurable difference across the board

The Four Capitals

Intergenerational wellbeing relies on the growth, distribution, and sustainability of the Four Capitals. The Capitals are interdependent and work together to support wellbeing. The Crown-Māori relationship is integral to all four capitals. The LSF is being continually developed and the next iteration of the framework will consider the role of culture, including Māori culture, as part of the capitals approach in more detail.

Natural Capital

This refers to all aspects of the natural environment needed to support life and human activity. It includes land, soil, water, plants and animals, as well as minerals and energy resources.

Social Capital

This describes the norms and values that underpin society. It includes things like trust, the rule of law, cultural identity, and the connections between people and communities.

Human Capital

This encompasses people's skills, knowledge and physical and mental health. These are the things which enable people to participate fully in work, study, recreation and in society more broadly.

Financial / Physical Capital

This includes things like houses, roads, buildings, hospitals, factories, equipment and vehicles. These are the things which make up the country's physical and financial assets which have a direct role in supporting incomes and material living conditions.

06/18

The NZ Government Wellness Framework

How can public sectors drive more human centred outcomes?

By moving from *New Public Management*...

...to *Public Values Management.*

3) Machines as users with proactive ops

Requires:
- Plan for, understand and ensure knowledge about machines as users
- To actively plan for "good" machine usage and mitigate "bad" machines
- To assume a level of scale that dramatically outpaces human interventions

Suggestions:
- Service design methods to be adopted and be extended to include machines
- Inclusion of real time monitoring for patterns
- Ensure end to end operations that monitor for and can respond to and escalate new patterns, or change, that could be a positive or negative issue
- Use agile, test driven & scalable techniques on whole policy-service spectrum

Openness supports test driven policy development

ASK, LEARN, TEST, SCALE

We need to make space to **talk to users**, **experiment co-design**
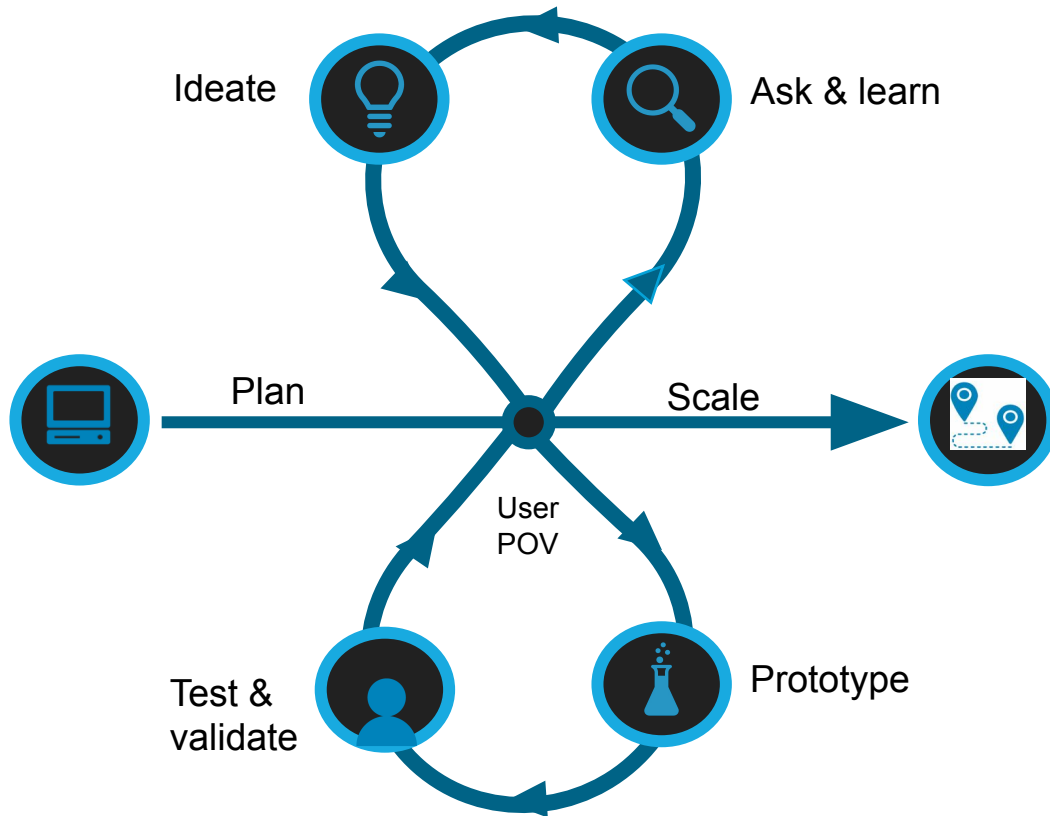
4) Safe & ethically motivated structures

Requires:
- Time to think and evaluate the best approach, not just the expedient one
- Being able to stay on top of emerging trends and respond strategically
- Proactive and collaborative governance, not reactive top down directives
- Systemic incentives that drive "good" outcomes, like openness as a principle

Suggestions:
- Build innovation into your "business as usual" operations, at least 10%
- Empowered and confident team culture that values peer review & purpose
- Clear human measures reflected in executive KPIs and reporting
- Accountability, especially for executives, to help nudge good decisions

Understand your privilege. Public Sectors are the cops as well as the social worker, and people know it.

- How will you address power imbalances to ensure inclusive design?
- How will you ensure ethical and accountable outcomes for everyone?
- How can we create public & community capacity to contribute?
- "Well, I would like..." is not a valid design method. You are not your users.

Self-Actualization
You are living to your highest potential

Esteem
You've acquired the skills that lead to honor and recognition

Love & Belonging
Achieving deeper, more meaningful relationships

SAFETY
Home, sweet home

Physiological Needs
Food, water, sleep

1) Do your teams and staff feel safe, supported, valued?

They need:
- Time / space
- Permission to try
- Strong culture
- Encouragement
- Minimise "urgent"

We all need sandpits to safely play

Servant Leadership is critical to empower and enable your staff.

The best way to scale your impact is to increase the impact of all your people.

Understanding Incentives
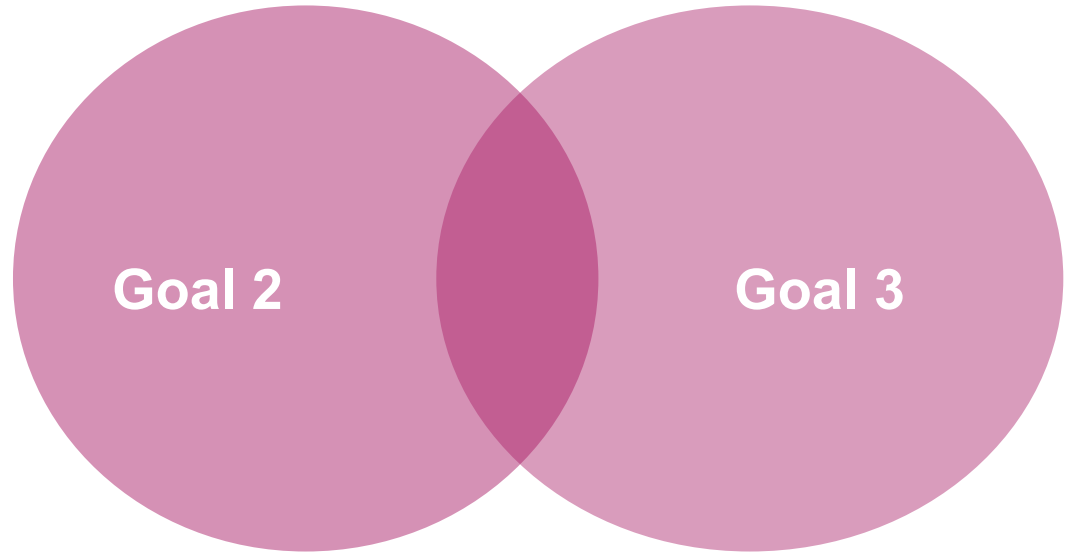
What is the **outcome** you are trying to achieve?
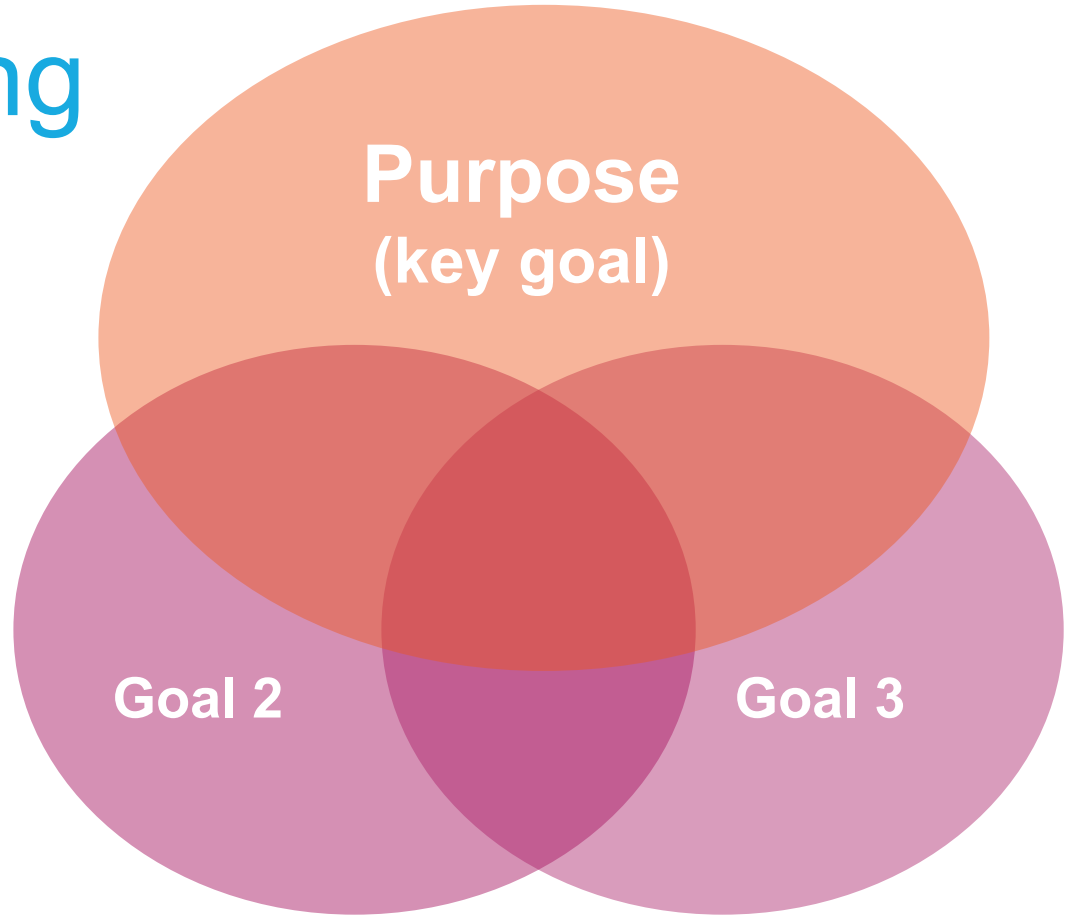
Perverse Incentives

Measuring outcomes helps ensure outputs measures aren't assumed to equal success.
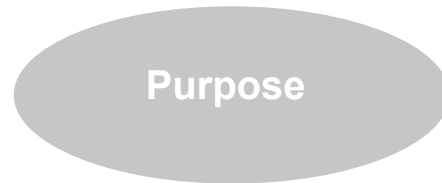
Goal 2

Goal 3

Purpose

Perverse Incentives

Measuring outcomes helps ensure outputs measures aren't assumed to equal success.

Goal 2

Goal 3
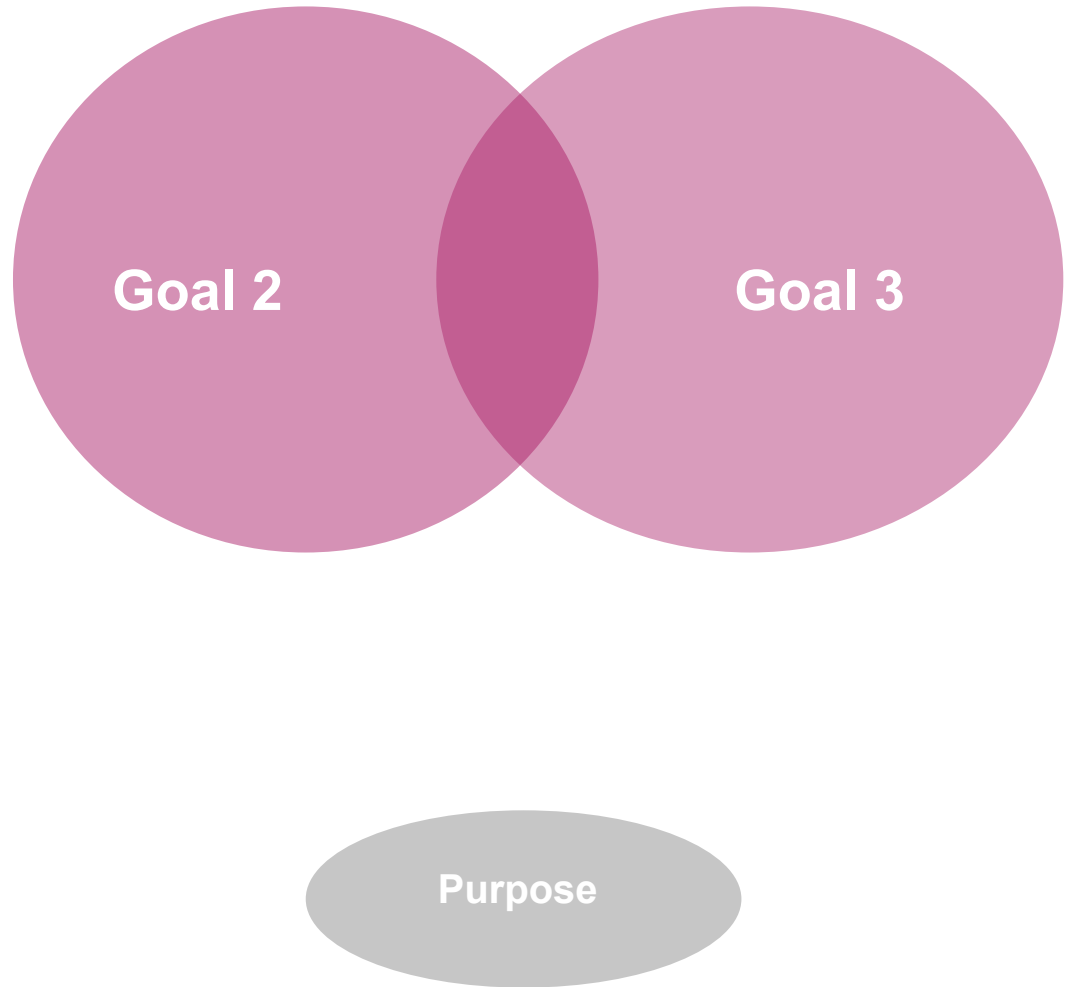
Competing business units lose the ability to deliver cohesive outcomes.

Purpose

Open **and** Digital

Open that's not digital doesn't scale and digital that's not open doesn't last.

Openness enables transformation

Peer review & open development
Building on the shoulders of giants
Systemic nudging & collaboration
Enables external channels
(3rd parties, personal AIs)
Algorithmic transparency
Trust infrastructure
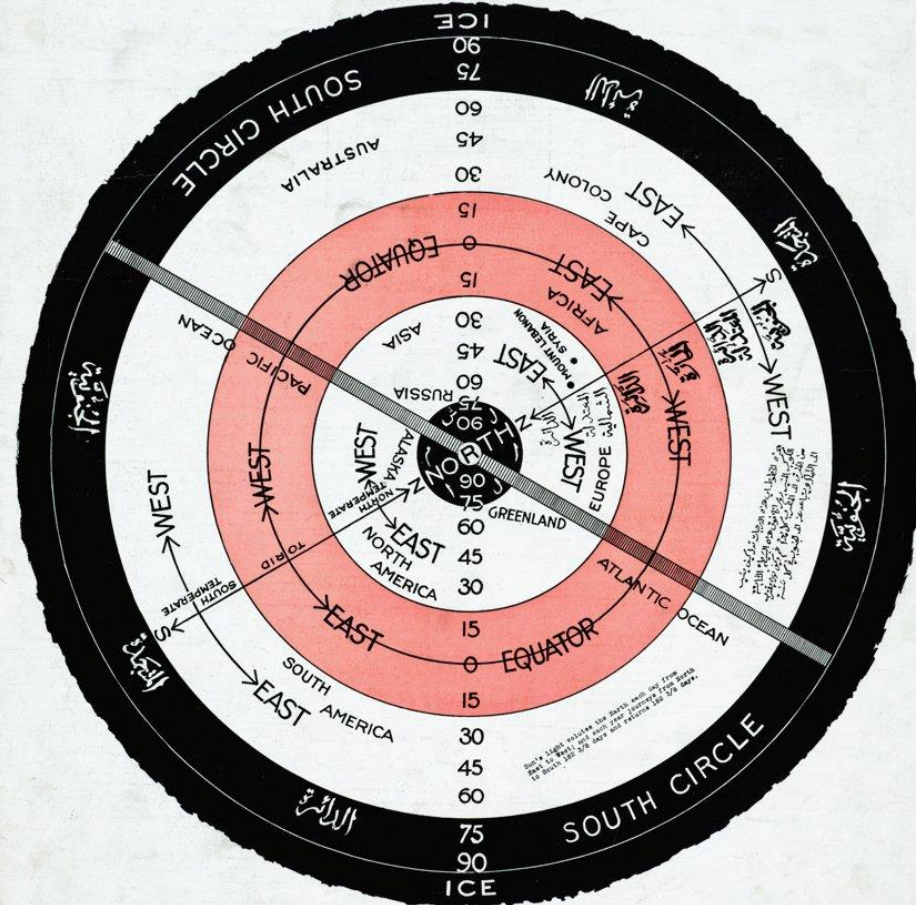Participatory governance?

Tap external expertise/experience

Openness is a critical tool for modern public sectors. It enables better outcomes, sustained momentum, public buyin and a useful check and balance on power.

What do we keep and what do we discard?

NEW CORRECT MAP OF THE FLAT SURFACE, STATIONARY EARTH.

John G. Abizaid, 3 Malden St., Boston, Mass.

Trust Infrastructure: Artificial Intelligence, Administrative Law & Governance

Bringing humans and machines together for better outcomes

Pia Andrews