The Impact of Advanced Information Technologies on the Governance of the State: Summary Seminar

February 21, 2020

Peter MacKinnon and Stephen Fanjoy

Agenda

- Background
- Approach to the Problem to Date
- Challenge Questions
- Change Drivers
- Technical & Social Context
  - Examples of advanced IT
  - Different Models of Governance
- Selecting Orthogonal Axes & Mapping the Workshop Results
- Exercise in Mapping & Gap Analysis
- Next Steps?

Background

- Presentations in November and December 2018
- Workshops in March and May 2019
- The term ‘state’ is taken to be all forms of public governance structures ranging from autocracies to democracies
- There are 3 timeframes
  - next 10 years
  - 2030 to 2050
  - 2050 up to 2100

Approach to Date

Here are the steps we have moved through:

Step 1: Framing the problem

The framing of the problem changed as we learned more about the multiple pathways through which drivers could impact the system.

Step 2: Current assumptions

We identified the current, commonly held assumptions about the issue under study. Some of these are the core assumptions that are shaping public opinion and public dialogue on the issue.

Approach to Date (2)

Step 3: Search for weak signals

The focused was on finding weak signals that could indicate a significant change is possible or underway. Weak signals that appear to have a significant potential for disruption were further developed into insights.

Step 4: Select change drivers

All the insights from the signal scanning phase were reviewed, and those that appear to have a significant, disruptive impact on at least one of the elements in the system map were chosen as change drivers for the scenario exercise.

Step 5: Test assumptions and identify challenges

- Identified Key Lens to view the problem being addressed (i.e., labels for the orthogonal axes)
- Established four Challenge Questions
- Identified what drives the Challenge Questions
- Identified possible Disruptors & Wild Cards events which may challenge the occurrence of “highly probable” situations in the future
- Populated scenarios using orthogonal axes approach
- Reported scenarios to Plenary sessions

Challenge Questions

The following four questions were used to frame the development of the scenarios:

1. What are the *emerging threats* to governance of the state posed by advanced IT?
2. What are the *emerging benefits* to governance of the state posed by advanced IT?
3. What *disruptors are possible* wrt using advanced IT to impact the governance of the state?
4. What *wild cards are possible* wrt using advanced IT to impact the governance of the state?

Change Drivers: Technical

Insights from the signal scanning phase were reviewed and those that appear to have a significant disruptive impact on at least one of the elements in the system map were chosen as change drivers for the scenario exercise.

- Big Data
- Artificial Intelligence
- Ubiquitous platforms (i.e., smart phones, sensor networks, distributed computing)
- Social media
- Virtual and augmented reality

Change Drivers: Social

- Emergence of ‘echo chambers’ in social media
- Public perception of a weakening in democracy & rise of & exploitation of populism by single-minded leadership across the governance spectrum
- Increasing asymmetric concentration of global wealth in private hands
- Sense of a rising tide in ‘lack of hope’ about the future
- Increasing attacks & restrictions wrt “freedom of the press” across the governance spectrum
- Rising tide in immigration, mostly refugees

Change Drivers: External

- Consequences of, and coping with, Climate Change
- Cataclysmic event (e.g., a ‘large’ space object impacting Earth, pandemic, changes in the Sun’s energy output)
- Geopolitical
  - Regional, cyber, and space wars
  - Nuclear exchange

Step 6: Develop Scenarios

- The first two workshops developed 9 scenarios, three for each timeframe
- From the 9 scenarios, the 3rd workshop developed a most likely scenario for each timeframe

Technical & Social Context

Examples of Advance Information Technologies

- G5 mobile networks
- Smart phones
- Artificial Intelligence (AI)
- Virtual Reality (VR)
- Machine Translation
- High Performance Computers
- Generative Adversarial Networks (GANs)
- Natural Language Processing
- Wireless Sensor Networks
- Intelligent Transportation Systems (ITS)
- Quantum computing

Power Structure vrs Power Source

Power by Structure

- Anarchy
- Confederation
- Federation
- Unitary State

Power by Source

- Autocracy
- Democracy
- Oligarchy
- Corporate/capitalist
- Ideology
- Theology

Types of Governance Models

Democracies	Meaning
1. Demarchy	1. The “people rule”
2. Direct Democracy	2. People decide on policy initiatives
3. Electrocacy	3. Citizens can vote for their government without direct participation
4. Klerostocracy	4. Representative democracy operates under the principles of classical liberalism
5. Liberal Democracy	5. A delegative democracy where electorate has the option of vesting voting power in delegates as well as voting directly themselves
6. Liquid Democracy	6. Based on the principle of elected officials representing a group of people
7. Representative Democracy	7. A socialist system of government achieved by democratic means
8. Social Democracy	8. A political system in which the rule of the population by directly elected soviets is exercised

Types of Governance Models (2)

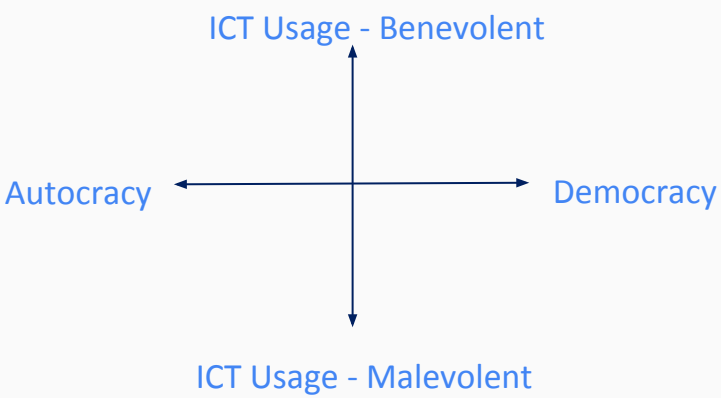
	Oligarchy		Meaning
1.	Aristocracy	1.	Ruled by nobility
2.	Ergatocracy	2.	Ruled by working class
3.	Kraterocracy	3.	Ruled by the strong
4.	Krilarchy	4.	Ruled by judges
5.	Meritocry	5.	Ruled by merit
6.	Plutocracy	6.	Ruled by the wealthy
7.	Particracy	7.	Ruled by dominant political party
8.	Stratocracy	8.	Ruled by military service
9.	Technocracy	9.	Ruled by educated/technical experts
10.	Theocracy	10.	Ruled by religious elite
11.	Timocracy	11.	Ruled by the honourable

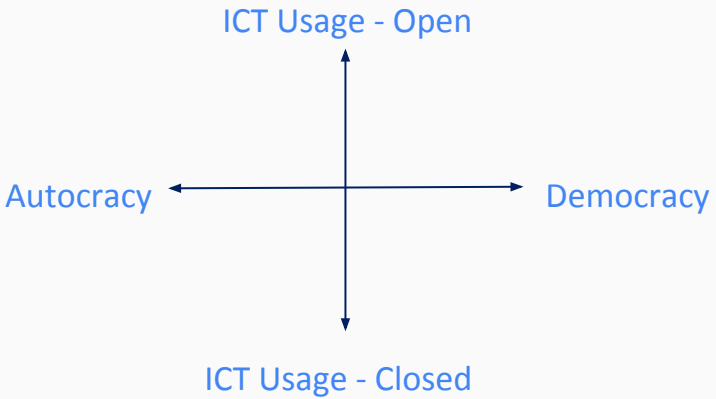
Types of Governance Models (3)

Autocracies	Meaning
• Civilian Dictatorship	• Ruled by civilian dictator
• Military Dictatorship	• Ruled by a dictatorship or Junta wherein the military exerts complete or substantial control over political authority

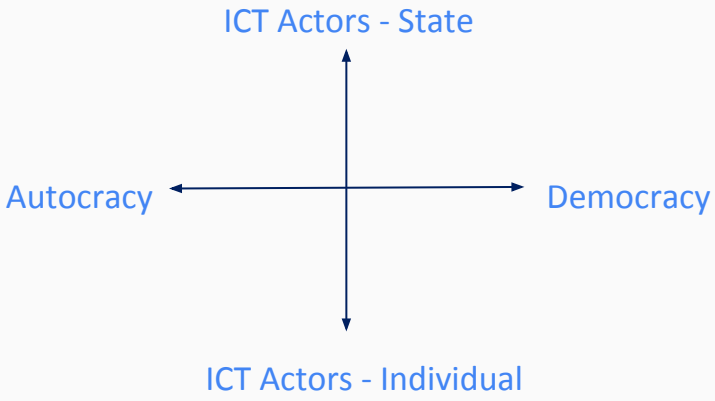
Mapping

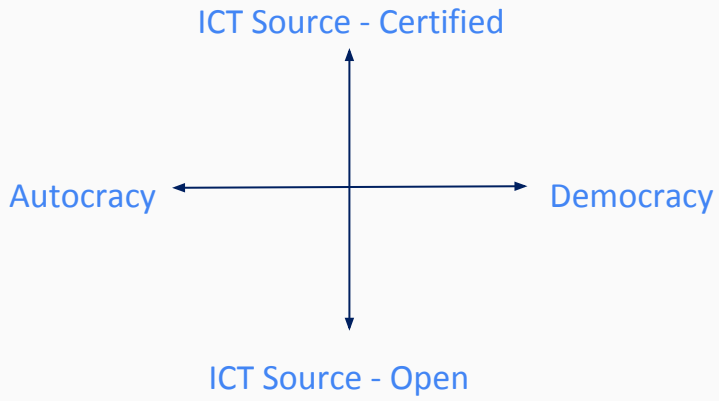
Selecting Orthogonal Axes: Examples



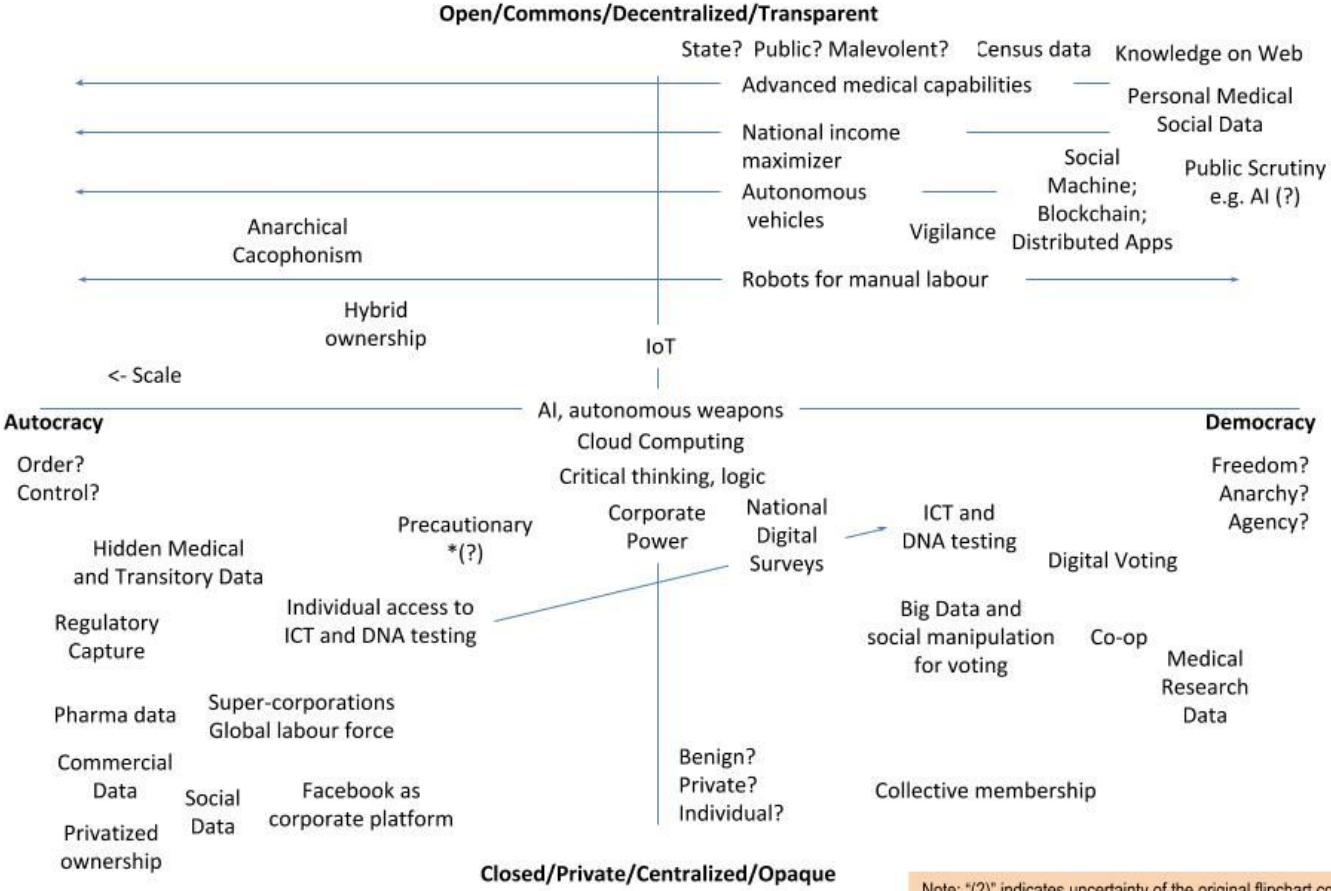


Selecting Orthogonal Axes: Examples (2)



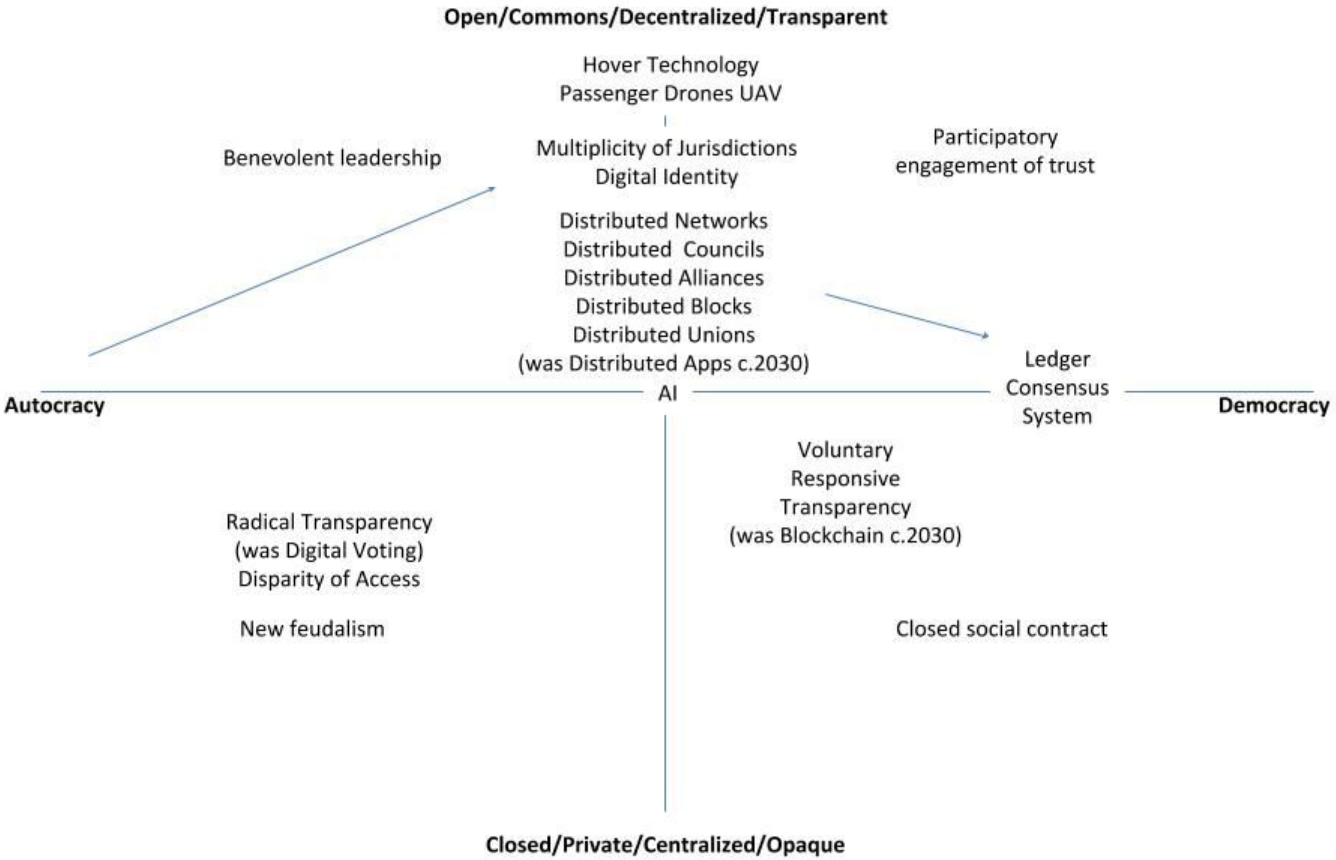


Next Ten Years: 2020-2030
Integrated Master Chart

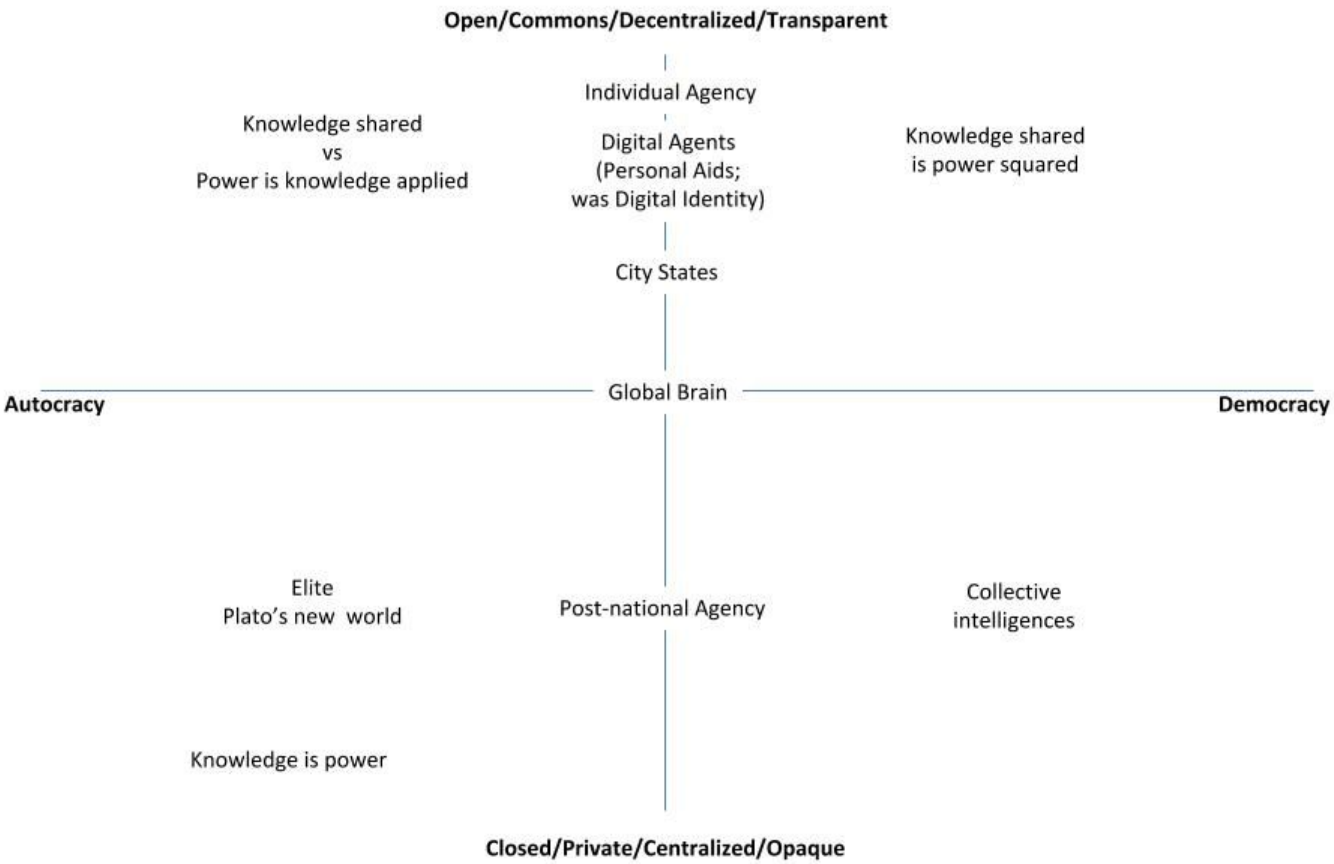


Note: "(?)" indicates uncertainty of the original flipchart content. All other uses of "?" are as used in the original flipchart content.

2030-2050
Integrated Master Chart



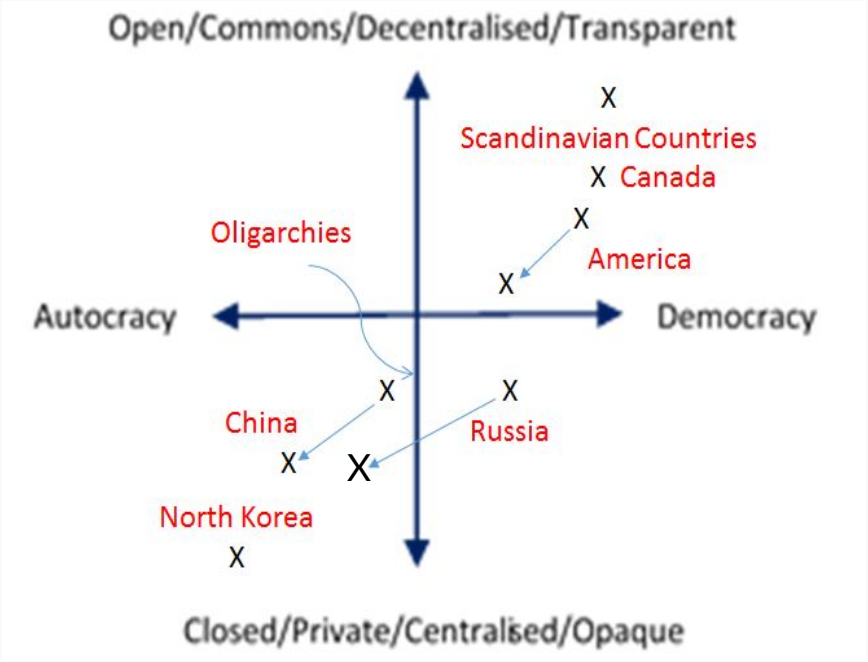
2050 – 2100
Integrated Master Chart



Discussion

- Since we started down this road more than a year ago, with this being our 6th session related to the topic at hand, we have honed the problem
- But we have yet to discern a ‘clear view’ of where this future is leading us
- These workshops have been addressing a Problem so wicked that we still do not have a good handle on it
- The exception perhaps is some ‘feeling’ for the next 10 yr scenarios as noted in the next Chart

Placement of Nations: Shifts in next 10 years



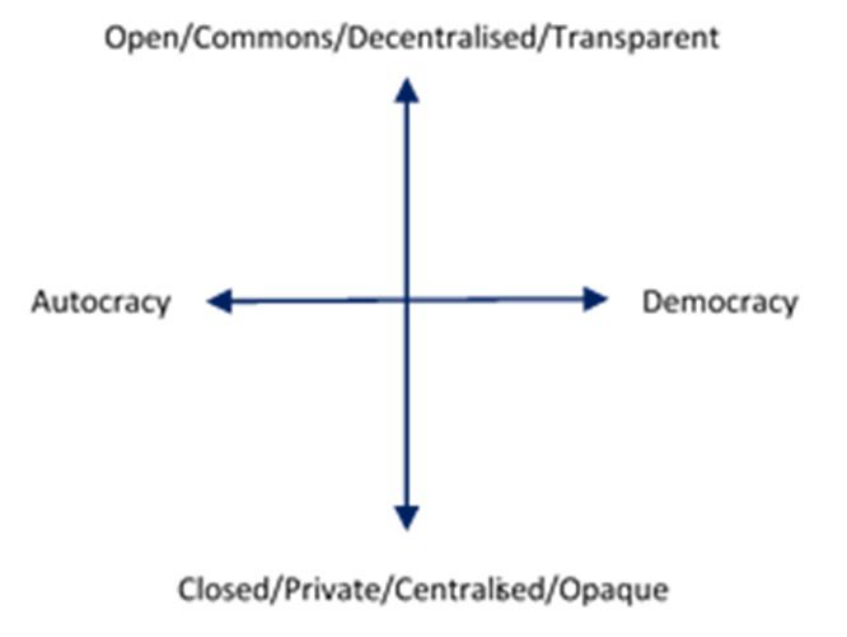
More Discussion & Work to do

- So far we have taken a Grounded Theory approach (https://en.wikipedia.org/wiki/Grounded_theory), in other words we assumed no a priori conditions
- Today's task is to surmise the future based on the trajectories we see for the next 10 years, as noted in the examples shown in the last Chart
  - Consider what 'Disruptors' and 'Wild Cards' could shape given trajectories
  - 'Mind the gap' as we cross these time zones - specifically consider what are the drivers of the change in state

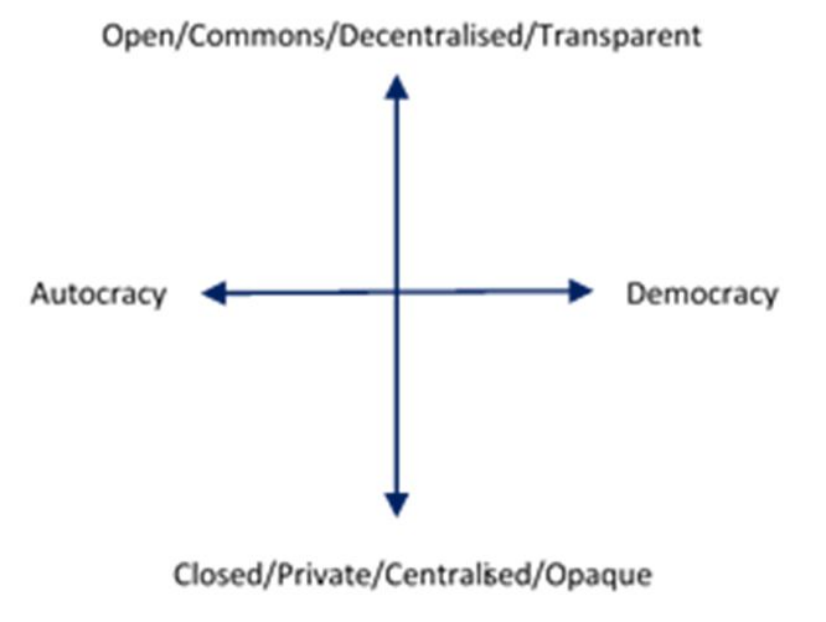
Gaps

- Gap analysis forces us to reflect on the differences between ‘what is now’ and ‘what is the future’ in terms of identifying the ‘drivers’ that cause the state change from the present to the future, some we have a;ready considered on technical, social and external grounds

Placement of Nations: Shifts in next 30 years



Placement of Nations: Shifts in next 80 years



Next Step

- Where do we go from here?
  - Any ideas?

Approach

1. Develop realistic scenarios across the three timeframes by addressing the Challenge Questions
2. Analyze & synthesis
3. Backcasting best case, worst case and most likely case scenarios
4. Identify leverage points in each scenario
5. Identify Key Lens from which to view the problem being addressed (i.e., orthogonal axes)
6. Review, modify/adjust, and identify what drives the Challenge Questions
7. Identify possible Disruptors & Wild Cards