

Systems Thinking in the Government of Singapore



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The Theory of Economics does not furnish a body of settled conclusions immediately applicable to policy. It is a method rather than a doctrine, an apparatus of the mind, a technique of thinking, which helps its possessor to draw correct conclusions.

~ Keynes (1922)

Five Levels

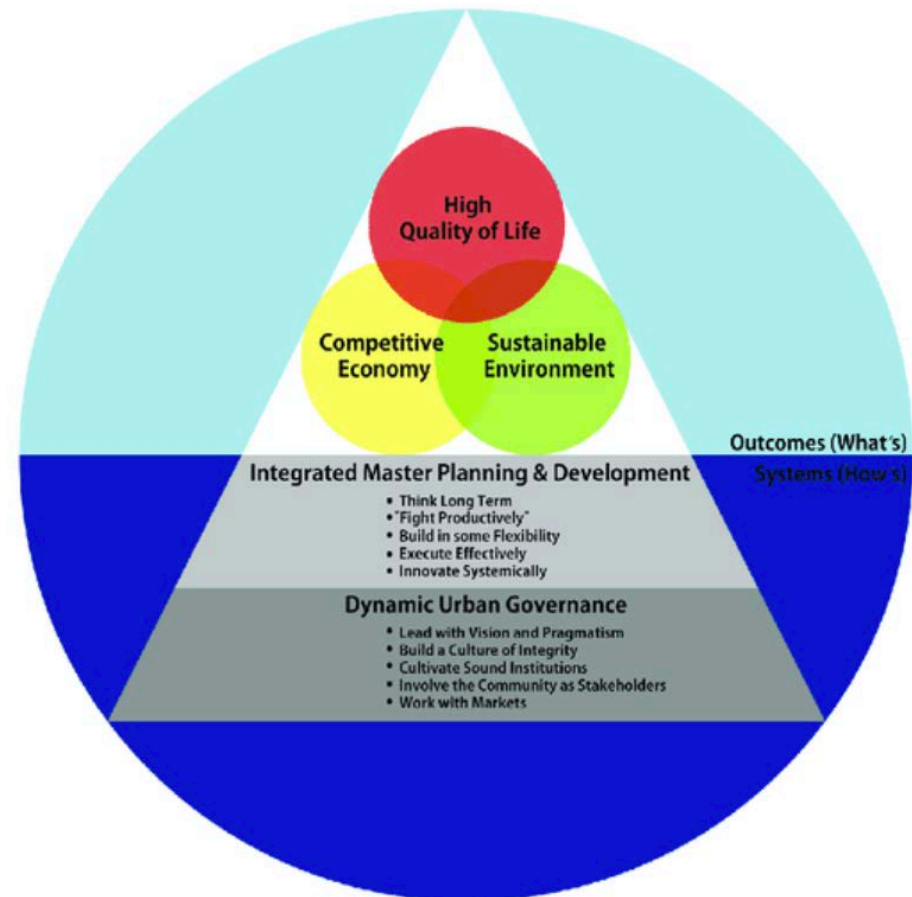
- Policy Formulation
- Policy Delivery / Implementation
- Policy Administration / Management
- Democracy
- Capability and Talent Development

Five Levels

- **Policy Formulation**
- Policy Delivery / Implementation
- Policy Administration / Management
- Democracy
- Capability and Talent Development

Policy Formulation

- Whole of Government → Whole of Nation
- Cabinet
- COPS
- Planning /
Coordinating Comm
- Cluster Strategic Review
- Economic / Social
Forums



Obstacles to Whole-of-Government



Whole-of-Government

Policy Formulation

- Whole of Government → Whole of Nation

STRATEGY
GROUP | PRIME
SINGAPORE | MINISTER'S
OFFICE

CSF

NPTD
NATIONAL POPULATION AND TALENT DIVISION
PRIME MINISTER'S OFFICE



NCCS
NATIONAL CLIMATE CHANGE SECRETARIAT
PRIME MINISTER'S OFFICE SINGAPORE

Coordinating Ministers



National Security



Infrastructure



Economic & Social Policies



Five Levels

- Policy Formulation
- **Policy Delivery / Implementation**
- Policy Administration / Management
- Democracy
- Capability and Talent Development

Policy Delivery / Implementation



Policy Delivery / Implementation



Five Levels

- Policy Formulation
- Policy Delivery / Implementation
- **Policy Administration / Management**
 - Sectoral Leadership Committees
 - Budget Coordination
- **Democracy**
 - Office of Citizen Engagement
- Capability and Talent Development

One example of Systems Democracy: The “Singapore Conversation” ...



2012/3

660

dialogues

47,000
participants



Five Levels

- Policy Formulation
- Policy Delivery / Implementation
- Policy Administration / Management
- Democracy
- **Capability and Talent Development**

Capability and Talent Development

- Aimed at growing “System Entrepreneurs”
- Regular postings / secondments
 - Organisational Rawlsian veil
- Whole of Government Project Teams
 - Building “systems awareness”
- Whole of Government training
 - Building “systems capital”
 - New → Team lead → Director → Agency head
 - Courses on complexity theory, scenario planning

OPINION

Embracing Complexity in Healthcare

In a complex environment where centralised planning has limited effectiveness, simple rules may allow the system to evolve organically towards shared goals.

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Regarding Complexity

Complexity derives from the Latin *plexus*, meaning "interwoven". Most phenomena can be classified into multiple levels of complexity. *Simple* phenomena are usually straightforward, with predictable linear cause-and-effect relations, for example, the collisions of billiard balls on a pool table.

HOW COMPLEX IS HEALTHCARE?

Complexity is embedded in many different levels of healthcare. Practitioners have developed mechanisms to manage these challenges.

	Dimensions of Complexity	Management Mechanisms
Biological	Certain medications do not work the same for everyone. Individual differences in biology and lifestyle make prescribing appropriate medication both an art and a science.	To maintain certain medications at effective levels in the bloodstream, a patient has to undergo regular blood tests to calibrate the medication dosage and dosing regimen. The principle is to monitor as often as necessary and perform micro-adjustments as the situation requires.
Personal	Healthcare providers commonly referred to patients with multiple medical conditions requiring multiple treatment regimens as "complex patients". Any one or a combination of their multiple conditions could cause their health to deteriorate.	A medical team often has to prioritise a complex patient's numerous conditions. Frequently, several of the conditions have to be treated concurrently while monitoring the patient's response, while staying alert to any interactions between the diseases, as well as between the various treatments.
Community	Community health programmes require different healthcare providers, each with their own capabilities and priorities, to work together. Getting partner organisations to agree on mutual roles and collaborate effectively can be challenging.	Recognising that good results can only be achieved when all entities in the system work together, programme indicators must be designed to measure outcomes rather than processes. At the programme level, partners have to co-develop work processes and agree on measures of success. Funding mechanisms must also be re-aligned to fit more team-based work processes.
Ecological	Capacity planning for healthcare (including infrastructure and manpower) can be daunting. The training of medical professionals requires long lead times, while numerous factors, both known and unknown, can affect the accuracy of projections and predictions.	Healthcare systems are often "too big to fail", so parallel systems are developed to increase their robustness. Such systems provide fault tolerance. Different experiments can take place simultaneously to uncover new solutions. At the policy level, futures-thinking and scenario-planning are often used. While unlikely to be perfect, the <i>process</i> of planning is vital, not least by establishing a common understanding of the situation, its challenges, and shared goals for the future.

One Final Thought

- Insights from complex systems
 - Non-linearity, interdependence
 - Emergence and evolutionary phase transitions
 - Need for iterative, experimental approaches

Not a natural instinct for either academics or policymakers!