

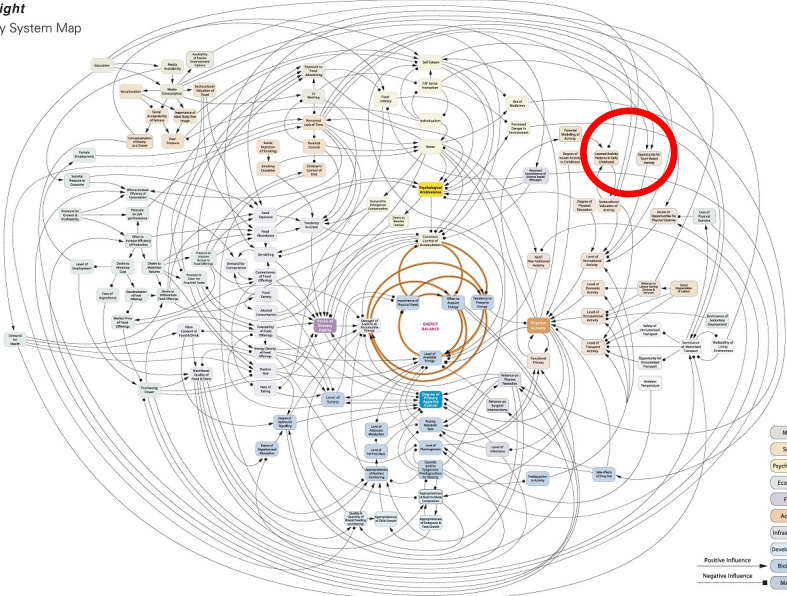
Systems Thinking

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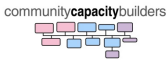
1

Foresight
Obesity System Map



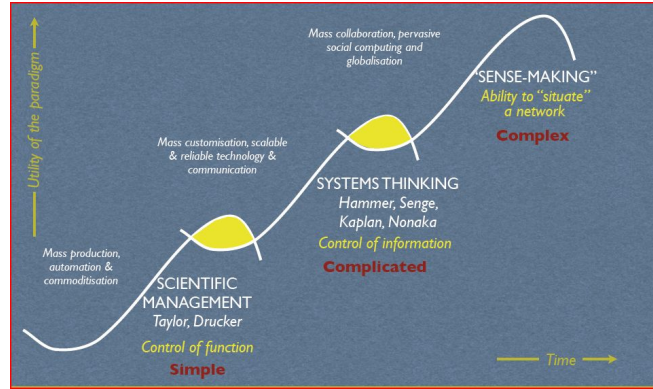
Butland, et al., 2007

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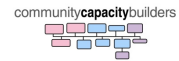
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Need to Situate a Network



Dave Snowden (cited in Graves, T., 2010)

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Systems Thinking

- ‘defined as the ability to analyze systems as a whole, including the recognition of essential interrelationships within the system and between subsystems, and any changes and patterns that arise out of the networks of relationships and interactions’.

Colbert, 2011

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Blind Men and the Elephant

Beyond Ghor, there was a city. All its inhabitants were blind. A king with his entourage arrived nearby; he brought his army and camped in the desert. He had a mighty elephant, which he used to increase the people's awe.

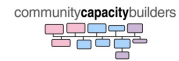
The populace became anxious to see the elephant, and some sightless from among this blind community ran like fools to find it. As they did not even know the form or shape of the elephant, they groped sightlessly, gathering information by touching some part of it. Each thought that he knew something, because he could feel a part. .

. . The man whose hand had reached an ear . . . said: "It is a large, rough thing, wide and broad, like a rug." And the one who had felt the trunk said: "I have the real facts about it. It is like a straight and hollow pipe, awful and destructive." The one who had felt its feet and legs said: "It is mighty and firm, like a pillar."

Each had felt one part out of many. Each had perceived it wrongly.

Cited in Meadows, 2008

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System Dynamics Thinking

- Applies general systems thinking principles to managerial and societal issues
- Looks to the patterns of cause and effect relationships within a system to explain system behaviour
- Principles to understand the structure of systems and determine where to intervene include:
 - interaction characteristics
 - positive and negative feedback
 - unexpected consequences

Foster-Fishman, 2007

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Soft System Methodology

- Systems that are built around human activity are different than systems in the natural or physical world
- Properties of human activity systems are usually experienced and understood differently by different stakeholders
- Encourages change agents to understand the system as a problem situation
- Engages multiple stakeholders in developing “rich pictures” of a problem situation and desired state

Foster-Fishman, 2007

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