Mechanisms for a Systems-Oriented Mindset – Towards Organizational Systems Thinking

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Outline

- Background and motivation

- Problem statement and approach

- Mental barriers vs. systems-oriented mindset

- A toolbox of mechanisms supporting transformation
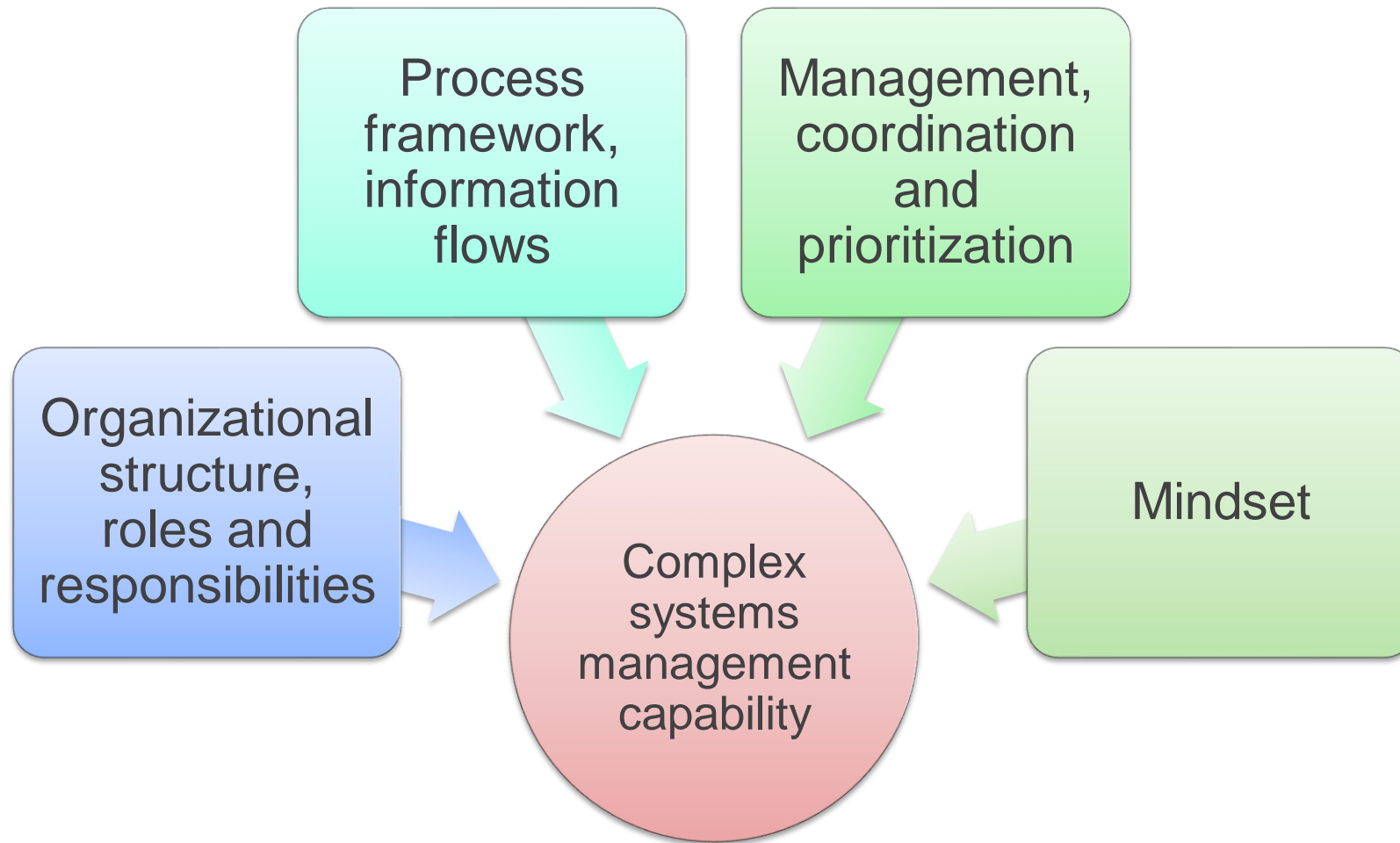
- Conclusions and outlook

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Background and motivation

Differences in mindset

Mechanical worldview

- The world works like a machine
- Facts can be analyzed, future can be predicted
- Plans can be made and executed in order to control and measure outcomes
- Provides a sense of order, purpose, and control
- Emphasizes processes of management and policymaking

Complexity worldview

- The world is essentially interconnected
- Patterns and dependencies shaped by history and context
- Emphasizes the limits to certainty
- Things are continuously changing, and unexpected futures may emerge
- Management approaches emphasizing systems thinking, agility, and uncertainty
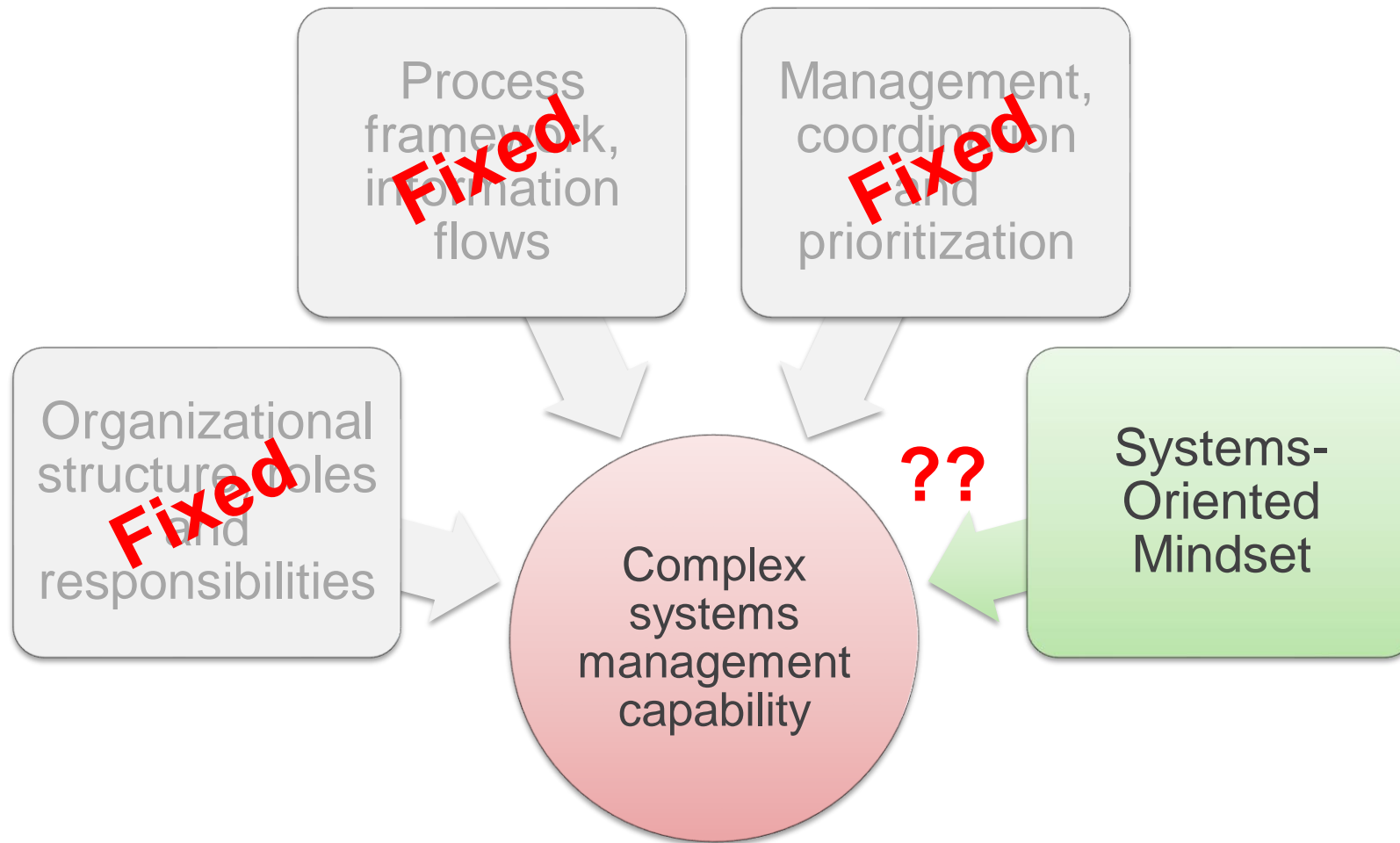
Source: Boulton et al. (2015)

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Impact of a systems-oriented mindset?

Process framework, information flows

Fixed

Management, coordination and prioritization

Fixed

Organizational structure, roles and responsibilities

Fixed

Complex systems management capability

??

Systems-Oriented Mindset
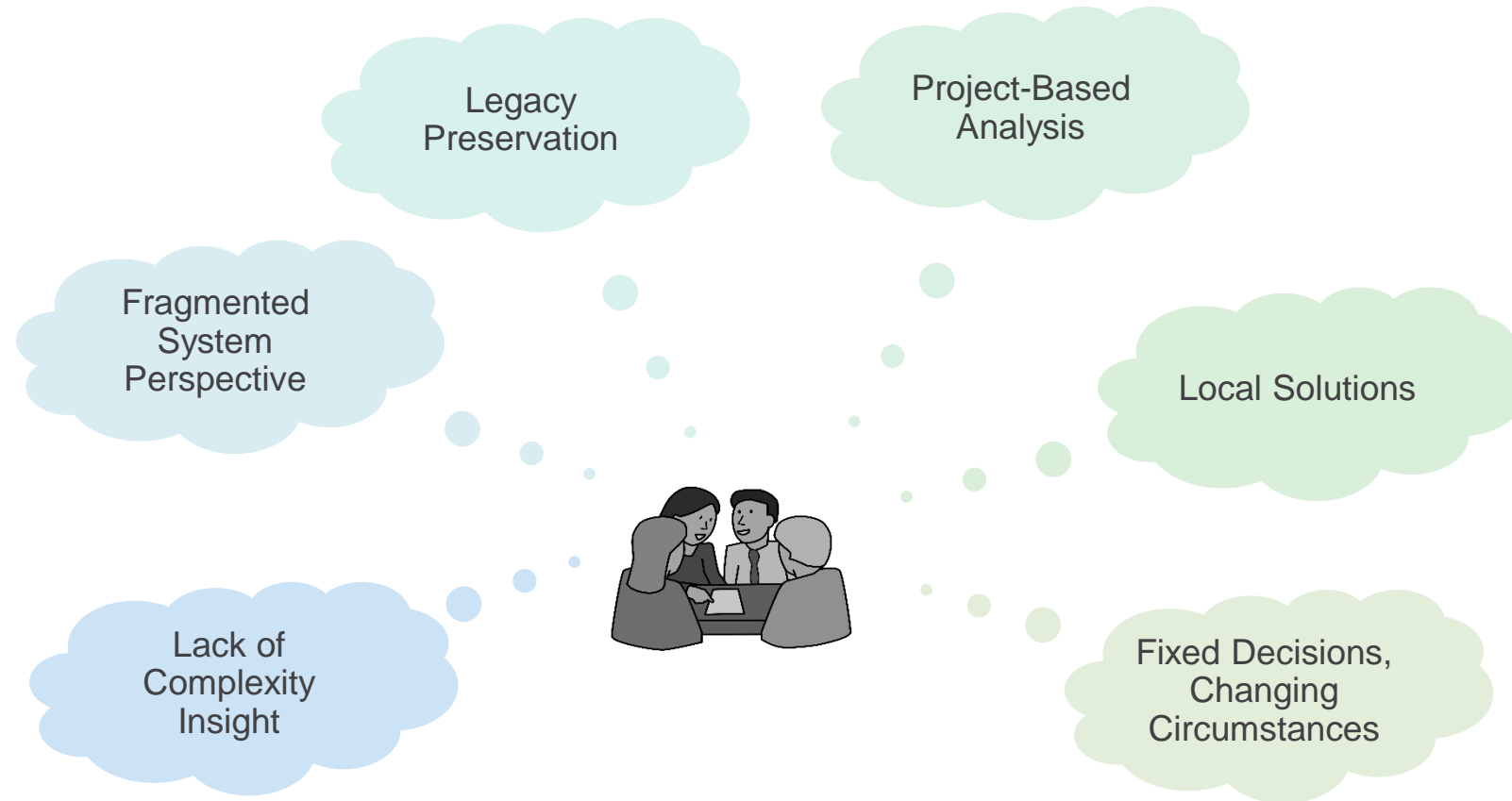
Methodological approach

- Public administration and procurement agency in the public transportation domain
- Case study combined with elements of action research
- Observe and analyze the organization's strategic and project level ways of working
- Identify, apply, and validate mechanisms in real projects within the organization

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Mental barriers

Legacy Preservation

Project-Based Analysis

Fragmented System Perspective

Local Solutions

Lack of Complexity Insight

Fixed Decisions, Changing Circumstances

A systems-oriented mindset

Understand and Apply Governing Design Principles

Build Trust within Organization

Visualize Different System Perspectives

Focus on Benefits in the Long Run

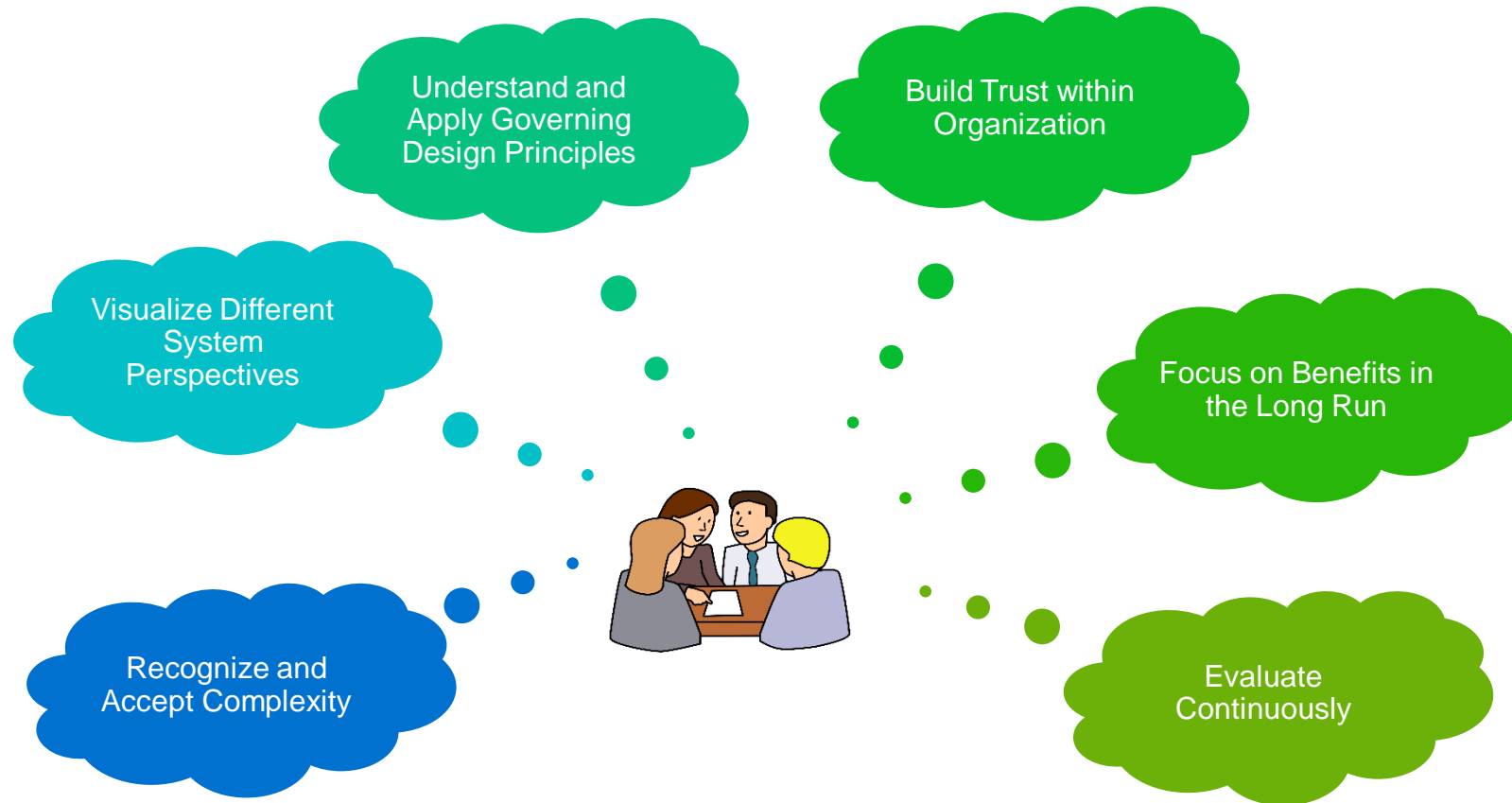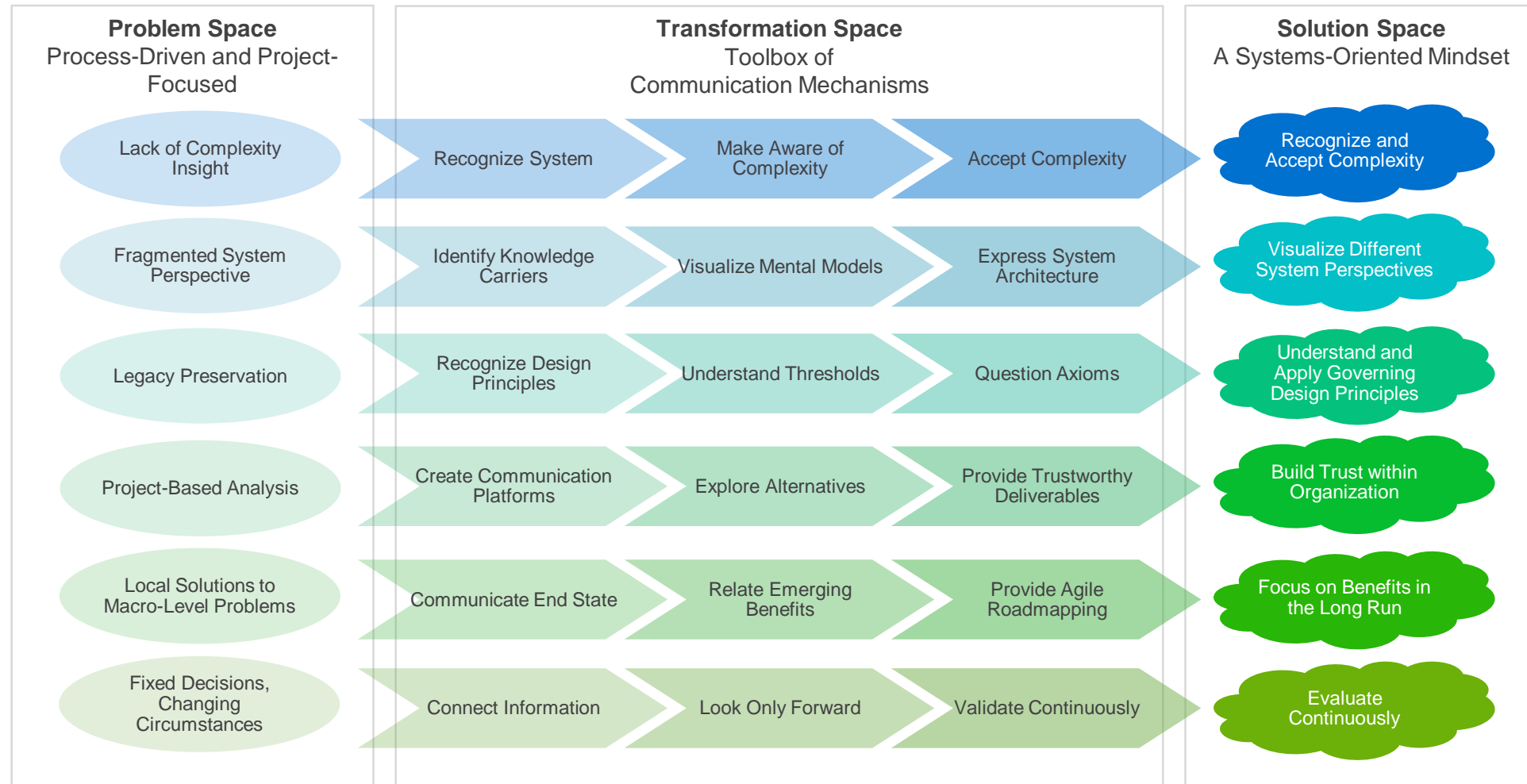Recognize and Accept Complexity

Evaluate Continuously

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Results – A toolbox of mechanisms

Problem Space
Process-Driven and Project-Focused

- Lack of Complexity Insight
- Fragmented System Perspective
- Legacy Preservation
- Project-Based Analysis
- Local Solutions to Macro-Level Problems
- Fixed Decisions, Changing Circumstances

Transformation Space
Toolbox of Communication Mechanisms

Recognize System	Make Aware of Complexity	Accept Complexity
Identify Knowledge Carriers	Visualize Mental Models	Express System Architecture
Recognize Design Principles	Understand Thresholds	Question Axioms
Create Communication Platforms	Explore Alternatives	Provide Trustworthy Deliverables
Communicate End State	Relate Emerging Benefits	Provide Agile Roadmapping
Connect Information	Look Only Forward	Validate Continuously

Solution Space
A Systems-Oriented Mindset

- Recognize and Accept Complexity
- Visualize Different System Perspectives
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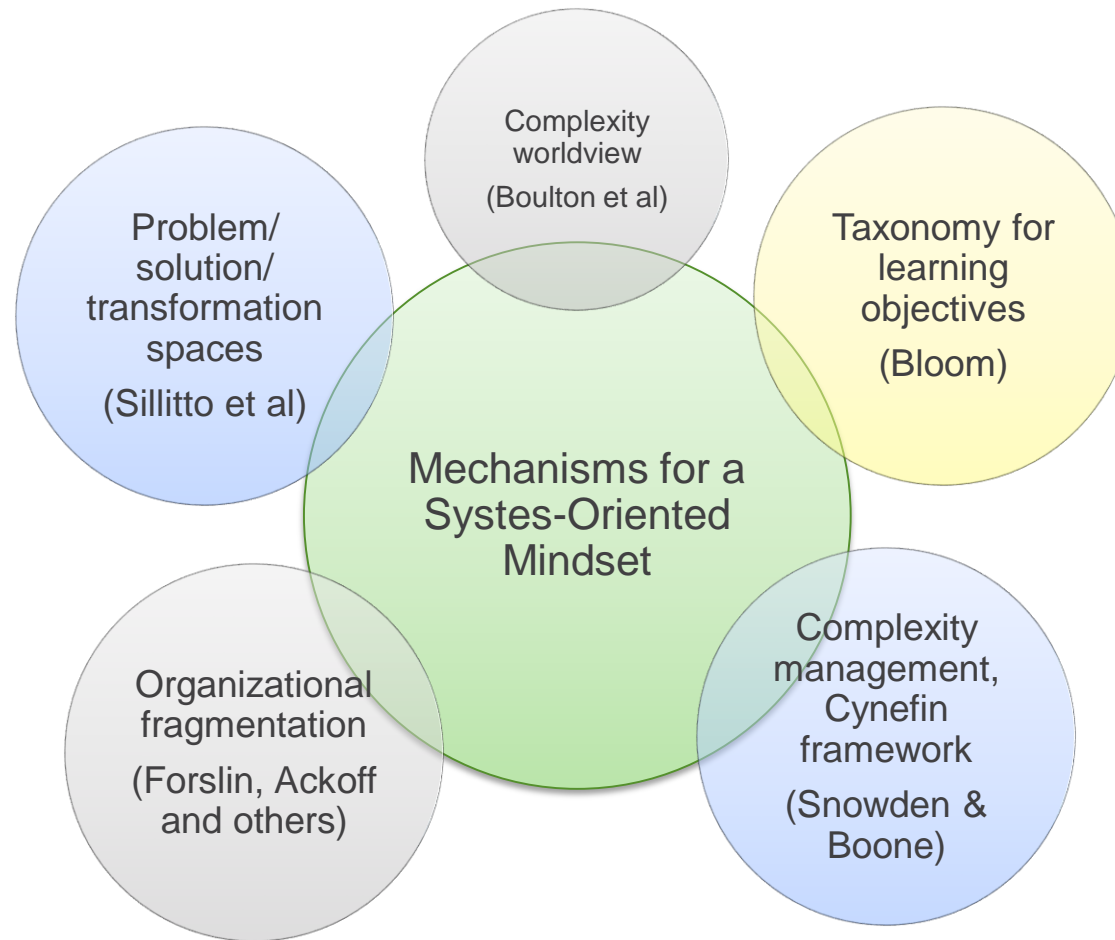- Evaluate Continuously

Validation of mechanisms

- Iterative validation, learning by doing
- Barriers to accepting complexity
- Impact of communication forum due to knowledge-based profile
- Showing the communicative benefits of views and visualization tools key to building trust and creating pull effects in the organization
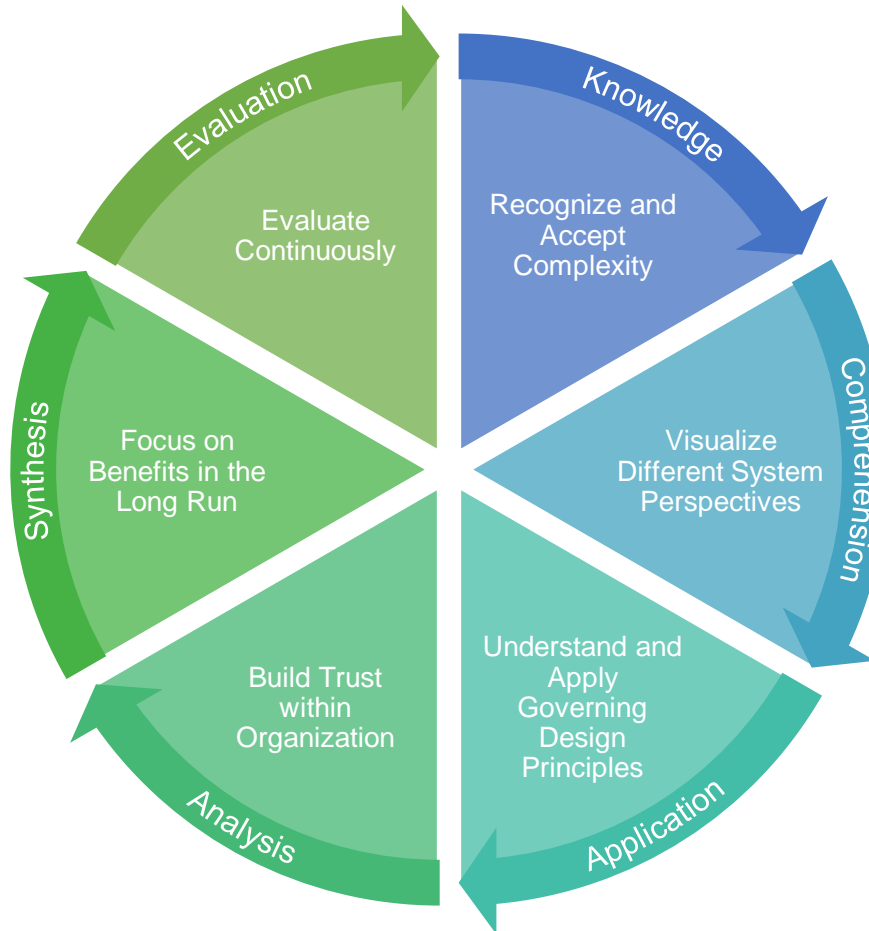
Application of related frameworks

Complexity worldview (Boulton et al)

Problem/ solution/ transformation spaces (Sillitto et al)

Taxonomy for learning objectives (Bloom)

Mechanisms for a Systes-Oriented Mindset

Organizational fragmentation (Forslin, Ackoff and others)

Complexity management, Cynefin framework (Snowden & Boone)

Mindset shift as organizational learning

- "The chosen alternative may have been right at the time, but is it still, knowing what we know now?"

- "How do deliverables, individually and as aggregates of change, contribute, or not, to overall system capabilities or objectives?"

- "What are valid and feasible design alternatives or scenarios?"

- "What is a complex system, and what does that say about its behavior and our ability to influence it?"

- "Why is the system complex, what interactions and dependencies give rise to the observed system effects?"

- "Why is the legacy system designed like it is, under what assumptions and constraints?"

- "Do the same principles apply today and in the current operational context?"

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Conclusions

- Observed learning effect on individual level
- Achieved pull effects, management and decision makers articulating a need for a systems perspective in the organization
- No clear learning effect on organizational level
- Difficult to draw any conclusions about the long-term effects on the organization's capabilities

Questions for further discussion

- From which end to implement systems thinking: top-down or bottom-up, or from both ends?

- Will a bottom-up approach like the one investigated only get you so far?

- To what extent is insightful management required to successfully transform an organization?

- Is there a tipping point, critical mass?

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