

Institutional design: critical transactions

Autumn school:

Concepts, frameworks and methods for the comparative analysis of water governance

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Economics of Infrastructures

Critical transactions

- Transactions that are essential to accommodate critical control mechanisms
- Systemic dimension:
 - Technical scope
 - Speed of adjustment
- Organization specific dimension
 - Degree of asset specificity
 - Degree of uncertainty
 - Strategic behavior
 - Need for powerful incentives

Modes of organization to support critical transactions

Scope of control Speed of adjustment	System <i>(requires directive intervention)</i>	Subsystem <i>(requires coordination)</i>	Component <i>(requires corroboration)</i>
T₀ Operational balancing <i>(requires supervision)</i>	Authoritative supervision [‘system operator’]	Collaborative supervision [‘system regulator’]	General framework conditions [‘system norms and standards’]
T₅ Capacity utilization <i>(requires monitoring)</i>	Compulsory monitoring and enforced adjustment	Mutual monitoring and stimulated adjustment	Self monitoring and voluntary adjustment
T₁₅ Capacity allocation <i>(requires facilitation)</i>	Controlled allocation mechanism	Guided allocation mechanism	Competitive allocation mechanism
T₅₀ System transformation and innovation <i>(requires planning)</i>	Directive planning	Indicative planning	Decentralized planning

Perspectives on institutional design

- Different infrastructures imply different critical transactions
- Different opportunities for sector restructuring depend on feasible modes of organization of critical transactions
- In order to guarantee reliable system services, modes of organization in a specific infrastructure need to constitute a coherent framework.

Perspective on infrastructure transformation

- Impact of information and communication technology
- New technological paradigms of distributed and intelligent networks
- System integration
- Social acceptance and acceptability
- Need to understand and analyze different dimensions of alignment