

State Capacity in Transformative Science Technology and Innovation Policies

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The new approach of innovation policy

- * Problem-/ grand challenges- oriented
- * Transformative
- * Holistic & multiple functions
- * Directional & mission-oriented
- * Inclusive & responsible
- * Responsive to needs
- * Open and accessible knowledge for solutions
- * The rise of new actors & diffused movements

Concrete implications of this new approach

- * STI policy is embedded within larger and more ambitious agendas: UN2030, Paris agreement, Lisbon agenda for inclusive, smart growth, etc.
- * STI policy is not only about knowledge creation but essentially system transformation
- * STI policy becomes more than ever cutting accross other policy areas

Implications (cont)

- * STI policy as state action is embedded in complex governance structures with important variation across socio-technical systems.
- * Nature of the problems and solutions are different: low-hanging-fruits, to more complex transformations.
- * STI policy has also to be seen as collective action: in some situations, it becomes highly dependent on co-creating and interacting with non-state actors
- * Multi-scalar and multi-temporal dimension of transformations.

Organizational perspective: governance nesting of new initiatives

- * Transformative innovation policy is unfolded through a series of instruments, goal-settings and operational initiatives.
- * All in all: more complexity for policy-makers in organizational terms.
- * The transformative goals have very high ambitions, putting pressure to organizations.
- * Some organizations, typically STI agencies, have been entrusted with new tasks. Or, new organisations are actually being created ex-novo to deal with these new tasks.
- * Generally: we should not underestimate the organizational implications of this policy change.

- * For example: the 4 Nordic countries – important differences:
- * The design of the GC instruments: quite different approaches
- * Responses anchored in different organizational set-up: large or small organizations isolated or centrally located
- * Political dimension is important: central executive support
- * Societal dimension too: articulation of urgency of problems

From funding to performing transformation

- * From funding, research, supply-side approach (partial, linear, inactive), towards a more holistic approach, many dimensions, demand-side.
- * Types of STI policies: diffusion/mission (Ergas traditional 1980s distinction), we could introduce a different one.
- * There is a lot of experimentation and trial-error:
- * YET, we are taking the first steps to understand: How to:
 - * Design grand challenge-oriented STI policies in effective policy mixes;
 - * Assess program and policy impact; and
 - * Set up processes and structures that secure the implementation of grand challenge solutions.

Need to start studying the agents of change, the organizations

- * Agents of change: who are they?
 - * Core STI policy: public STI agencies (generic or sector specialized)
 - * Broadly STI:
 - * Public sector organizations at different levels (municipalities, national agencies, IGOs)
 - * Hybrid organizations
 - * Firms
 - * Philanthropies
 - * Civil society organizations
- * Question: how change organizations, in particular public innovation agencies, unfold their capacities in pursue of fulfilling their mandates for transformative goals?

- * The current literature on organizations:
 - * Identifies a diverse typology of innovation agencies across countries (Ornston, Breznitz et al. 2018).
 - * Recognizes that innovation agencies operate in complex institutional contexts (Fuchs 2010).
- * The current literature on problem-solving policy making:
 - * Identifies different public administration capacities
 - * Identifies different types of problems
- * BUT: How are organizations mobilizing those capacities, and how are they nesting their activities in the governance setting?

The capacity of organizations

- * Agency of change at least 3 fundamental capacity dimensions:
 - * Analytical capacity
 - * Operational capacity
 - * Coordination capacity

Analytical capacity

- * internal knowledge: identify problems, monitor & gather data about processes, impact assessment, use that knowledge about policy internally, and
- * external knowledge: tapping into other sources of knowledge: science and/or organizational type of knowledge.

Operational capacity

- * to set-up mechanisms to deliver on strategies and agendas:
- * design instruments (adapting and changing them)
- * to implement and carry out activities, enforce decisions, deliver services/outputs, putting up specific units to do that
- * Experimental, internal organizational culture for delivering efficiently.

Coordination capacity

- * to interact with other public organizations, and political instances: horizontal coordination
- * Interact with stakeholders, with society and users at large: vertical coordination
- * Different formats: Sometimes might be competition, negative coordination, positive coordination, more strategic.
- * Coordination costs

Actor's resources

- * Political resources
- * Man-power resources
- * Economic resources
- * Time resources
- * Social credibility and legitimacy resources

Two research agendas

- * **Core STI policy: How the STI agencies are addressing the new tasks =>**
 - * cross-country comparison:
 - * whether capacities influence the way in which
 - * instrument policy mix,
 - * impact assessment,
 - * how to organize processes and structures to implement transformation.

- * **Broad transformative innovation agencies =>**
- * **Comparative analysis at different levels/agencies**
- * International level: IMO & UN agencies initiatives
- * Transnational hybrid organizations: PDPs in neglected diseases
- * National and or regional agencies: wind energy
- * City level: SDGs mobilizing new technologies in partnerships

A historical moment for EU-SPRI and our community

- * We need a conceptual alignment if we want to make a difference
 - * Clarity of concepts: streamline them, avoid problems of extension/intension
 - * Understand the multiple dimensions of our object of study: static & dynamic, multi-level, different socio-technical systems
 - * Theoretical anchorage in broader social theories of change: and understand STI policy and transformative innovation agents in it.

A historical moment for EU-SPRI and our community (cont)

- * We need to build up critical mass of empirical & comparative analysis:
 - * Cross-national, regional, local, but also international comparisons
 - * Comparisons of policy instruments features and design, of their deployment and implementation,
 - * Comparisons of agencies' capacities and performance
 - * Cross-sectoral comparisons: energy, health, mobility, etc

A historical moment for EU-SPRI and our community (cont)

- * Practical implications =>
- * More engagement with policy makers (national, local, regional, international) & stakeholders (civil society, philanthropies, business)
- * More engagement with other close-related associations and disciplines

Thank you!

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