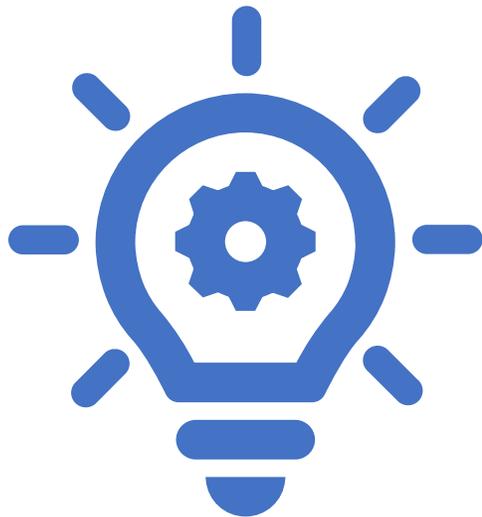


INSTITUTIONALIZING EXPERIMENTATION IN INNOVATION POLICY: **CHALLENGES AND SOLUTIONS IN UPSCALING**



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Experimentation in innovation and industrial policy

Where it comes from?

2

Two conceptualizations of policy making:

Version 1: The 'enlightened' policymaker with perfect foresight ('Philosopher King'/Plato)

Version 2: adaptive (Teubal, 2002), 'muddling through' (Lindblom, 1959), highly political (Zachary Taylor, 2016), but also learning and collective process (Teubal, 1996)

The exact nature of Industrial and Innovation (I&I) policy issues and how best to address them are unknown ex-ante

- **Government, as the policy principal, does not possess all the knowledge required for policy design and implementation**

- Implicit or explicit recognition of the **knowledge gaps** in the definition and implementation of I/I policy renders it an experimental activity rather than the implementation of a 'grand design' (Breznitz, 2021).
- A solution: **experimental governance**

'New industrial policy' as a response to deficiencies of conventional approach

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A solution: Experimental governance principles (Sabel and Zeitlin, 2011) (our reading)

1. Policy goals are established through **interaction** with affected stakeholders.
2. Stakeholders have a significant degree of **autonomy** to pursue different programmes or projects, ideally in the form of a **portfolio of projects**.
3. Project performance is monitored based on '**diagnostic monitoring**' (aimed at identifying potential unforeseen events and correcting them or transforming them into opportunities) rather than ex-post project-by-project evaluation.
4. **Goals, metrics, and decision-making procedures are reviewed** in light of new problems and possibilities.

Approach	Areas of application
Experimental governance (Sabel and Zeitlin, 2010, 2011)	Conceptualising the emergent EU approach (cf. Open method of coordination)
Smart specialisation Entrepreneurial Discovery Process (EDP) (Foray, 2015; Foray et al., 2012)	The foundation of the EU regional policy
Problem-Driven Iterative Adaptation (PDIA) (Andrews et al., 2012)	International development assistance (Harvard)
Experimentation- feedback – adaptation) (Crespi et al., 2014)	Latin America (Inter-American Development Bank response)
Directed improvisation (variation-selection-niche creation) (Ang, 2016)	China policy practice
Transformative innovation policy (TIP) (Schot and Steinmueller, 2018; Mazzucato, 2018a, b)	European conceptual response to climate and transformational challenges gradually going global

Source: Radosevic, Kanellou and Tsekouras)(2023) The experimentation-accountability trade-off in innovation and industrial policy: are learning networks the solution, Science and Public Policy, <https://doi.org/10.1093/scipol/scad013>

Approaches to the issue of experimentation in innovation/industrial policy

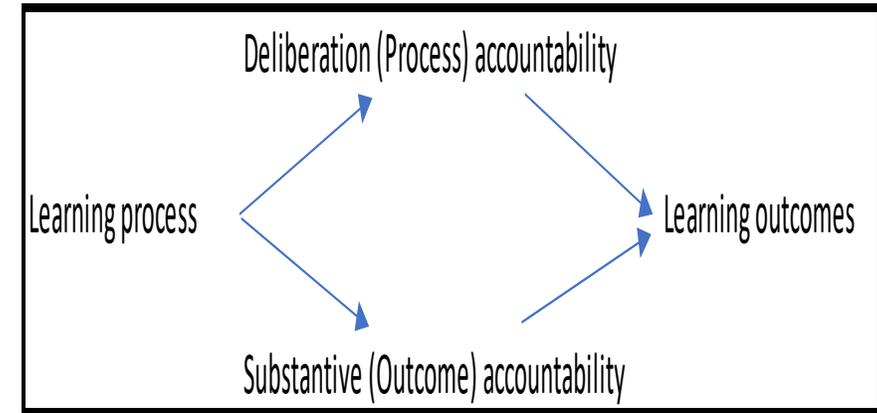
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Rhetoric vs reality
gap:
accountability and
institutionalisation
challenges

- A disconnect between the rhetoric which calls for a more experimental public sector, and the reality of a public sector compliance culture that is intolerant of mistakes and failure (Morgan, 2016)
- **Accountability**: how experimentation fits the context of an accountable Weberian public administration is ignored
- **Institutionalization**: not yet developed governance solution
- Cf. conceptualization runs ahead of practice

Accountability challenge: solution

- The collective or multi-stakeholder nature of I/I policy requires **network governance** as an accountability mechanism and learning and mutual adjustment mechanism > **Learning Networks**
- ‘**Deliberative**’ (**process accountability**): how a particular decision was delivered.
- ‘**Substantive**’ (**outcome**) **accountability**: the outcomes of decisions, i.e. whether they have led to the goals sought initially.



Source: Radosevic, Kanellou and Tsekouras)(2023) The experimentation-accountability trade-off in innovation and industrial policy: are learning networks the solution, *Science and Public Policy*, <https://doi.org/10.1093/scipol/scad013>

For application of this approach see case study diagnosis and solution:

S. Radosevic and T. Zoretic (2023) EU smart specialization policy between experimentation and accountability: the case study, forthcoming



Institutionalization challenge

- The lack of solutions for institutionalizing experimentation **beyond pilots**
- TIP literature, including JRC (2022) Playbook, does not provide a satisfactory solution to the governance challenge for complex transformative policies where **numerous actors are involved and** where, given the uncertainties involved, **experimentation seems inevitable**.
- The critical challenge: how to **couple experimentation, local knowledge, and flexibility that characterizes network governance with high-level coordination** (Block, 2016).

HOW TO SCALE-UP? Pilots and policy labs as two in-vogue approaches to experimentation

- **What is the question to answer with pilots and RCT?**
 - Is it 'what is possible or feasible' (mechanism experiment)?
 - 'What is appropriate' (exploratory experiments),
 - 'What can work better' (optimisation experiments)
 - 'What works' (evaluation experiments)(ibid).
- In innovation policy, RTC have advantages in testing **small-scale and simple solutions (optimisation experiments)** (cf. innovation vouchers) and much less in exploratory experiments.
- RCTs are **retrospective** > assume minimal changes across time and contexts.
- Program **implementation is regarded as an activity that does not provide new insights or lead to policy changes** (Warwick and Nolan, 2015).
- The standard view of RCT **understates the complexity of program implementation**, which is the primary source of learning and discovery (Hirschon and Birckmayer, 2006).
- A strict application of RCT would require **random allocation of public subsidy**, which may be considered an inefficient use of public investments or justified only in specific cases.
- RCTs **do not consider the government as a facilitator** to enable closer coordination among individual economic agents and allow for experimentation in the economy (Warwick, 2013).
- RCTs conceptualise interventions as occurring **in closed systems** and study the intervention as a static and mechanical cause aimed at preconceived effects in a simple linear model of cause-effect. ≠ TIP programmes:
- The broader the scope and outreach of the intended program (complexity), the more there will be factors that pilots cannot account for (**context dependency**), the lower pilots' learning value or relevance.



How can TIP programmes generate transformative change?

- **How to engage stakeholders:** proponents of mission - oriented and TIP policies advocate either (Ulmanen et al. (2022)):
 - top-down approach (mission-oriented) or
 - promote bottom-up, self-organised stakeholder involvement (transformative policy).

Top-down
vs.
Bottom-up

Each of the two solutions has problems in resolving at least some of the following **coordination challenges**:

- multi-level (EU - regions-national),
- horizontal (inter-ministerial),
- vertical (ministry-agency-firms and knowledge institutions),
- intersectoral (public-private)
- timing coordination!

Table 1: Trade-offs between two modes of governance of regional Transformative Innovation Policy

	Individual agencies/'Whole of government'/Top-down	Ecosystem-driven/bottom up
Objectives	Easier to agree on	Difficult to agree on
Autonomy	High autonomy, which may lead to higher flexibility	Potentially cumbersome network governance
Legitimacy and critical mass	Weaker as it is uncertain if regional stakeholders will 'buy in'	High provided that all stakeholders are involved and engaged
Accountability	Mainly vertical and easier to address in principle, though also possibly with greater 'capture risks' due to information asymmetries.	Challenging mutual accountabilities, but easier implemented in institutionally 'thick' regions
Upscaling and implementation challenges	Challenging in enlarging it beyond the government actors and agencies' mandates (limited policy reach)	Easier to upscale and implement in institutionally 'thick' regions (developed inter-organisational co-operation and institutional capacity)
Appropriateness	For mission-oriented programs	For transformative sociotechnical programs

Source: authors

How to engage in the process of transformative innovation policy and coordinate a variety of stakeholders

- *'The precise outcome of collaboration cannot be determined ex-ante, and therefore goals and methods have to be elaborated provisionally—step by step through experimentation across a wide range of opportunities, along with joint reviews of progress in which partners assess and come to rely on one another's capacities (Sabel and Victor (2022) p46).'*
- Still, it does make sense to articulate governance (what to govern), and methodological (how to govern) principles whose application to a specific region will always be context specific.

The HOW: learning from policy practice

Our approach:

- *Policy practice* has already generated relevant insights and lessons that could be used to implement transformative regional innovation policy, particularly PRIs:
 - **Advances country cases** (based on in depth analysis of Public Private Innovation Partnership programmes):
 - VINNVÄXT programme (Sweden)
 - Innovation Performance Contracts programme (Netherlands)
 - Innovation Networks programme (Denmark)
 - **Medium development level case:**
 - Smart Specialisation Strategy governance approach (Slovenia)

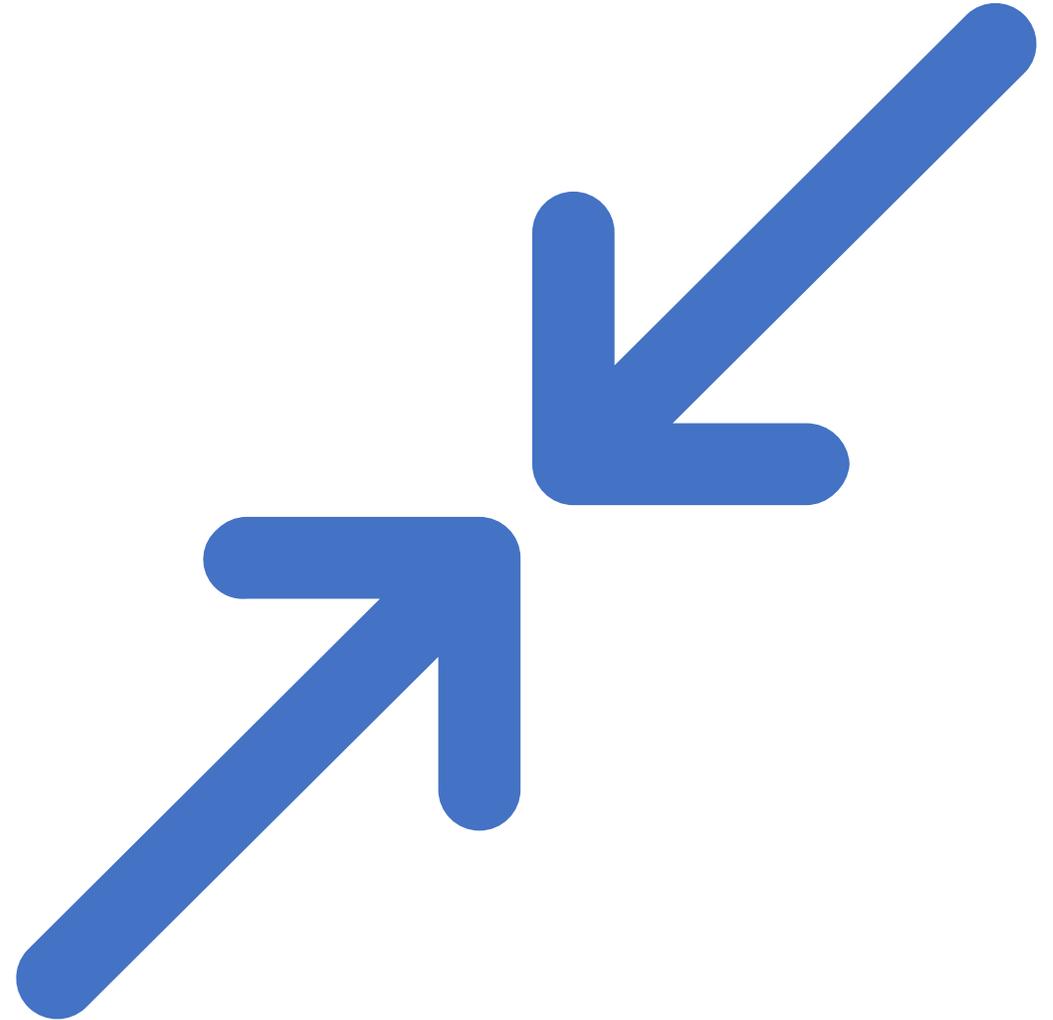
Elements of institutionalisation of PRI	Features of institutionalisation	Slovenian Strategic Research and Innovation Partnerships	VINNVÄXT programme (Sweden)	Innovation Performance Contracts (IPC) programme (Netherlands)	Innovation Networks programme (Denmark)
Facilitators	Through different institutional facilitators with continuous feedback loops with stakeholders throughout the planning and implementation phases	The S4 strategy has been designed jointly, between the government and stakeholders , from the start, with the definition of niches, at a more granular level, being transferred to SRIPs in the implementation phase (=continuous EDP).	A collaborative business platform with the integral participation of the regional industry	IPC as the facilitator of innovation activities of groups of SMEs that are related via value chain, sector, region or theme.	Via “ Innovation Networks ” based on a clearly defined professional or technological area defined by the network itself.
Forms of collaboration	Space for communication and interaction to explore new options and new solutions	Promotion and sourcing of new ideas have sprung from various forms of inter-stakeholder collaboration : within dedicated SRIP activities (e.g., joint discussions), but also from research programmes and projects, etc., thus creating positive feedback loops.	“ 4-Helix approach ” adopted to ensure that local problems and issues come into consideration for innovation support and development	IPC participants engage in individual and collective innovation projects . Joint projects enable participants to look into the internal processes of other companies, so they can learn from each other + meetings for all IPC companies to exchange their experiences	Innovation Networks offer a range of services with the aim of bridge-building and establishing meeting places, initiating partnership Projects, and facilitating Knowledge communication
Moderators (brokers)	Specific allowance of the funding programme for a broker to make connections and develop the relationship between different innovation actors	The government provided 50% of funding for the SRIP coordinators, with the rest coming from the business sector. SRIPs set up a group of coordinators focusing on specific areas of their engagement, which also acted as brokers.	The programme is a broker, enabling “idea donors” to connect with established enterprises and develop innovation projects.	Secretary (industry expert) fosters relationships between partners and supports them with implementing activities and the administration.	Individual networks act as midwives, forge permanent relationships and contacts between companies and researchers + Netmatch: a joint ‘industry organisation’ to develop a joint basis for the network services which innovation networks offer
Scope of moderation (brokerage)	Broker is assigned the role of facilitating connections between regional players and international actors and value chains	SRIP functions have been defined in rather broad terms, from RTDI and human resource development to internationalisation, especially internationalisation of R&D activities, of the business sector in particular, emphasising different functions to be agreed upon by stakeholders. In this process, the government also played a facilitating role.	Activities include advice and mentoring to develop the idea, funding to carry out pilot studies, and a special company, Soft Financing AB, to help enterprises to apply for public sector development funding.	Secretary guides in drafting innovation plans and provides administrative support during the implementation stage of an IPC project.	Assistance in: Bridge-building activities, Partnership projects, Knowledge communication
Tailoring of support	Tailored coaching and support to individual actors with the specific mission of upgrading the capabilities of individual companies	The need for such coaching and support to individual actors has been identified. However, support was not extensive enough, representing one of the missed opportunities at the time. This experience also demonstrates how important it is that support to intermediaries must be significant.	Coaching includes advice and mentoring to help SMEs develop the idea, bring it to market and help them connect to international value chains.	In the pre-IPC process: (i) information provision; (ii) conducting innovation study about innovation opportunities; and (iii) building a coalition, where the applicant organisation acts as a facilitator to bring together the IPC group. During the IPC: a combination of financial support to individual and collective innovation projects, network activities, consultancy and support from a secretary	Matchmaking activities to help individual companies or researchers to find suitable partners; Structured workshops for idea generation; Pre-projects; Consultancy and sparring to facilitate researchers' provision of consultancy to businesses; Facilitate business-to-business partnerships to work on specific challenges, issues or business opportunities.
Diagnostic monitoring (flexibility because of new insights)	Continuous data flow on strategic and operational aspects of the programme and between management and ongoing evaluation loops.	In best case examples, continuous collaboration among stakeholders at different levels resulted in thick interpersonal networks that started to ripe towards deeper trust relationships, a key for more ambitious and strategic behaviour. However, at the crucial stage of transitioning into strategic collaboration more extensively, the government started to retreat in its commitment, which seemed to halt further upgrade of SRIP operations (but has not meant a reduction of at the time existing activities either).	The programme supports promising innovation projects and pilot studies to facilitate innovation projects. Innovation projects are need-driven, with the needs of the local SMEs being the primary criterion for deciding whether to support them.	The scheme offers space and flexibility for SMEs to determine their innovation agenda.	A portfolio approach with many different networks complementing each other. The companies’ needs guide the process. All members have a voice, and the intermediary agent is established, respected and neutral.

In institutionally different but functionally similar ways, network-based programs are characterized by the following distinctive features:

- 1. Networks emerged driven by **institutionally different facilitators**, establishing feedback loops with stakeholders throughout programme activities' planning and implementation phases!
- 2. Facilitators have created **space for communication and interaction** to explore new options and solutions!
- 3. Facilitators (pro)actively engaged in **brokering activities**: the funding programme enables a broker to connect and develop the relationship between different innovation actors!
- 4. Brokers' scope of activities is **not confined to R&D** - they are also assigned to facilitate commercialisation, training and especially connections between regional players and international actors and value chains.
- 5. Networking programs have **matched support to individual needs**: the scope of support was specific to individual actors within the particular mission of upgrading the capabilities of respective companies!
- 6. A distinctive feature of successful networking programmes is **flexibility in all stages** in the light of new insights (specific form of diagnostic monitoring) learning!

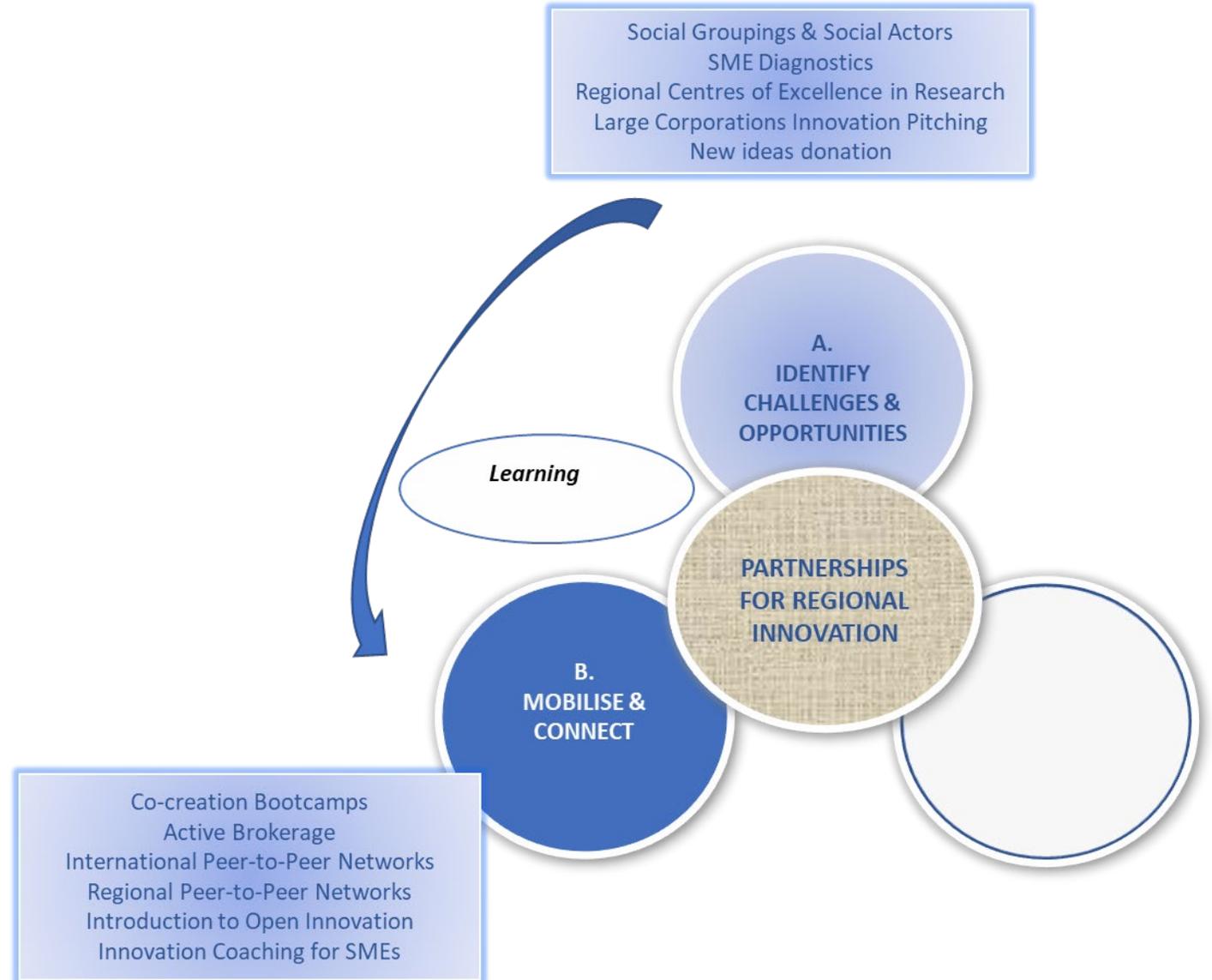
Key challenge which each of networks has (at least partly) solved:

- The bottom-line: to establish the institutional context **'in which an outcome will emerge from interaction among decision-makers, each of whom is in pursuit of solutions to his own problems'**, BUT who, at the same time, **commit towards the same goals and converge their actions in the same direction!**
- Lindblom (1990)



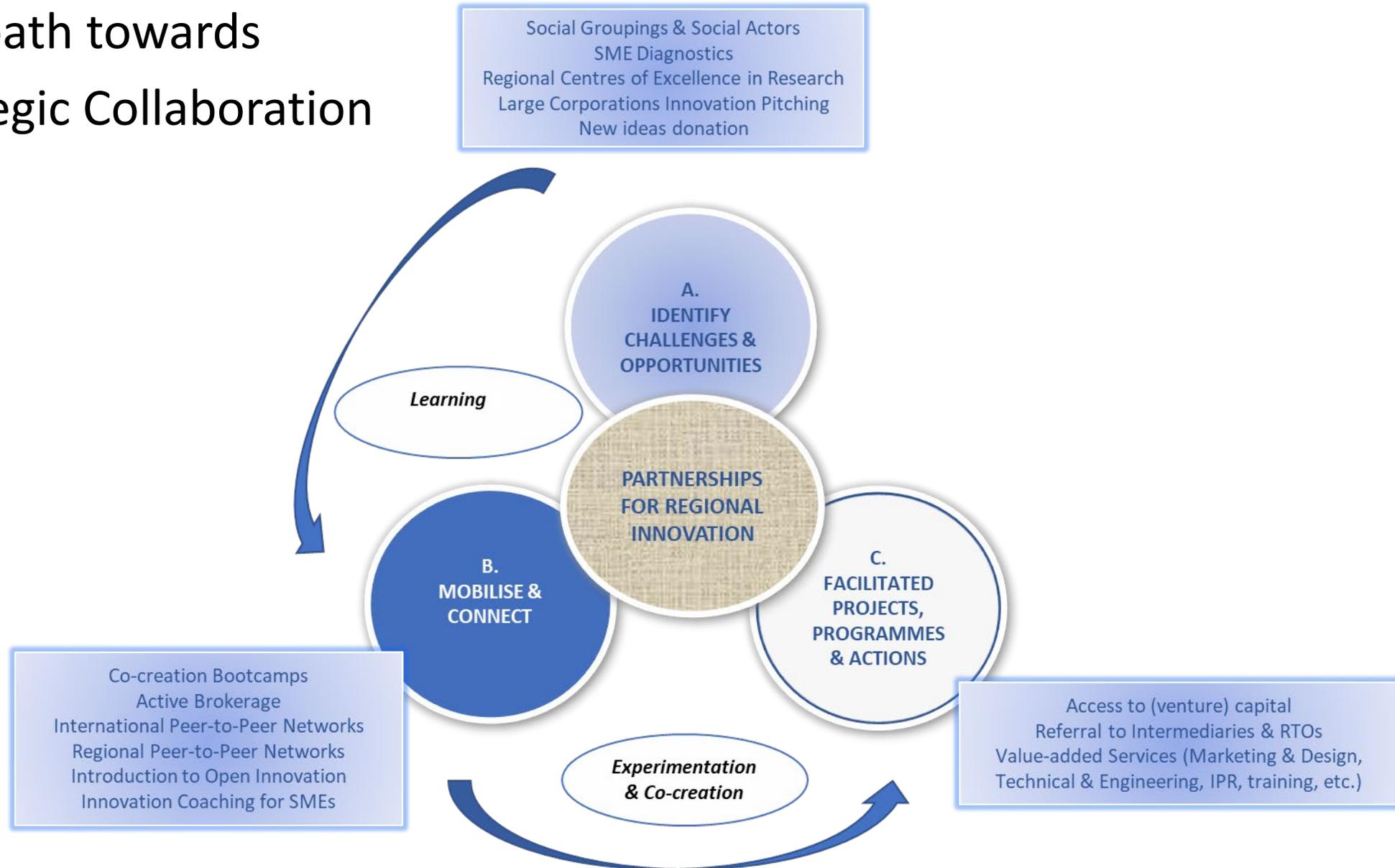
1. How to do it: Methodological foundations of PRIs

The path towards
Strategic Collaboration



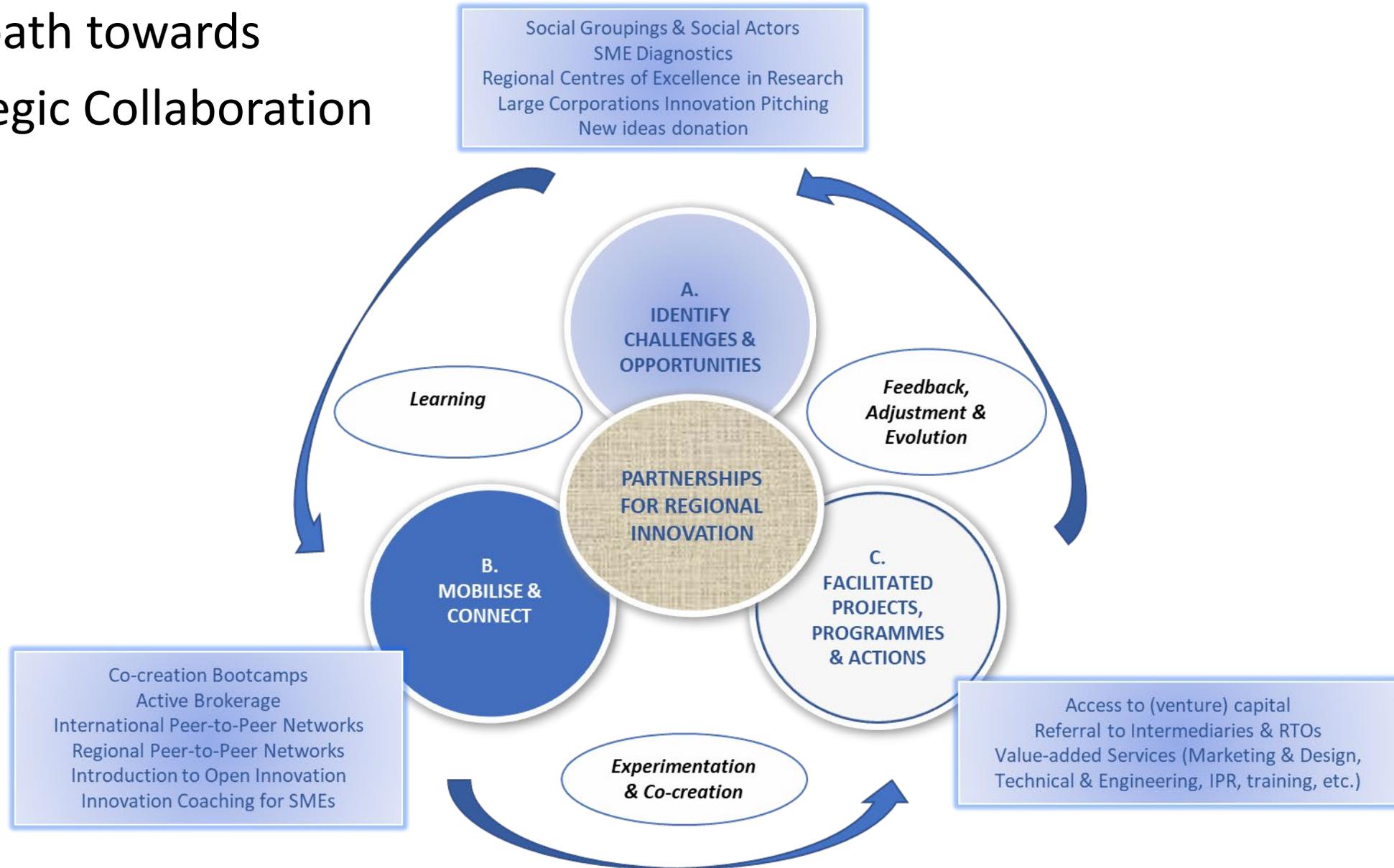
2. How to really do it: Methodological foundations of PRIs

The path towards Strategic Collaboration



3. How to do it: Methodological foundations of PRIs

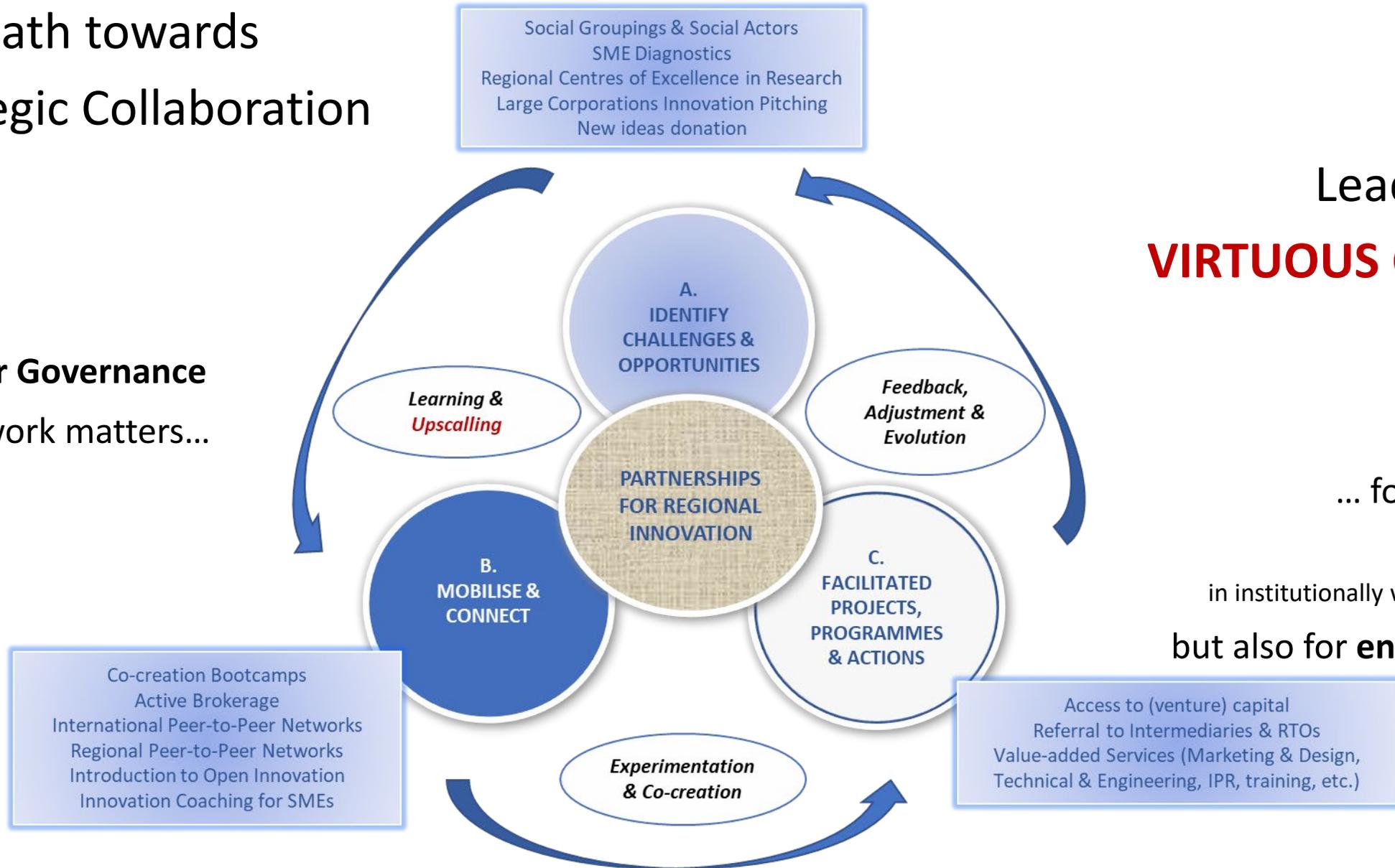
The path towards Strategic Collaboration



4. How to do it: Methodological foundations of PRIs

The path towards
Strategic Collaboration

Broader Governance
Framework matters...



Leading to
VIRTUOUS CYCLE!

... for **scaling**,
especially
in institutionally weaker areas,
but also for **enactment!**

Action Learning as the underlying mode of Work of PRIs

- Through action learning, individuals learn with and from each other by working on real problems and reflecting on their own experiences." (McGill and Beaty, 2021: 11)
- 'Action learning' is a 'highly situational' practice (Gifford, 2005:2).
- But PRIs / LNs should be set up as:
 - formal inter-stakeholder arrangements,
 - with explicit operational structure and business model!



Action Learning as the underlying mode of Work of PRIs (Learning Networks)

Transformation (of a region or a country):

- Requires addressing large set of complex and / or ill-defined problems and opportunities...
- ... for that experimentation with diverse coalitions is needed.

→ Co-creation and Strategic Collaboration!

Why are PRIs/LNs critical for the success of this process:

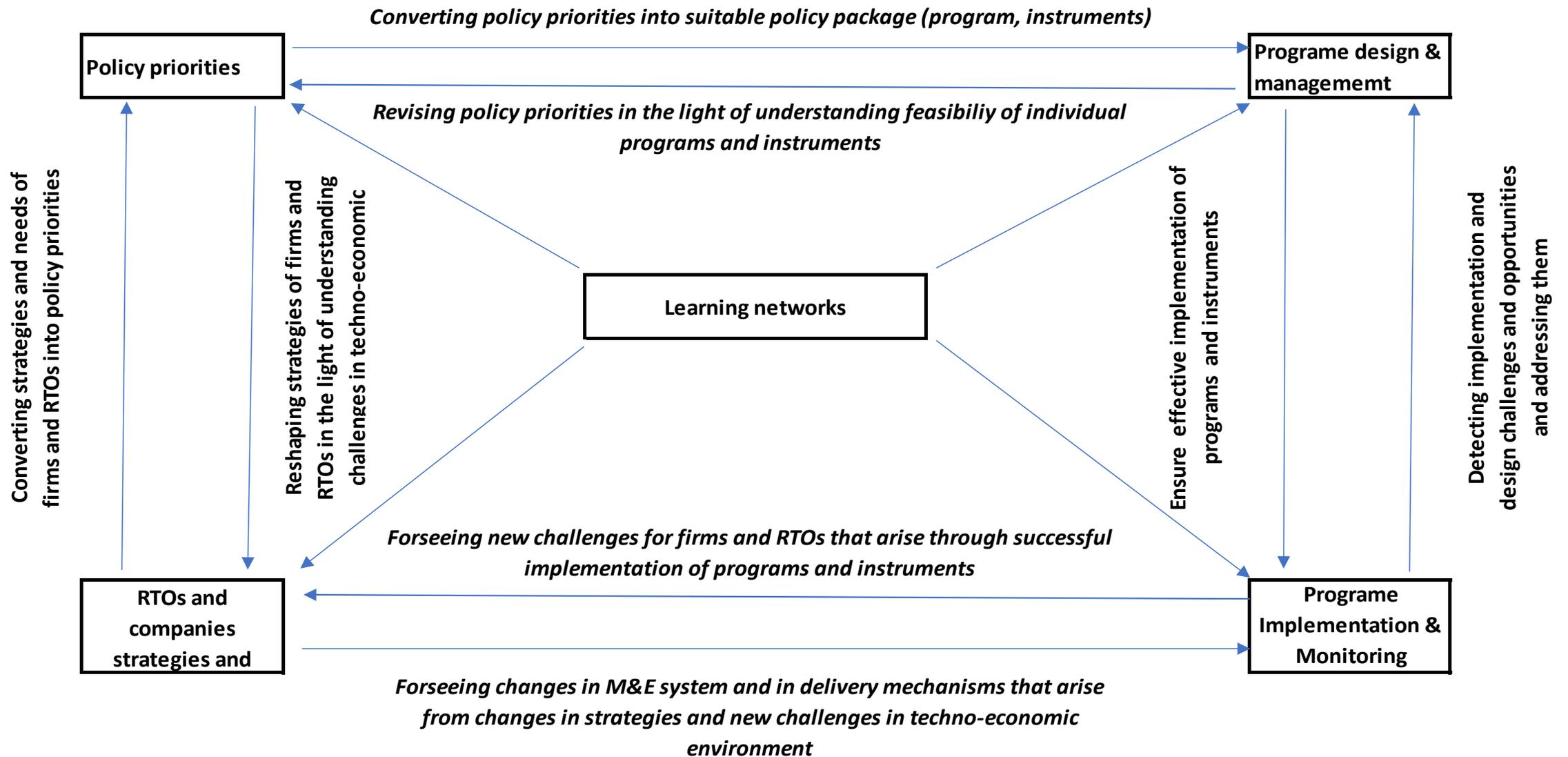
- They provide for facilitated interaction among a diversity of stakeholders and participants → **learning.**
- Successful implementation requires negotiation among topics and individuals and skilled balancing of different perspectives or interests → **common direction.**
- They enable synergies and new solutions, while having capacity to adapt previously agreed processes and procedures to emerging new problems which demand new solutions
→ **value creation, adaptation & upscaling.**

LN as governance mechanism

- LN are **NOT** networks that facilitate learning as a product of the policy process > this learning is the domain of conventional M&E activities, public sector innovation initiatives (Tonulist et al., 2017), or **policy learning exercises**.
- LN are inter-organisational arrangements established primarily to enhance network members' knowledge and capacity **to negotiate, act, reflect** on and **challenge each other's accountability criteria**.

LN

- **Include all stakeholders** in the I/I policy process, including SMEs, contributing as designers, implementers and beneficiaries
- Are **formal arrangements** with clear and well-defined thresholds for participation
- Have an explicit **operational structure** that includes regular processes and actions
- Have a **primary target** – specific learning/new knowledge about the experiential I/I policy implementation process enabled by the network, e.g. examining each other viewpoints and sharing expertise
- **Assess learning outcomes** which provide feedback on network operation (Tsekouras and Kanellou, 2018)



Learning Networks in the dynamic policy cycle

Conclusions & Policy Implications (1)

1. Pilots and policy labs as the mainstream institutional solutions to experimentation, at least in the context of the EU regional innovation policy, face serious challenges.
2. Transformative regional policies require complementary national or regional government-facilitated approaches complemented by bottom-up driven partnerships for regional innovation (PRIs).
3. PRIs should , within a formal context:
 - promote learning and mobilisation of diverse coalitions of stakeholders in a common direction
 - via facilitation, brokering, negotiations, promoting syneriges and finding new solutions,
 - in a constantly adapting context,
 - with chances of upscaling and enactment being improved when embedded in a broader ecosystem with (pro)active government.

Conclusions & Policy Implications (2)

4. The 'thicker' the initial institutional environment, the easier it is to introduce more advanced PRI functions.
5. Weaker institutional environments will require greater commitment due to lacking intermediary organisations, but also, e.g., with regard to ensuring accountability → thus, the weaker the institutional environment, the stronger the role for the government.
6. Stability (~ political cycles) is essential for building institutional capacities, relationships and trust and thus for putting in place **virtuous cycle of co-creation and strategic collaboration!**

== TRANSFORMATION of a REGION / COUNTRY!

Thank you

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