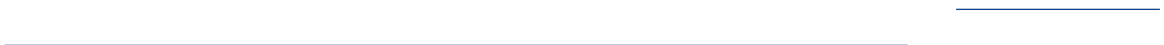




This report can be referenced as follows:



Abstract:

This paper explores the need, challenges and opportunities for STI research and practice to advance the cross-fertilization of innovation, governance and strategic public management studies. It argues that the effective implementation of emerging forms of STI policy – mission-oriented, transformative and Partnerships for Regional Innovation – relies on the ability of public managers to 'embed experimentalism' (EE) in their operating context. Based on a

1. Introduction

In the last decades, the role of the state in the economy has been brought back to the forefront of the research and policy debate. Evidence of state-led industrial transformation sparked interest in its ability to engage with private actors to advance innovation (O’Riain 2004; Block 2008; Mazzucato 2011). The rise of a global agenda centred on societal challenges – best exemplified by the Sustainable Development Goals (SDGs) – led to efforts to explore how the state can shape the direction, rather than just the quantity, of innovation (United Nations 2015). These trends fed into new forms of ‘contemporary’ science, technology and innovation policy (CSTIP) that find a proactive role for the state to act as purposeful change agent in societal transformations – for example transformative (Schot and Steinmueller 2018), mission-oriented (Kattel and Mazzucato 2018) and Partnerships for Regional Innovation policies (Pontikakis et al. 2022). Yet there is widespread confusion among researchers and practitioners about the effective abiliion (e i15 (t)-2.3 (i)8srs a.6 (b)-6.6 de.6 (5.1 (in(on ()13v7.1 r)v)-2.3 (i)-10.,4.5 (m)4.6 tion 5M5K6 a.2 (t; G)59 (1r)v et 0 8(8)30o -4.4 (a)-291.7 (h) o[(e)m3401(8)37.5 () n1 (ps f)6)1 (on a)-6.4.5.1 (s)6.3 5eps ffon 5M5K6c2.32 (t)

This paper aims to open avenues for research and practice to overcome key bottlenecks hampering ongoing attempts at tackling urgent societal challenges in two ways: i) by providing a holistic theory of change for CSTIP (cf. Ghosh et al. 2021; Larrue 2022; Haddad and Bergek 2023); and ii) deepening our understanding of the crucial, yet largely neglected, role of strategic public management and governance in shaping its implementation.

2. Literature review

In the introduction I presented the implementation challenge as the key driver of the gap between the research and practice of CSTIP. In this section I deepen the argument by locating the gap within the state-of-the-art literature on innovation, governance and strategic public management. To do so, I leverage a 'problematizing' rather than 'integrative' approach to existing scholarship (Alvesson and Sandberg 2020). The problematizing literature review follows four key principles: i) questioning assumptions, perspectives and vocabularies within existing streams of research; ii) reading broadly, but selectively (beyond disciplinary boundaries and looking for new links); iii) not accumulating, but problematizing (revealing assumptions behind the disciplines); and iv) developing new perspectives on the issue at hand. From this perspective, the literature review becomes itself a research tool to advance the analysis of a given societal phenomenon – CSTIP. As a result, I advance a hypothesis for each of the three fields covered in the review and thus, in the next section, articulate the foundation for the EE framework. The hypotheses are the following:

1. As policy strategy, crafting innovation commons (Potts 2019).
2. As governance strategy, crafting dynamic accountability (Sabel and Zeitlin 2012).
3. As management strategy, crafting strategic learning (Boin and Christensen 2008).

2.1 CSTI policy: crafting innovation commons

I define STI policy as the set of 'government policies aimed at fostering the use of the best science and technology to produce competitive "first- to-market" or new production processes' and 'organisational approaches and management practices' that support such effort (Martin 2016, 158). There are several forms of STI policy (Edler and Fagerberg 2017). Among their many differences, a key one lies in the intent to tackle different 'failures' arising from the inability of market processes to fulfil social welfare (Arrow 1962), accelerate innovation (Freeman 1987) or tackle societal challenges (Ergas 1987). In this context, CSTIP is characterised by a strong focus on 'transformational failures' that prevent the long-term reorientation of innovation systems towards politically desirable objectives – for example industrial decarbonisation. Weber and Rohracher (2012) identify four such failures: i) directionality (lack of shared vision for the direction and purpose of technological change); ii) demand articulation (lack of opportunities for understanding user needs and stimulating demand); iii) policy coordination (lack of multi-level, vertical and horizontal policy coordination); and iv) reflexivity (lack of opportunities to experiment, monitor and learn about policy outcomes). A non-exhaustive list of CSTIP addressing these include transformative innovation policy (TIP), mission-oriented innovation policy (MOIP) and Partnerships for Regional Innovation policy (PRIP) (see Table 1).

Velasco et al., forthcoming).

Despite evidence that CSTIP policy recommendations seem to converge, practitioners still struggle to implement it (Ulmanen et al. 2022; Rohracher et al. 2023; Larrue 2022). A first limitation lies in that CSTI policies are 'boundary objects', whose meaning varies across epistemic and policy communities (Janssen et al. 2023a). In MOIP, practitioners adopted institutional solutions that vary in objective, governance and policy mix (Chicot et al. 2018; Wanzenböck et al. 2020; Wittman et al. 2021; Larrue 2021; Janssen et al. 2023b). Such diversity reflects contextual institutional conditions in which any public policy is conceived. Yet without a clear definition of MOIP it also opens the road to 'mission-washing' (i.e. policies labelled MOIP, but largely unchanged) and thus jeopardises their assessment. A second limitation is the link between the intended means and ends of CSTIP. In TIP, the 'transformative outcomes' framework hints at 12 outcomes actors shall 'work towards' to address transformational failures and induce socio-technical transitions (Ghosh et al. 2021, 741). Yet it does not articulate how policy can tilt actors' incentives to induce the sought 'outcomes'. A clearer distinction between the impact of TIP on stakeholders' ability to 'work towards' transitions and the effect of their action on the 'transformative outcomes' may help improve the precision of TIP design and implementation.

To address the lack of a policy strategy in CSTI, I anchor its intervention logic in the theory of innovation commons proposed by Potts (2019) whereby commons-like rules of collective action enable actors' collaborative experimentation towards a shared goal. I hypothesise that rising forms of STI policy are based on a similar, yet somewhat implicit, view of innovation as a 'problem of collective action under uncertainty' (Potts 2019, 223). Building on Hayek, Williamson and Ostrom, Potts (2019) locates such problem in the ability of stakeholders to pool effectively decentralised innovation resources – for example tacit knowledge and production factors – to elucidate new opportunities for entrepreneurial discovery (Kirzner 1997). To do so, actors must develop mutual trust in each other by developing (formal or informal) rules of collective action regulating the access to said resources. By doing so, they give life to 'commons' that accelerate the discovery process in two ways: by helping actors manage uncertainty in market formation by knowledge and expectation alignment (Gomes et al. 2018; Boon et al. 2022; Gomes and Barros 2022); and by inducing social learning to unearth new opportunities (van Mierlo and Beers 2020).

From a policy perspective, the theory of innovation commons opens up to the possibility that PSOs may be able to steer the formation of innovation commons by persuading stakeholders to partake in collective experimentation towards a shared objective. In their analysis of experimentalism 'as a set of incentives', Sabel and Victor (2022) show how this can be achieved by imposing unfair benefits or sanctions based on stakeholders' decision to partake or withdraw from the experimentation process. As in the case of policy conditionalities (Mazzucato and Rodrik 2023), the aim is 'to break the grip of the status quo and encourage participation' in collective 'problem-solving when public interest requires it, but immediate self-interest does not' (67). Be it grounded in political or moral suasion, a threat of hard regulation, or a power asymmetry, the ultimate impact of such policy is to shape actors' incentives towards a form of collective action where collective problem-solving may take place, and the innovation process is oriented and accelerated, i.e. innovation commons.

Based on this account, I hypothesise that the goal of CSTIP is to accelerate market formation (and socio-technical transitions) by targeting the rules of collective action that underpin the formation of innovation commons. Such rules correspond to the seven design principles identified by Elinor Ostrom (2010) in her research on common pool resources: i) monitored use of information; ii) clear system boundaries; iii) proportional distribution of costs and benefits among stakeholders; iv) inclusive decision-making; v) autonomy of individual stakeholders; vi)

sanctioned rule violation; and vii) transparent means for conflict resolution. The ‘crafting’ of ‘innovation commons’ thus constitutes the first hypothesis underpinning the EE framework.

H1. CSTI policy aims to address societal challenges by reshaping the rules of collective action followed by PSOs’ partners to forge innovation commons (Potts 2019).

2.2 CSTI governance: crafting dynamic accountability

The previous subsection identified a policy strategy for CSTI. Building on it, this subsection goes one step further by exploring the governance mechanisms that underpin its design and implementation. I define governance as the set of formal or informal institutions by which public, private and societal stakeholders target collective goals (Peters 2022). Within CSTIP, governance concerns the ‘process in which policy instruments are designed and executed through the interactive efforts of state and societal actors’ (Zhang 2022, 304). Lately, STI governance has been explored in innovation systems research (Hillman et al. 2011), science and technology (Borrás and Edler 2020), and social network studies (Whetsell et al. 2020). Yet only a few studies have formulated hypotheses on the governance underpinnings of CSTIP. I review two strands in this literature: functional design and organisational design. The functional design literature focuses on the tasks deemed key to successful CSTIP implementation. The organisational design literature complements the functional one by focusing on the design of the PSOs in charge of innovation processes and also innovation bureaucracies (IBs).

Table 2. Contemporary strands of CSTI governance literature

CSTI policy	Roots	Rationale	Recommendations
<p>Functional design</p>			

<p>Organisational design</p>	<p>Neo-developmental state: Weber I IBs (for example Johnson 1982; Evans 1995); Weber II IBs – including ‘systemic innovation intermediaries’ (Kivimaa et al. 2019), ‘Schumpeterian developmental agencies’ (Breznitz et al. 2018) or ‘Neo-Weberian agencies’ (Kattel, Drechsler and Karo 2022)</p>	<p>Weber II IBs (‘agile networks’) are better placed than Weber I IBs (‘centrally governed organisations’) to lead experimental policy processes as they sit ‘below the radar’ of politics. On the other hand, Weber I IBs enjoy greater legitimacy and the ability to bring policies at the core of a political agenda (Breznitz and Ornston 2018)</p>	<p>Effective IBs are defined by agile stability – namely, the combination of Weber-I ‘long-term policy and implementation capacities’ and Weber-II ‘dynamic exploration and learning capabilities’ (Kattel et al. 2022, 53). The authors speculate on the rise of ‘Neo-Weberian agencies’ (Weber III) capable of achieving ‘agile stability’ as key to PSOs’ ability to implement CSTIP</p>
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Source: Author’s elaboration

As found in the synthetic review by Braams et al. (2021), the functional design literature identifies five key ‘transition tasks’ underpinning CSTI governance: i) ‘giving direction’ to generation and diffusion of innovation; ii) ‘create governance’ to involve stakeholders in the transition process; iii) ‘support the new’ by funding and aiding emerging socio-technical niches; iv) ‘destabilize the unsustainable’ by phasing out incumbent regimes; and v) ‘develop internal capabilities and structures’ to facilitate the execution of such tasks. Conversely, the organisational design literature fails to identify in a clearcut fashion how government could structure those functions into a distinctive governance architecture. Kattel, Drechsler and Karo (2022) argue that effective IBs are defined by the paradoxical combination of ‘agile stability’, i.e. the combination of ‘long-term policy and implementation capacities’ available to ministerial bureaucracies and ‘dynamic exploration and learning capabilities’ available to small and independent agencies (53). However, they provide no indication of how such architecture may actually be designed, nor how it should operate in practice.

In the literature, there is a growing consensus that the problem may lie in the trade-off between the demand for accountability made to PSOs (at least those that are politically salient) and the experimental nature of CSTIP (cf. Braams et al. 2022, Radošević et al. 2023). Radošević et al. (2023) review existing solutions to the trade-off and conclude that ‘in conditions of conventional public administration, we do not (yet) have an organisational solution to facilitate the development of public policies’ (8). As such, they propose the establishment of ‘learning networks’ as communities of practice convened by a ‘network moderator’ and ‘group facilitators’ to engage all CSTIP actors in a regular assessment of outcomes from experimentation (9-10). I argue that their solution, which is theoretically convincing, is a limited example of a broader governance architecture called experimentalist governance (XG).

XG is defined as a ‘recursive process of provisional goal setting and revision based on learning’ (Sabel and Zeitlin 2012, 169-170). The conceptualisation of XG is rooted in the analysis of a large sample of empirical cases that differ in policy domain, geographical scale and institutional context (Rangoni 2022), but share a condition of strategic uncertainty where ‘neither the official decision-maker nor actors know how to achieve their goals’ (Rangoni 2019, 68-69). This condition reflects that of CSTIP, the purpose of which is, by definition, defined by political, organisational and epistemic uncertainty (Wanzenböck et al. 2020). As uncertainty begs for experimentation, XG solves the ensuing trade-off by creating ‘dynamic accountability’, i.e. accountability for the production, diffusion and uptake of learning emerging

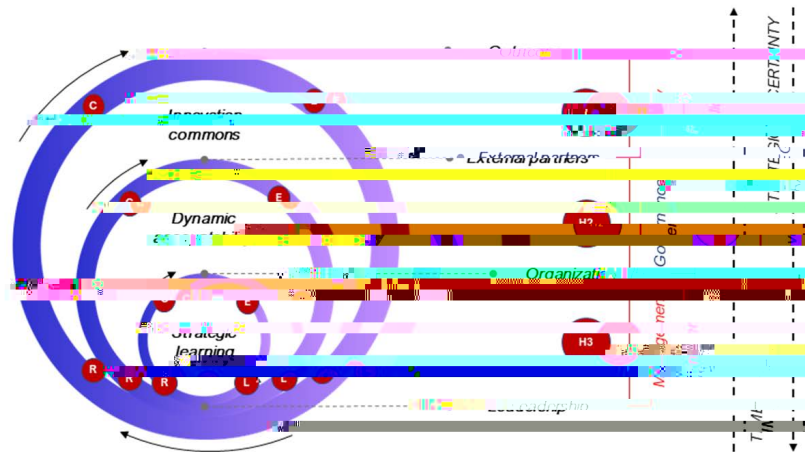
analytical capacity to finetune policy design. Organisational asks for operational capacity to steer administrative resources and legitimacy requires political capacity to secure politico-administrative coordination in often-unstable environments (Bouckaert 2022). Kattel and

3. Analytical framework and case selection

embedding the new results of the mission within its governance (Sabel and Zeitlin 2012).

- Policy can forge innovation commons by helping stakeholders (C3) define system boundaries for mutual interaction; (E3) support decentralised experimentation; (L3) monitor the use of information; and (R3) resolve emerging conflicts in transparent ways (Potts 2019).

Figure 1. Embedded experimentalism framework



Source: Author's elaboration

To be clear, this linear exposition of the experimentalist argument is artificial; in reality, processes underlying the hypotheses occur concurrently within the PSO (H3), in interactions with partners (H2), or externally (H1) concur in parallel. These processes can reinforce or undermine each other, prompting new hypotheses on policy implementation. Weak CSTIP micro-foundations may hinder their execution. For example, without a management strategy grounded in strategic learning, PSOs may struggle to hold partners accountable for experimentation outcomes; or without dynamic accountability, governance may fail to incentivise resource pooling. Equally, external policy challenges faced in CSTIP implementation could yield important learning opportunities for managers to enhance CSTIP over time, or, if overlooked, lead to disillusionment (Larrue 2022; Janssen et al. 2023b). Overall, EE suggests that CSTIP success may hinge on PSOs' leadership and their ability to 'activate' their organisations towards the embedding of experimentalism as a 'form of deliberation, organisational structure and set of incentives'. Although research is nascent, this hypothesis underscores EE's heuristic value for CSTIP research and practice, serving as a benchmark for real-world experiences.

To my knowledge, the EE framework is the first fully fledged 'theory of change' in the current debate to cover the entire policy process and be based on solid theoretical and empirical research. Ghosh et al. (2021) provide a conceptualisation of the socio-technical dynamics underpinning TIP, but do not account for governance and management. Larrue (2022) covers the whole policy process by identifying outputs, outcomes and impact of MOIP, but does not explore the conditions in which each level feeds into the other, i.e. EE's hypotheses. Haddad and Bergek (2022) elaborate a methodology to evaluate TIP, but do not propose a theory of change: rather, they suggest that such theory should be identified by the policymaker and the researcher

at the onset.¹ Relative to this proposal, EE articulates a theory of change specific enough to help the empirical assessment of CSTIP, and general enough to capture diverse policy mixes, governance structures and competing theories in the current debate.

In this respect, an important caveat of the EE framework concerns its utilisation. In the social sciences, frameworks are developed to 'provide a metatheoretical language to enable scholars to discuss any particular theory' and theories 'specify which parts of the framework are useful to explain outcomes and how they relate' (Ostrom 2010, 646). In line with this understanding, the EE framework does not aim to contest or substitute current theories of CSTI policy, governance and management. Rather, it aims to provide them with a common language against

4.Pre-study: three illustrations of STI policy

4.1 The US: DARPA's embedded network governance

The first illustration is US' Defence Advanced Research Projects Agency (DARPA). This case has been extensively researched in the CSTI debate to affirm the persistence in the neoliberal era of a 'hidden developmental state' in the US (Block 2008) and the role of the 'entrepreneurial state' in 'shaping rather than fixing markets' (Mazzucato 2011). However, the debate has often missed out on the rationale that made DARPA's operations particularly successful in this context. An exception is the study by Fuchs (2010), which interprets them as a form of 'embedded network governance' where programme managers 'rearchitect social networks among researchers so to identify and influence new technology di7 (h)5.6 (T (c)-15 (t s)4.2 (o)-4.2 8)6.6 (s)12.2

technology (Fuchs 2010). As shown in neo-developmental state literature (Block 2008; Block and Keller 2011), this is reflected into a policy rationale that helps actors navigate market uncertainty by 'opening new windows' (C3); setting boundaries to experimentation through 'targeted resourcing' (E3); stimulating the formation of interdependencies among stakeholders

organisational patterns, policy mixes and stakeholders to be targeted (e.g. start-ups, firms or universities) (E2). Frequent central-local communication was enabled by several mechanisms for horizontal and vertical learning, including liaison officers, national associations and joint conferences of High-Technology Zones directors (L2). Taking stock of the emerging outcomes (including substantive departures from the programme's original objectives), central government redefined its priorities several times to streamline policy dissemination 'from points to surface' (R2).

As highlighted by Heilmann et al. (2013), 'the mission drift observed in many [Zones] resulted from the discovery of tangible economic potential [...] that had not been recognized by national policy-makers beforehand' (915). In particular, the Torch Programme's High-Technology Zones produced a disproportionately strong contribution to the rise in Chinese exports of technology-intensive products (from 2% in 1995 to 16.7% in 2009 over total exports) relative to its costs for central government. While its results in promoting 'indigenous innovation' have been comparatively limited, the Torch Programme succeeded in identifying net7d ier..1 (n)1.91 (n)1.9 (d)4.6(Cn t)-00r

As mentioned before, the premise of the RIS3 approach is a public governance strategy that aims to boost 'entrepreneurial coordination within a framework structured by the government' – hence in a way that is 'neither purely bottom-up [...] nor totally top-down' (Foray 2018, 828). From this perspective, most of the six-step process that underpins the bulk of the S3 approach reflects experimentalist mechanisms, including the 'production of a shared vision on the future of the region' (C2); the 'establishment of suitable policy mixes' for multi-stakeholder experimentation (E2); the 'integration of monitoring and evaluation mechanisms' during the strategy implementation process (L2); and the 'selection of a limited number of priorities' against which to revise emerging results halfway and at the end of each strategy period (R2) (Foray et al. 2012).

Scholars have interpreted the impact of the RIS3 approach on place-based structural transformation in diverging ways. At its best, RIS3's conditionality has been able to provide an 'external induced shock that shaped "exogenously" the policy learning process' (C1) even in those regions where there has been 'more experimentation of tentative models' of EDP 'than consolidation of a permanent discovery routine' (E3) (Bellini et al. 2021, 424). At its worst, it has failed to translate into policy measures that reflect the intended priorities, with 'tangible signs that regions [may] have put in place mechanisms that can circumvent the very rationale' of RIS3 (Gianelle et al. 2020). In this respect, the cases that seem most successful are those that highlight the regional government's ability to nurture effective 'policy network learning' among its external partners (L3) and build on their contribution to adapt the strategy accordingly (R3) (Moodysson et al. 2017).

5. Summary and discussion: varieties of (embedded?) experimentalism

The pre-study of these three STI policy schemes demonstrates how experimentalism has been adopted in different institutional environments. At the same time, it also shows that such attempts have met with various degrees of success in terms of embedding them within such environments (see Table 4).

- The DARPA case is the quintessential success story of CSTIP, showing all the three dynamics highlighted by the EE framework: i) strategic learning takes place among DARPA directors and programme managers; ii) dynamic accountability is ensured by active portfolio management and stage-gating of funding for external partners; and iii) innovation commons emerge as a result of the set of incentives thus generated – as in the SEMATECH case.
- The Torch Programme provides a successful, yet relatively mixed, picture: i) strategic learning happens through continuous feedback loops between the central and local level of the Chinese bureaucracy; ii) dynamic accountability is ensured by strong career and economic incentives, albeit there is a weaker connection to learning than in the DARPA case; and iii) innovation commons fail to emerge as a new, more relevant strategic purpose for the programme emerges.
- Lastly, the RIS3 case highlights best the challenges of embedding experimentalism at scale: i) strategic learning among EU regions and between regions and the Commission is only weakly ensured by the voluntary nature of the participation in the community of practice; ii) dynamic accountability is in principle ensured by the funding conditionality, but – as noted – limited by the disconnection to effective learning mechanisms; and iii) as such, whether innovation commons emerge or not may depend on each region's commitment to experimentalism.

Table 4. Comparative assessment of embedded experimentalism

Experimentalism	(US) DARPA	(CH) Torch	(EU) RIS3
Strategic learning	Strong	Strong	Weak
Dynamic accountability	Strong	Medium	Weak
Innovation commons	Strong	Weak	Weak

Source: Author's elaboration based on the previous section's empirical analysis

The pre-study also demonstrates the theoretical and analytical value of the EE framework in at least three ways: first, by identifying the distinctive nature of each case's micro-foundations; second, by enabling their comparative review; and third, by illuminating their distinctive strengths and weaknesses towards producing embeddedness. This section briefly reviews each of these (see Table 5).

First, the EE framework identifies the micro-foundations of STI policy, i.e. how policy is grounded in governance arrangements and governance arrangements are reflected in management approaches. The US illustration highlights the role of DARPA directors in deliberately nurturing and steering the dynamic capabilities of the organisation, including in the composition of its personnel (i.e. a cadre of technology experts), decision-making processes (i.e. changing forms of technology road mapping and stage-gating) and policy tools (i.e. new forms of public procurement). The China illustration shows how the Torch programme would likely not have achieved its successes without drawing upon well-consolidated institutions at both governance (i.e. 'from points to surface') and management level (i.e. the cadre evaluation systems). Finally, the EU illustration underlines how the effectiveness of the RIS3 approach is ultimately dependent on its own ability to trigger governance change at the regional level, be it via the situational reliance of each region on multiple forms of policy support (i.e. RIS3 guidance) or peer learning (i.e. community of practice).

Second, the EE framework enables a comparative review of STI policy that highlights how the same policy, governance and management functions can be performed in different ways in different political, economic and geographical contexts. As a result, it also allows for the identification of 'varieties of experimentalism' that share a similar rationale, despite very different institutional characteristics. The US illustration highlights a form of 'administrative' experimentalism led by a technocracy relatively siloed from the political debate and targeting technological objectives. The China illustration identifies a form of 'political' experimentalism prompted and seized on by the state's central executive branch to attain transformative goals. Finally, the EU illustration shows a form of 'politico-administrative' experimentalism, the implementation of which is negotiated among multiple actors (experts, civil servants, policymakers) at local and continental level, and varying degrees of political visibility.

Third, the EE framework illuminates the strengths and weaknesses of each instance of experimentalism relative to its objectives. In this respect, a core mediating factor seems to be not the distinctive variety of experimentalism, as much as the degree of embeddedness presented by each variety. In the US, the ability of DARPA's approach to continuously achieve outstanding results is connected to the ability of its management to balance out continuous adaptation to new priorities with preservation of policy and governance institutions (Bonvillian 2018). In China, the Torch Programme has both met difficulties in advancing indigenous innovation and been caught under the pressure of growing 'political and legal constraints' that narrowed its relevance (Heilmann 2008a; Ang 2016). In the EU, the quality of the RIS3s varied from region to region, thus leading to key questions about its ability to prompt the embedding of a new governance approach to economic development at the regional level.

Table 5. Comparative analysis of embedded experimentalism

Experimentalism	(US) DARPA	(CH) Torch	(EU) RIS3
Micro-foundations	Organisational	Institutional	Situational
Contextualisation	Administrative	Political	Politico-administrative
Embeddedness	High	Varying	Weak

Source: Author's elaboration based on the previous section's empirical analysis

It is important to express caution in that this discussion is grounded in a pre-study based on existing work. A fully fledged comparative case study analysis is needed to qualify both the EE framework and its three hypotheses. At the same time, the scope of the pre-study yields at least three provocations.

- The theoretical provocation lies in the implications of democracy for CSTIP implementation. As seen earlier (Breznitz and Ornston 2018), the greater need for accountability imposed by democracy seems to tighten the trade-off identified by Radosevic et al. (2023) relative to technocratic (DARPA) or autocratic (China) institutions.
- The empirical provocation concerns the relative irrelevance of scale for successful CSTIP implementation. DARPA and China provide examples of EE addressing strategic uncertainty at both micro- and macro-scale. The main weakness of the RIS3 approach seems to lie in the lack of routines and mechanisms to help regions nurture their DCs, rather than width.²
- Last, the policy provocation concerns the dynamics through which innovation can emerge in a PSO. While the earlier points may seem to cast a shadow on the prospects for EE in liberal-democratic PSOs, there are cases showing how such bureaucracies have been transformed to cope with uncertainty across policy domain and administration tradition (Rangoni 2022; Sabel and Victor 2022). While these dynamics are always in the end a combination of deliberate and emergent dynamics (Mintzberg and Waters 1985; Sabel 1995), the EE framework aims to help practitioners navigate the variables and interdependencies behind such dynamics.

Rather than imposing a blueprint, the EE acknowledges the role of individual and collective agency in experimenting and ‘tilting’ the norms, resources and routines available in a given context as the main way by which new institutional solutions can be advanced (Sewell 1992; Carstensen et al. 2022).

² This insight is critical in the context of today’s EU innovation policy, which includes programmes with a strong translocal dimension in several ongoing programmes of EU Horizon 2020 (see Kok et al. 2022), as well as in the five so-called Horizon Europe ‘missions’, for example ‘100 Climate Neutral and Smart Cities Mission’ (see Shabb et al. 2022).



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