INTRODUCTION

Policy innovation lab scholarship: past, present, and the future – Introduction to the special issue on policy innovation labs

Adam M. Wellstead\(^a\), Anat Gofen\(^b\) and Angie Carter\(^a\)

\(^a\)Department of Social Sciences, Michigan Technological University, Houghton, United States; \(^b\)Fenderman School of Public Policy, Hebrew University, Jerusalem, Israel

ABSTRACT

The past decade has seen a rapid rise in the number of policy innovation labs (PILs). PILs that are found both inside and outside of government address a wide range of social issues. Many PILs share a few distinct common characteristics: a commitment to the design-thinking methodology, a focus on applying experimental approaches to testing and measuring the efficacy of comprehensive public policy and intervention program prototypes, and the use of user-centric techniques to stakeholders in the design process. In this introduction to the special issue on PILs, we begin by taking stock of the policy lab literature published to date by providing an overview of 70 related publications (peer review articles, book chapters, theses, reports, and catalogs) and the extent that they engage the policy literature. This review demonstrates the underexplored practitioner perspective, which serves as the theme for this special issue. Next, the six articles that comprise this special issue are introduced. They are written from a practitioner perspective and include contributions from Brazil, Canada, Finland, and the United Kingdom. Finally, suggestions for future research are highlighted, including the role of PILs in policy work, PILs as street-level policy entrepreneurship settings, and the need for more rigorous inferential methods.

1. Introduction

In scarcely a decade, a “labification” phenomenon have taken hold on a global scale, whereby the search for innovative policy solutions for social problems is embedded within scientific experimental-like structures. Policy labs, also referred to as policy innovation labs (PILs), have been steadily growing and can be found with government agencies, universities, or not-for-profit organizations. Each seeks to address a pressing social or economic issue. In global terms, most PILs have been established since 2011,
and their rapid growth has led to claims that they “are on the path to becoming a pervasive part of the social infrastructure of modern public organizations’ (Carstensen and Bason 2012, 5). Policy labs are also referred to as “public innovation labs,” “public sector innovation labs,” “government innovation labs,” “organizational innovation labs,” “policy innovation labs,” “innovation labs,” “public policy labs,” “social innovation labs,” “systems change labs,” and “design labs,” and “policy labs” (Whicher 2021; Hinrichs-Krapels et al. 2020).

Policy labs share similarities and resemble well-known organizations, including think tanks, research institutes, or policy shops with their shared goals of providing policy solutions for problems that often arise in specific sectoral areas such as health, welfare, open or big data, and the environment. In the effort to reorganize or rationalize activities in those sectors, the reasons for the creation of PILs and their purposes are not as clear cut (Tönurist, Kattel, and Lember 2017).

The term “policy lab” can include established teams (or organizations, or institutes) set up specifically for innovative activities for public policy making and physical spaces set up to conduct workshops or other stakeholder activities. Muddying the picture is also the growth of other related organizations such as living labs, research institutes, and nudge (behavioral economics) groups contributing to policy making. We estimate that there are well over 450 lab-like entities worldwide.

Despite this ambiguity, PILs tend to share three distinctive features: (1) The use of design-thinking methodology (e.g. Lee and Ma 2020; McGann et al. 2018a), which originated in industrial and product and service design (Manzini 2015); (2) A focus on innovation through the application of experimental approaches and the emulation of scientific methodologies to test and measure the efficacy of various public policies and programs, thus drawing on experiments, often as pilots or prototypes. By seeking to emulate scientific methodologies, PILs attempt to test and measure the efficacy of various public policies and programs as well as to provide evidence for evidence-based design (Bason 2017; Kimbell 2015; Lee and Ma 2020); and (3) A user-centric approach whereby target populations actively engage in the design process (Lee and Ma 2020). Indeed, many PILs coordinate efforts between public, private, and academic actors (Williamson 2014a, 2014b). Additionally, PILs are often characterized by the wide usage of digital instruments to allow public transparency (Olejniczak et al. 2020).

Therefore, an important goal of PILs is to create a collaborative space to enable participants with varied skill sets to reach a common understanding of a policy challenge and then explore design and test user-centered solutions for potential implementation across the system (El-Haddadeh et al. 2014; Bellefontaine 2012). Thus, PILs are understood as both a process and a particular kind of workspace that breaks down hierarchies and engages people in divergent and creative thinking (Gryszkiewicz, Lykourentzou, and Toivonen 2017; McGann et al. 2018a).

Guided by user-centric approaches and drawing on experiments as pilots, policy labs aim to address the well-documented phenomena of implementation gaps (e.g. Gassner and Gofen 2018) and noncompliance (Gofen 2014, 2015) by enhancing the notion of evidence-based design. The policy labification trend supports Lindquist and Buttazzoni’s (2021) argument that these widely different manifestations are required to build on new knowledge and skills that are often recruited from other parts of an
organization (in government-based policy labs) or by autonomous or semi-autonomous organizations. Thus, the adhocracy form seeks to encourage flexibility, adaptation, and creativity to deal with environments characterized by uncertainty, ambiguity, and information overload, produce innovative products, adapt quickly to new opportunities, and build emergent strategies’ (Lindquist and Buttazzoni 2021).

In this introductory paper to the Policy Design and Practice special issue on policy innovation labs, we first review the existing policy lab literature. By taking stock of the growing number of publications, other scholars and practitioners will better understand the available scholarship, thus this special issue will provide a valuable one-stop resource. Our review suggests that practitioner perspectives on policy labs are understudied. This six-article special issue brings this scholarship together to broaden the understanding of policy labs both among scholars and practitioners. We conclude by suggesting possible avenues for future PIL research.

2. State of the policy innovation lab scholarship

Many theoretical policy frameworks have been employed to explain the rise of policy innovation labs and policy “labification,” including design thinking, experimental government, and collaborative governance (Andersen, Kelemen, and Matzdorf 2020). For example, it is argued that the role of design thinking in policymaking may lead to improved policy design because it promotes more nuanced solutions (Brown 2008; Howlett 2014; Schön 1988, 1992). Interestingly, contemporary design thinking in policymaking reflects the technocratic policy design approach initially developed in the 1970s and 1980s, which emerged in analogy to design in engineering or architecture (Peters 2020). Experimental government is also rooted in a long-standing tradition of experimentalism, emphasizing the importance of experimenting with social change, for example, in the Musée social in Paris. Policy labs are often referred to as experimentation “islands” where the public sector can rapidly experiment with policy design by testing and scaling public-service innovations (Tönurist, Kattel, and Lember 2017; McGann et al. 2018a). Policy labification is also rooted in collaborative governance, which manifests the well-known notion of participatory and deliberative democracy that emerged during the 1960s and 1970s as an alternative, unorthodox approach to neo-liberalism and public management, which consider citizens “customers” and “clients,” thus peripheral actors of politics (Schuler and Namioka 1993; Vitale 2006).

PILs, therefore, echo the well-documented co-production notion, whereby policy solutions are co-created (Nesti 2018). Co-design is also a well-established approach to creative practice within the public sector, with roots in the participatory design techniques developed in Scandinavia during the 1970s (Puttick, Baeck, and Colligan 2014). Engaging both governmental and non-governmental actors, PILs are often studied by using network and networking theories and intermediates between researchers and policy actors (Ojha et al. 2020; Olejniczak et al. 2020). PILs are also considered instruments that facilitate policy knowledge transfer (Lee and Ma 2020).

In contrast to the literature examining think tanks, living labs, design thinking, and behavioral insight units (i.e. nudging), the policy lab literature are surprisingly small. In May 2021, we conducted a database search using Google Scholar, Proquest, and
The bibliographies of the publications were also searched for possible undetected publications. Finally, several leading policy lab scholars verified the completeness of our search results. Along with peer-reviewed articles, we also included conference papers, book chapters, reports, and theses. Search focus was for policy and public sector innovation-specific labs. Other entities such as behavior/nudge units, living labs, research institutes, and think tanks were omitted. However, given the ambiguity of the literature, differentiating these entities from PILs was not always possible. In total, 70 publications, including the six papers in this special issue, were found, and they are listed in chronological order and a brief description of each in Appendix 1.

The results of a preliminary analysis are presented in Tables 1–6. The documents were uploaded onto NVivo 12, a qualitative data analysis application. We acknowledge and recommend that a more rigorous approach to this literature should be undertaken.

The first known PIL paper was Lewis and Moultrie’s (2005) article which chronicles the formation of three early UK policy labs. In the past two years, there has been a significant increase in policy lab-related publications, with the trend from conference papers and reports to peer-reviewed articles (Table 1). A small majority of the publications are peer-reviewed articles (39), followed by reports (17) (Table 2). There were three lab-based Master theses, all of which investigated the Finnish Inland lab.

Geographically, when stated, the focus of the publications has been widespread, with the UK accounting for the highest number (8) (Table 3). Notably, there were no publications from or directly analyzing African policy labs.

Table 4 provides an overview of the publications’ focus or, in some cases, foci. As a new field, some of the publications provided a conceptual lens, often providing theoretical arguments explaining the rise of labs and their role in public sector reform and policymaking. There was nearly an equal number of single case studies (17) as multiple case studies (14). Only a few publications attempt to systematically compare PILs. Examples include Lee and Ma’s (2020) intercountry study and Evans and Cheng’s (2021) intra-country Canadian study. Key informant interviews and workshops were
the most commonly employed methods in empirical studies. There were only a handful of PIL surveys, which is not surprising given the relatively small number of labs. Regardless of the method employed, all of the studies were descriptive with no attempt to provide rigorous causal explanations.

Many empirically-based publications tended to examine policy labs in a variety of sectors. Only 14 of the studies could be considered sector-specific, with “data”-based being the most frequent (7) (Table 5). Very few studies explicitly focused on national, sub-national, or municipal issues.
The policy lab field is very multidisciplinary, attracting scholars from a variety of fields. While categorizing the disciplinary backgrounds of the many authors in the 70 publications would be nearly impossible to do, many are identified with the design field. In contrast, a growing number are from the public policy and public management fields. Table 6 highlights the extent to which the public policy literature has entered the policy lab scholarship.

Most practitioners are familiar with the policy cycle (or policy stages) (Lindquist and Wellstead 2021; Cairney 2015), which is the best-known heuristic describing the policy-making process (Howlett, Ramesh, and Perl 2020; Cairney 2019). The policy cycle or policy stages concepts were highlighted in 17 publications, including Conliffe, Story, and Hsu (2018) and Pólvora and Nascimento (2021). These authors acknowledge that the concepts represent an important starting point when understanding the policy process. They also argue that policymaking is far more complex, which presents designers an opportunity to play a critical role in the process. Whicher and Crick (2019) point out that the “policy cycle is deeply embedded in the cultures of legislatures and bureaucracies around the world, is one of the main reasons why policy processes are primarily focused on the production of documents, rather than the production of outcomes” (p. 296). Olejniczak et al. (2020) state that lab activities are embedded within the main policy cycle as they often build in a smaller loop of design-testing adaptation.

Within the policy cycle, agenda-setting was only sparingly mentioned (eight publications). Hinrichs-Krapels et al. (2020) suggest that labs could provide evidence to policymakers that a particular issue is not ready to be on the policy agenda. The role of policy labs in policy formulation received slightly more attention (13 publications). Fleischer and Carstens (2021) acknowledged that policy labs were an unconventional actor compared to the formulation process dominated by traditional and hierarchical bureaucracies. Vrabie and Ianelo-Călin (2020) found that since labs promote open government and evidence-based criteria, they can encourage governments to become more transparent, participative, and collaborative during policy formulation. As with agenda-setting, policy implementation was sparingly mentioned (18 publications). Olejniczak et al. (2020) found that it was unclear if policy labs were “effectively feeding their solutions into the actual policymaking and policy implementation process” (p. 104). Komatsu et al. (2021) also made similar criticisms. Finally, while some publications highlighted the evaluation of PILs, there was very little evidence of labs playing a

| Policy focus                  | Number of publications |
|-------------------------------|------------------------|
| Policy cycle/policy stages    | 17                     |
| Agenda setting                | 8                      |
| Policy formulation            | 13                     |
| Policy design                 | 41                     |
| Policy implementation         | 19                     |
| Policy evaluation             | 6                      |
| Public value                  | 15                     |
| Policy work                   | 8                      |
| Policy entrepreneur           | 3                      |
| Policy capacity               | 3                      |
| Public sector reform          | 13                     |
role in formal policy evaluations or the policy cycle. Overall, the connection to other aspects of the policy and public management literature (e.g. policy capacity, public value, policy work) was minimal.

Unsurprisingly, the term “policy design” was raised in 40 publications. Upon closer inspection, this term is used in the larger context of design-based approaches rather than how policy design is understood in the policy sciences. Clarke and Craft (2019) commented on the differences between these two variants. They pointed out that policy design accounts for political and policy capacity constraints and policy mixes and policy styles in the latter.

3. Special issue overview

This special issue focuses on the lessons learned by practitioners on various aspects of policy design in policy labs, which will broaden the on-the-ground perspectives on policy labs.

The first paper, by Evert Lindquist and Michael Buttazzoni, “The ecology of open innovation units: Adhocracy and competing values in public service systems,” reminds readers that PILs are just one of a cluster of many techniques and approaches intended to improve the operations, services, and policies within governments. This conceptual overview borrows from the earlier organizational literature on adhocracies and suggests that open innovation also includes behavioral insight units, big data/data analytics shops, visualization shops, open government initiatives, digital service units, and lean (agile, continuous improvement) units. Lindquist and Buttazzoni draw upon Robert Quinn’s “Competing Values Framework” as a new way of framing, locating, and evaluating open innovation adhocracies in comparison to other values models such as the rational goal, the human relations, and internal process.

We then turn to the policy lab-specific papers, beginning in Canada with Kathy Brock’s paper “Policy labs, partners and policy effectiveness in Canada,” which focuses on how ‘deliverology’ in Canada after the 2015 election of Justin Trudeau’s Liberal Party spurred the growth of policy innovation labs. Brock provides a broad overview of the Canadian experience with policy labs between 2015 and 2020 and, in particular, with Policy Development Units (PDUs) in the central machinery of government. This paper focuses on the bringing of nonprofit and private sector partners into the center of public sector decision-making through policy hubs, as well as the establishment of private labs. The study also highlights that collaborative relations with the government resulted in mixed implications for the nonprofit sector. Collaborating through policy hubs provided nonprofit organizations with new opportunities and access to impact policy decisions. However, it posed risks to the independence, legitimacy, and effectiveness of nonprofit organizations as policy advocates. Therefore, practical insights of this study emphasize that both public and nonprofit sector partners in PILs should be cautious about their choice of partnership and recognize that their ability to influence policy change is often limited.

Jenny Lewis’s paper “The limits of policy labs: characteristics, opportunities, and constraints” provides a broad overview of policy lab research that has taken place in Australia and New Zealand over the past five years. This paper offers insights and lessons learned from three empirical studies, which are generalizable and should be of interest to readers from other jurisdictions. Lewis’s paper focuses on critical
characteristics of policy labs, notably organizational forms, size, focus, and methods. PILs can be controlled, enabled, or led by the government and run independently. Importantly, lessons learned regarding the opportunities and constraints are highlighted. Specifically, in practice, labs’ autonomy and closeness to citizens and communities provide opportunities to broaden the scope of potential policy solutions. Practical constraints are ascribed to labs’ dependency on political patronage and labs’ common features, notably their small size and often short life cycles.

The evolution of policy labs’ operating models is at the focus of Anna Whicher’s paper “Evolution of policy labs and use of design for policy in UK government.” This paper draws on the growth of UK policy labs, which was precipitated by two policy agendas: open policy making and devolution. Offering a typology of four distinct financing models of labs shifts attention to the extent and the scope of a lab’s dependency upon its financing source. Labs are funded by one or multiple departments, from recovering part of the projects’ costs, charging for projects on a non-for-profit basis, consultancy rates with a profit margin to expand operations, and from multiple income sources. Whicher also suggests a framework for the establishment, review, and evaluation of policy labs, which comprises four components, namely (1) Proposition – the vision, governance, and finance models; (2) Product – the offering, user needs, and tools; (3) People – the people skills, knowledge diffusion, and broader capacity building; and (4) Process – the routes to engagement, user journey, and promotion mechanism. From a practical perspective, the financing typology and the framework provide practitioners with analytical tools to plan and categorize labs.

The Inland Design lab located within the Digital Service unit of Finland’s Immigration Service (Maahanmuuttovirasto) provides the case study for Tamami Komatsu, Mariana Salgado, Alessandro Deserti, and Francesca Rizzo’s paper “Policy labs challenges in the public sector: the value of design for more responsive organizations.” This paper is the fourth study of the lab, an ongoing process of design experiments supported by the Finnish government (see Kantola 2019; Kokki 2018; Swan 2018 in Appendix 1). Komatsu et al. (2021) argue that design culture is essential for meaningfully transforming an organization through human-centered design and co-creation (See O’Flynn 2007). Readers have the opportunity to experience the details of the design process and the improvements made in a 2017 pilot to improve immigrant-related services. Komatsu et al. (2021) argue that design culture is essential for transforming an organization through human-design design, co-creation, and, more generally, increasing public sector value (See O’Flynn 2007).

Taking a deep position within the work of practitioners as means to generate theory is the theme for Elisabete Ferrarezi, Isabella Brandalise, and Joselene Lemos’s paper “Evaluating experimentation in the public sector: learning from a Brazilian innovation lab.” The starting point of this paper is that practitioners and researchers alike question whether the impact of policy labs meets the expectations. The focus here is on the changing political environment, which necessitated the evaluation of GNova, the Brazilian federal policy lab; the findings of this paper provide a framework for evaluating PSI labs. According to this framework, the link of theory-practice is crucial; therefore, there is a practical need to clearly articulate the values, purpose, and definition of innovation. As in Komatsu et al.’s paper, the workshops and interviews discussed here highlight the importance of creating a public sector.
All the papers in the special issue highlight the hurdles that policy labs face in meeting the common expectation that they will provide innovative, implementable policy solutions. In addition, practical recommendations for both planning and designing a lab and for reviewing and evaluating a lab’s impact.

3.1. Future research directions

Both Evans and Cheng (2021) and Olejniczak et al. (2020) suggest that policy labs need to be better understood within a more extensive policy work ecosystem. Labs should not be seen as an alternative to traditional practices, but instead as a promising addition. Nearly two decades ago, Mayer, Van Daalen, and Bots (2004) developed a framework that accounted for the complexities of policy analysis that includes many of the innovative contributions made by the design community (Figure 1). Beyond the rationalist style, Mayer, Van Daalen, and Bots (2004) pointed out five other styles that define contemporary policy analysis: argumentative, client advice, participatory, process, interactive. Recently, De Smedt and Borch (2021) applied these styles to develop a narrative framework for policy design for sustainable transitions.

Despite the prevailing criticism in the policy lab literature that hierarchical, bureaucratic structures stifle policy work in government agencies, the evidence may suggest otherwise. Several earlier empirical policy work studies demonstrate that policy work is quite dynamic and incorporates the complexity of tasks outlined in Figure 1 (See (Veselý 2017; Carson and Wellstead 2015; Evans and Sapeha 2015; Howlett and Wellstead 2011). A notable exception is Timeus and Gascó’s (2018) study of policy impact labs’ contributions to local government innovation capacity, which suggests that they do improve innovation capacity by contributing to aspects such as idea generation and knowledge management. At the same time, this study also acknowledges that labs’ isolation from the public organizations they advise limits their overall impact, and raises questions about innovation sustainability.

This special issue shifts attention to policy lab practitioners and the practice of policy labs. Moreover, we acknowledge that the expected influence of policy labs is
inherent “bottom-up,” and that policy lab serve as “technology” or “instrument” in order to improve policy-making processes. A promising avenue of research is conceptualizing the policy lab as a source of innovation diffusion (Berry and Berry 2018). Similarly, policy labs may be considered a type of “street-level policy entrepreneurship” (SLPE). Specifically, SPLEs “seek to develop or adopt policy innovations intended to improve the implementation processes they prosecute and to entrench these innovations in the day-to-day activities of bureaucratic peers” (Arnold 2015, p. 3). SLPEs often use various strategies to influence the policy agenda, linking design and implementation (Gofen and Golan 2021; Gofen and Lotta 2021; Lavee and Cohen 2019). Street-level bureaucrats (SLB) are often associated with low- and middle-level government officials. However, many of the challenges facing SLBs are similar to the challenges faced by those working in and leading policy labs.

An additional venue of future research is applying more rigorous empirical methods when studying PILs. Most of the empirical studies in Appendix 1 were primarily descriptive. Exceptional examples are the two surveys by Tönurist, Kattel, and Lember (2017) and McGann et al. (2018a), which had small sample sizes, making it difficult to make any statistical inferences. One alternative would be to change the unit of analysis from the organization (the lab) to the projects or the individual lab workers involved. The difficulty would be developing a population list from such a disparate group of individuals scattered across the globe.

From a methodological perspective, there are some qualitative methods that future researchers could draw from, such as process tracing (Kay and Baker 2015) or qualitative comparative analysis (QCA) (Rihoux, Rezsöhazy, and Bol 2011). However, to apply any of these methods, clearer dependent variables or outcomes would have to be established. The current literature rarely suggests how to measure the impact of a policy lab. However, we anticipate that research will shift from a focus on the internal dynamics of PILs to considering their broader social implications. Understanding PILs as social problem solvers and as a governing technique will lead to more promising research.

Note
1. The search term was based on the terms in Hinrichs-Krapels et al. (2020) and Whicher (2021); they included public innovation lab” OR “public sector innovation lab” OR “government innovation lab” OR “organizational innovation lab” OR “policy innovation lab” OR “innovation lab” OR “public policy lab” OR “social innovation lab” OR “systems change lab” OR “policy lab.”

Disclosure statement
No potential conflict of interest was reported by the author(s).

Funding
Funding for this research comes from the US-Israel Binational Science Foundation (BSF) (https://www.bsf.org.il/) and the National Science Foundation (https://www.nsf.gov/).
References

Acevedo, S., and N. Dassen. 2016. *Innovation for Better Management. The Contribution of Public Innovation Labs*. Washington, DC: Inter-American Development Bank.

Andersen, E., E. Kelemen, and B. Matzdorf. 2020. *Catalogue on Methods and Tools for Policy Innovation Labs*. European Union’s Horizon 2020 research and innovation programme. Brussels. https://www.project-contracts20.eu/wp-content/uploads/2020/05/C20_WP4_D14_D4.1_UCPH.pdf

Arnold, G. 2015. “Street-Level Policy Entrepreneurship.” *Public Management Review* 17 (3): 307–327. doi:10.1080/14719037.2013.806577.

Ault, S., D. Lightfoot, and A. Mason. 2019. *The Oregon Policy Lab: A University of Oregon & Lane County Partnership*. Eugene, Oregon: University of Oregon.

Bailey, J., and P. Lloyd. 2016. “The Introduction of Design to Policy Making: Policy Lab and the UK Government.” In *Design + Research + Society-Future-Focused Thinking: 50th Anniversary Conference of the Design Research Society*, 3619–1635. Brighton, UK: Design Research Society.

Bason, C., 2017. *Leading public design: Discovering human-centred governance*. Policy Press: Bristol, UK.

Bellefontaine, T. 2012. *Innovation Labs: Bridging Think Tanks and Do Tanks*. Ottawa: Policy Horizons Canada.

Berry, F. S., and W. D. Berry. 2018. “Innovation and Diffusion Models in Policy Research.” *Theories of the Policy Process*. Edited By Christopher M. Weible, Paul A. Sabatier. New York: Routledge. 223–260.

Brock, K. L. 2021. “Policy Labs, Partners and Policy Effectiveness in Canada.” *Policy Design and Practice* 4 (2): 228–241. doi:10.1080/25741292.2021.1880063.

Brock, K. L. 2020. “Government and Non-Profit Collaboration in Times of Deliverology, Policy Innovation Laboratories and Hubs, and New Public Governance.” *VOLUNTAS* 31 (2): 257–270. doi:10.1007/s11266-019-00145-0.

Brown, T. 2008. “Design Thinking.” *Harvard Business Review* 86 (6): 84–92.

Buchinger, E. 2017. “Innovation Policy Lab to Design Intervention in Public Procurement.” In *Innovation, Complexity and Policy*, edited by Weber, M., 155–171. Frankfurt-New York: Lang.

Cairney, P. 2015. “How Can Policy Theory Have an Impact on Policymaking? The Role of Theory-Led Academic–Practitioner Discussions.” *Teaching Public Administration* 33 (1): 22–39. doi:10.1177/0144739414532284.

Cairney, P. 2015. “Powering Collaborative Policy Innovation: Can Innovation Labs Help.” *The Innovation Journal* 17 (1): 1–26.

Carstensen, H. V., and C. Bason. 2012. “Powering Collaborative Policy Innovation: Can Innovation Labs Help.” *The Innovation Journal* 17 (1): 1–26.

Carrión, J. I., T. F. Dias, H. Sano, F. Rojas-Martín, A. Silvan, and A. I. Filho. 2021. “Public Innovation and Living Labs in Action: A Comparative Analysis in post-New Public
Management Contexts. “International Journal of Public Administration 44 (6): 451–464. doi: 10.1080/01900692.2020.1729181.

De Smedt, P., and K. Borch. 2021. “Participatory Policy Design in System Innovation.” Policy Design and Practice doi:10.1080/25741292.2021.1887592.

Einfeld, C., and E. Blomkamp. 2021. “Nudge and co-Design: complementary or Contradictory Approaches to Policy Innovation.” Policy Studies : 1–19. DOI: 10.1080/01442872.2021.1879036.

El-Haddadeh, R., Z. Irani, J. Millard, and A. Schröder. 2014. “Toward a Coherent Methodological Framework for Examining Social Innovation in the Public Sector.” Information Systems Management 31 (3): 250–258. doi:10.1080/10580530.2014.923269.

Evans, B. 2020. Government Policy Innovation Labs –Catalogue of Canadian-based government innovation labs (updated April 2020).

Evans, B., and S. Cheng. 2021. Canadian Government Policy Innovation Labs: An Experimental Turn in Policy Work? Canadian Public Administration (forthcoming).

Evans, B., and H. Sapeha. 2015. “Are Non-Government Policy Actors Being Heard?” Canadian Public Administration 58 (2): 249–270. doi:10.1111/capa.12115.

Ferreira, M., and A. Botero. 2020. “Experimental Governance? The Emergence of Public Sector Innovation Labs in Latin America.” Policy Design and Practice 3 (2): 150–162. doi:10.1080/25741292.2020.1759761.

Ferrarezi, E., I. Brandalise, and J. Lemos. 2021. “Evaluating experimentation in the public sector: learning from a Brazilian innovation lab.” Policy Design and Practice. 4 (2): 292–303. doi:10.1080/25741292.2021.1930686.

Fleischer, J., and N. Carstens. 2021. “Policy Labs as Arenas for Boundary Spanning: Inside the Digital Transformation in Germany.” Public Management Review 1–18.

Fuller, M., and A. Lochard. 2016. Public Policy Labs in European Union Member States. Luxembourg: Publications Office of the European Union.

Gassner, D., and A. Gofen. 2018. “Street-Level Management: A Clientele-Agent Perspective on Implementation.” Journal of Public Administration Research and Theory 28 (4): 551–568. doi:10.1093/jopart/muy051.

Gofen, A. 2014. “Mind the Gap: Dimensions and Influence of Street-Level Divergence.” Journal of Public Administration Research and Theory 24 (2): 473–493. doi:10.1093/jopart/mut037.

Gofen, A. 2015. “Citizens’ Entrepreneurial Role in Public Service Provision.” Public Management Review 17 (3): 404–424. doi:10.1080/14719037.2013.822533.

Gofen, A., and E. Golan. 2021. Laboratories of Design: A Catalog of Policy Innovation Labs in Europe. Available at SSRN 3822821.

Gofen, A., and G. Lotta. 2021. “and Marchesini da Costa, M.” Working through the Fog of a Pandemic: Street-Level Policy Entrepreneurship in Times of Crises. Public Administration.

Gryszkiewicz, L., I. Lykourentzou, and T. Toivonen. 2017. “Innovation Labs: Leveraging Openness for Radical Innovation.” Journal of Innovation Management 4 (4): 68–97. doi:10.24840/2183-0606_004_004_0006.

Heikkila, Tanya A., A. Wellstead, and W. Wood. Fourth Industrial Revolution and Algorithms: New Challenges for Policy Design (May 3, 2021). SSRN: https://ssrn.com/abstract=3838920

Hinrichs-Krapels, Saba, Jocelyn Bailey, Harriet Boulding, Bobby Duffy, Rachel Hesketh, Emma Kinloch, Alexandra Pollitt, et al. 2020. “Using Policy Labs as a Process to Bring Evidence Closer to Public Policymaking: A Guide to One Approach.” Palgrave Communications 6 (1): 1–9. doi:10.1057/s41599-020-0453-0.

Howlett, M. 2014. “From the ‘Old’ to the ‘New’ Policy Design: design Thinking beyond Markets and Collaborative Governance.” Policy Sciences 47 (3): 187–207. doi:10.1007/s11077-014-9199-0.

Howlett, M., R. M. Ramesh, and A. Perl. 2020. Studying Public Policy: Policy Cycles and Policy Subsystems. Vol. 4. Oxford: Oxford University Press.
Howlett, M., and A. M. Wellstead. 2011. “Policy Analysts in the Bureaucracy Revisited: The Nature of Professional Policy Work in Contemporary Government.” Politics & Policy 39 (4): 613–633. doi:10.1111/j.1747-1346.2011.00306.x.

Junginger, S. 2014. “Public Innovation Labs—a Byway to Public Sector Innovation.” The Highways and Byways to Radical Innovation-Design Perspectives, 117–129. Kolding: Design School Kolding & University of Southern Denmark.

Kantola, K. 2019. Design Capability in Migri: Revealing Challenges and Opportunities for the Development. Master’s thesis from the Department of Design, Aalto University (Finland). https://aaltodoc.aalto.fi/handle/123456789/42650

Kay, A., and P. Baker. 2015. “What Can Causal Process Tracing Offer to Policy Studies? A Review of the Literature.” Policy Studies Journal 43 (1): 1–21. doi:10.1111/psj.12092.

Kimbell, L. 2015. Applying Design Approaches to Policy Making: Discovering Policy Lab. Brighton, UK: University of Brighton.

Kokki, A. 2018. Experiments on Experiments–Service Design Explorations in the Finnish Immigration Service (Migri). Master’s thesis from the Department of Design, Aalto University (Finland). https://aaltodoc.aalto.fi/handle/123456789/35415

Komatsu, T., M. Salgado, A. Deserti, and F. Rizzo. 2021. “Policy Labs Challenges in the Public Sector: The Value of Design for More Responsive Organizations.” Policy Design and Practice 4 (2): 271–291. doi:10.1080/25741292.2021.1917173.

Lavee, E., and N. Cohen. 2019. “How Street-Level Bureaucrats Become Policy Entrepreneurs: The Case of Urban Renewal.” Governance 32 (3): 475–492. doi:10.1111/gove.12387.

Lee, C., and L. Ma. 2020. “The Role of Policy Labs in Policy Experiment and Knowledge Transfer: A Comparison across the UK, Denmark, and Singapore.” Journal of Comparative Policy Analysis: Research and Practice 22 (4): 281–297. doi:10.1080/13876988.2019.1668657.

Lewis, J. M. 2021. “The Limits of Policy Labs: Characteristics, Opportunities and Constraints.” Policy Design and Practice 4 (2): 242–251. doi:10.1080/25741292.2020.1859077.

Lewis, M., and J. Moultrie. 2005. “The Organizational Innovation Laboratory.” Creativity and Innovation Management 14 (1): 73–83. doi:10.1111/j.1467-8691.2005.00327.x.

Lindquist, E., and A. Wellstead. 2021. “Policy Cycle: From Heuristics to Theory Informed Research and Advice.” In Handbook of Public Administration, edited by Evert Lindquist, W. Bartley Hildreth, and Gerald J. Miller, 4th ed.

Lindquist, E., and M. Buttazzoni. 2021. “The Ecology of Open Innovation Units: Adhocracy and Competing Values in Public Service Systems.” Policy Design and Practice 4 (2): 212–227. doi:10.1080/25741292.2021.1941569

Martin, G., A. Dale, and C. Stoney. 2018. A Preliminary Analysis of the Canadian Social Innovation Lab landscape. Royal Roads University, Victoria University.

Mayer, I. S., C. E. Van Daalen, and P. W. Bots. 2004. “Perspectives on Policy Analyses: A Framework for Understanding and Design.” International Journal of Technology, Policy and Management 4 (2): 169–191. doi:10.1504/IJTPM.2004.004819.

Manzini, E. 2015. Design, When Everybody Designs: An Introduction to Design for Social Innovation. Cambridge, MA: MIT Press.

McGann, M., E. Blomkamp, and J. M. Lewis. 2018a. “The Rise of Public Sector Innovation Labs: experiments in Design Thinking for Policy.” Policy Sciences 51 (3): 249–267. doi:10.1007/s11077-018-9315-7.

McGann, M., E. Blomkamp, and J. M. Lewis. 2017. “Everybody Else is Doing It so Why Don’t we? Analysing the Rise of the Policy Lab.” In 3rd International Conference on Public Policy (ICPP3). Singapore: International Public Policy Association.

McGann, M., J. Lewis, and E. Blomkamp. 2018b. Mapping public sector innovation units in Australia and New Zealand: 2018 survey report.

McGann, M., T. Wells, and E. Blomkamp. 2021. “Innovation Labs and co-Production in Public Problem Solving.” Public Management Review 23 (2): 297–316. doi:10.1080/14719037.2019.1699946.

Mosse, R., and L. Muirhead. 2020. “The Art of Hosting Participatory Practices in Social Labs: Moving beyond Participation to Deep Engagement: A Case Study of the Economic
Immigration Lab in New Brunswick, Canada.” *FormAkademisk - forskningstidsskrift for design og designdidaktikk* 13 (4): 3–3. doi:10.7577/formakademisk.3383.

Munkongsujarit, S. 2019. “Enhancing Country’s Competitiveness with Innovation Policy Lab: A Case Study of Thailand Innovation Policy Accelerator (THIPA).” In 2019 Portland International Conference on Management of Engineering and Technology (PICMET), 1–4. IEEE. Portland, Oregon. doi:10.23919/PICMET.2019.8893724.

Nesti, G. 2018. “Co-Production for Innovation: The Urban Living Lab Experience.” *Policy and Society* 37 (3): 310–325. doi:10.1080/14494035.2017.1374692.

O’Flynn, J. 2007. “From New Public Management to Public Value: Paradigmatic Change and Managerial Implications.” *Australian Journal of Public Administration* 66 (3): 353–366. doi:10.1111/j.1467-8500.2007.00545.x.

Ojha, H., U. Regmi, K. K. Shrestha, N. S. Paudel, S. M. Amatya, A. B. Zwi, I. Nuberg, E. Cedamon, and M. R. Banjade. 2020. “Improving Science-Policy Interface: Lessons from the Policy Lab Methodology in Nepal’s Community Forest Governance.” *Forest Policy and Economics* 114: 101997. doi:10.1016/j.forpol.2019.101997.

Olejniczak, K., S. Borkowska-Waszak, A. Domaradzka-Widla, and Y. Park. 2017, “The Craft of Policy Labs: An Overview of Methods Applied for Development and Testing of Policy Solutions.” In Proceedings of 3rd International Conference on Public Policy (ICPP3), Singapore, 28–30.

Olejniczak, K., S. Borkowska-Waszak, A. Domaradzka-Widla, and Y. Park. 2020. “Policy Labs: The Next Frontier of Policy Design and Evaluation?” *Policy & Politics* 48 (1): 89–110. doi:10.1332/030557319X15579230420108.

Peters, B. G., 2020. “Designing institutions for designing policy.” *Policy & Politics*, 48 (1), 131–147.

Piffre, O., and S. Soutullo. 2017. “Public Innovation Design in Chile: Laboratorio de Gobierno Experience.” In *3rd International Conference on Public Policy (ICPP3)*. Singapore: International Public Policy Association.

Pólvora, A., and S. Nascimento. 2021. “Foresight and Design Fictions Meet at a Policy Lab: An Experimentation Approach in Public Sector Innovation.” *Futures* 128: 102709. doi:10.1016/j.futures.2021.102709.

Puttick, R. 2014. Innovation Teams and Labs: A practice guide. London: NESTA. [http://www.nesta.org.uk/publications/innovation-teams-and-labs-practice-guide](http://www.nesta.org.uk/publications/innovation-teams-and-labs-practice-guide). Accessed 12 October2016.

Puttick, R., P. Baeck, and P. Colligan. 2014. The Teams and Funds Making Innovation Happen in Governments around the World. Londres: Nesta & Bloomberg Philantropies.

Rihoux, B., I. Rezsőhazy, and D. Bol. 2011. “Qualitative Comparative Analysis (QCA) in Public Policy Analysis: An Extensive Review.” *German Policy Studies* 7 (3): 9–82.

Romero-Fría, E., and W. Arroyo-Machado. 2018. “Policy Labs in Europe: Political, Innovation, Structure and Content Analysis on Twitter.” *El Profesional de la Información* 27 (6): 1181–1192. doi:10.3145/epi.2018.nov.02.

Schön, D. A. 1988. “From Technical Rationality to Reflection-in-Action.” *Professional Judgment: A Reader in Clinical Decision Making* 60–77, edited by Jack Dowie, Arthur Elstein. Cambridge, UK: Cambridge University Press.

Schön, D. A. 1992. “Designing as Reflective Conversation with the Materials of a Design Situation.” *Knowledge-Based Systems* 5 (1): 3–14. doi:10.1016/0950-7051(92)90020-G.

Schuler, D., and A. Namioka, eds. 1993. *Participatory design: Principles and practices*. New York, NY: CRC Press.

Swan, K. 2018. *Leading with Legitimacy in Government Design Labs*. Master’s thesis with Aalto University School of Business, Aalto, Finland.

Timeus, K., and M. Gascó. 2018. “Increasing Innovation Capacity in City Governments: Do Innovation Labs Make a Difference?” *Journal of Urban Affairs* 40 (7): 992–1008. doi:10.1080/07352166.2018.1431049.

Thorpe, A., and S. Rhodes. 2018. “The Public Collaboration Lab—Infrastructuring Redundancy with Communities-in-Place.” *She Ji* 4 (1): 60–74. doi:10.1016/j.sheji.2018.02.008.
Tönnurist, P., R. Kattel, and V. Lember. 2017. “Innovation Labs in the Public Sector: What They Are and What They Do.” Public Management Review 19 (10): 1455–1479. doi:10.1080/14719037.2017.1287939.

Unceta, A., X. Barandiaren, and A. Lakidain. 2021. “Digitalisation of Creative Industries Fostered by Collaborative Governance: Public Innovation Labs in Gipuzkoa.” Sustainability 13 (5): 2568. doi:10.3390/su13052568.

van Veenstra, A. F., and B. Kotterink. 2017. “Data-Driven Policy Making: The Policy Lab Approach.” In International Conference on Electronic Participation, 100–111. Cham: Springer.

Vesel/C19, A. 2017. “Policy Advice as Policy Work: A Conceptual Framework for Multi-Level Analysis.” Policy Sciences 50 (1): 139–154. doi:10.1007/s11177-016-9255-z.

Vitale, D. 2006. “Between Deliberative and Participatory Democracy: A Contribution on Habermas.” Philosophy & Social Criticism 32 (6): 739–766. doi:10.1177/0191453706064022.

Vrabie, A., and M. Dudian. 2021. “Insights from a Romanian Public Sector Innovation Lab on How to Build Urban Resilience in the Face of COVID-19.” International Journal of Applied Behavioral Economics (IJABE) 10 (1): 40–50.

Vrabie, A., and R. Ianole-Călin. 2020. “A Comparative Analysis of Municipal Public Innovation: Evidence from Romania and United States.” Journal of Open Innovation: Technology, Market, and Complexity 6 (4): 112. doi:10.3390/joitmc6040112.

Waardenburg, M., M. Groenleer, and J. De Jong. 2020. “Designing Environments for Experimentation, Learning and Innovation in Public Policy and Governance.” Policy & Politics 48 (1): 67–87. doi:10.1332/030557319X15586040837640.

Wascher, E., C. Kaletka, and J. Schultze. 2019. “Social Innovation Labs—a Seedbed for Social Innovation.” Atlas of Social Innovation 2: 135–137.

Wellstead, A. M. 2020. “Trusting Datification through Labification.” In Sullivan H., Dickinson H., Henderson H. (eds) The Palgrave Handbook of the Public Servant. Palgrave Macmillan, Cham. doi:10.1007/978-3-030-03008-7_77-1

Wellstead, A., and M. P. Howlett. 2021. Re-Thinking Think Tanks: Differentiating Knowledge-Based Policy Influence Organizations. Available at SSRN 3819056.

Wellstead, A., and S. Nguyen. 2020. The Rise of Policy Innovation Labs: A Catalog of Policy Innovation in the United States. Available at SSRN 3513548.

Werneck, C., E. Ferrarezi, I. Brandalise, L. Vaqueiro, and M. Bonduki. 2020. Life cycle of public innovation labs. https://repositorio.enap.gov.br/bitstream/1/5000/67/life-cycles_EN_digital.pdf

Westly, F., S. Geobey, and K. Robinson. 2011. What is a Change Lab/Design Lab? Waterloo: Social Innovation Generation.

Whicher, A. 2021. “Evolution of Policy Labs and Use of Design for Policy in UK Government.” Policy Design and Practice 4 (2): 252–270. doi:10.1080/25741292.2021.1883834.

Whicher, A., and T. Crick. 2019. “Co-Design, Evaluation and the Northern Ireland Innovation Lab.” Public Money & Management 39 (4): 290–299. doi:10.1080/09540962.2019.1592920.

Williamson, B. 2014a. “Knowing Public Services: Cross-Sector Intermediaries and Algorithmic Governance in Public Sector Reform.” Public Policy and Administration 29 (4): 292–312. doi:10.1177/0952076714529139.

Williamson, B. 2014b. “New Governing Experts in Education: Self-Learning Software, Policy Labs and Transactional Pedagogies.” In Governing Knowledge: Comparison, Knowledge-Based Technologies, Indicated and Expertise in the Regulation of Education, edited by Fenwick, T. Mangez, E., Ozga, J. London: Routledge. pp. 218–231.

Williamson, B. 2015. “Governing Methods: policy Innovation Labs, Design and Data Science in the Digital Governance of Education.” Journal of Educational Administration and History 47 (3): 251–271. doi:10.1080/00220620.2015.1038693.

Zurbriggen, C., and M. G. Lago. 2019. “An Experimental Evaluation Tool for the Public Innovation Lab of the Uruguayan Government.” Evidence & Policy: A Journal of Research, Debate and Practice 15 (3): 437–451. doi:10.1332/174426419X15537488717501.
## APPENDIX

### Table 1. Policy Lab Scholarship (2005–2021) (Full citations are provided in the bibliography).

| Year | Author(s)       | Journal or unless otherwise stated | Brief description                                                                                                                                                                                                 |
|------|-----------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2021 | Brock*          | Policy Design and Practice          | Descriptive analysis of policy labs in Canada (federal, provincial, and municipal levels) and the implications for state-nonprofit relations.                                                                          |
| 2021 | Buttazzoni and Lindquist* | Policy Design and Practice | Conceptual overview arguing that in addition to PILs, governments contain many adhocracies including behavioral insight units, big data/data analytics shops, visualization shops, open government initiatives, digital service units, and Lean units. Quinn’s “Competing Values Framework” is suggested as a new way of framing and locating open innovation adhocracies. |
| 2021 | Criado et al.   | International Journal of Public Administration | Focus on the living lab concepts in innovation labs. Comparative lab case study (Brazil and Spain) focusing on living lab concepts, co-design, and public value.                                                        |
| 2021 | Einfeld and Blomkamp | Policy Studies                  | Conceptual paper comparing the nudging (behavioral economics) with design approaches. Considers both approaches to be ‘instrumental constituencies.’                                                                 |
| 2021 | Evans and Cheng | Canadian Public Administration   | Descriptive comparative analysis of Canadian government-based policy labs (at the federal, provincial, and municipal levels).                                                                                         |
| 2021 | Fleischer and Carstens | Public Management Review | Examines the concept of boundary spanning and how German digitization policy labs can contribute to policy design.                                                                                                |
| 2021 | Ferrarezi et al.* | Policy Design and Practice        | Evaluation of GNova, a Brazilian federal policy lab based on a workshop and interviews with former participants.                                                                                                    |
| 2021 | Gofen and Golan | Report                             | A catalog of European 212 policy labs based on the 17 UN sustainability goals.                                                                                                                                 |
| 2021 | Heikkila et al. | Report                             | A conceptual review of algorithmic policy design and the role played by policy labs, trust, policy learning, and collaboration.                                                                                |
| 2021 | Komatsu et al.* | Policy Design and Practice         | A case study of the Inland Design lab located within the Digital Service unit of Finland’s Immigration Service (Maahanmuuttovirasto). A 2017 pilot on improving immigrant services is detailed.          |
| 2021 | McGann et al.   | Public Management Review           | Conceptual paper compares innovation labs’ role in policy systems with traditional advisory units within government and influential non-government actors such as think tanks. Based on five case studies in Australia and New Zealand. |
| 2021 | Pólvera and Nascimento | Futures                        | The role of policy labs and the foresight methodology in the applications of blockchain is examined. Three workshops were held.                                                                                  |
| 2021 | Unceta et al.   | Sustainability                    | Case study of how design methods were used by a policy lab in the province of Gipuzkoa, Spain.                                                                                                                    |
| 2021 | Vrabie and Dudian | International Journal of Applied Behavioral Economics | Case study of how innovative design approaches by a Romanian public sector innovation lab addressed urban COVID-19 issues.                                                                                   |
| 2021 | Wellstead and Howlett | Report                 | Conceptual paper that provides a taxonomy of different kinds of knowledge-based policy influence organizations (KBPIO).                                                                                     |
| 2021 | Whicher*        | Policy Design and Practice         | Interviews and workshops of four UK case study policy labs between 2016 and 2020 were conducted to develop a financing model and evaluation framework.                                                          |
| 2020 | Andersen        | Report                             | PILs are framed within the policy cycle. Design Thinking is introduced, and tools for project implementation are highlighted.                                                                                |

(continued)
| Year | Author(s) | Journal or unless otherwise stated | Brief description |
|------|-----------|------------------------------------|-------------------|
| 2020 | Brock     | VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations | Analysis of shift from traditional public administration values to New Public Management (NPM) and New Public Governance (NPG) on public-nonprofit relations. |
| 2020 | Evans     | Report | Catalog of Canadian-based government innovation labs. |
| 2020 | Ferreira and Botero | Policy Design and Practice | Comparative study of ten Latin American policy labs. |
| 2020 | Hinrichs-Krapels et al. | Palgrave Communications | The role of UK innovation labs in the policy process and evidence-based policy. It also serves as a guidebook. |
| 2020 | Lee and Ma | Journal of Comparative Policy Analysis: Research & Practice | Descriptive comparative study of policy labs in Denmark, Singapore, and the UK, and how they facilitate policy transfer. |
| 2021 | Lewis* | Policy Design and Practice | Overview of past policy lab research and insights and lessons from three Australian studies. |
| 2020 | Mosse and Muirhead | FormAkademisk | Provides an overview of how the Economic Immigration Lab (EIL) within the New Brunswick provincial government (Canada) was created and what tools were used. |
| 2020 | Ojha et al. | Forest Policy and Economics | The role of policy lab methods in Nepal's forest sector. |
| 2020 | Olejniczak et al. | Policy and Politics | Methodological framework (REACT) is developed. The structure, function, and processes of ten prominent policy labs are examined. |
| 2020 | Vrabie and Iancule-Călin | Journal of Open Innovation: Technology, Market, and Complexity | A comparative study of the Cluj-Napoca Urban Innovation Unit (UIU) (Romania) and the Boston's Mayor's Office of New Urban Mechanics (MONUM). Interviews, longitudinal participant data, workshops, and archival research data was used for the OECD framework for evaluating the innovation capacity of cities. |
| 2020 | Waardenburg et al. | Policy and Politics | A case study of experimentation and design thinking in the Organized Crime Field Lab (OCFL) (Netherlands). |
| 2020 | Wellstead | Book chapter | Conceptual examination of the potential role that trust plays in data-based labs. |
| 2020 | Wellstead and Nguyen | Report | Catalog of 115 US policy labs. |
| 2020 | Werneck et al. | Report | Workshop report (from Brazil) uses the analogy of the human life cycle to describe the rise and fall of innovation labs. |
| 2019 | Ault et al. | Report | A research study conducted by the Oregon Policy Lab in Lane County. |
| 2019 | Kantola | Master's thesis | Ethnographic and autoethnographic study of the Finnish Inland lab. |
| 2019 | Munkongsujarit | Conference paper | Case study of the Thailand Innovation Policy Accelerator (THIPA), which led to the establishment of various lab initiatives addressing key issues (health care, ISO certification). |
| 2019 | Wascher et al. | Report | A brief overview providing a policy lab taxonomy. |
| 2019 | Whicher and Crick | Public Money and Management | Case study of iLab (Northern Ireland) and 18 of its projects. Interviews (30) were conducted to determine lab effectiveness. |
| 2019 | Zubriggen and Lago | Evidence and Policy: A Journal of Research, Debate, and Practice | Evaluation ‘Roadmap’ for the Social Innovation Laboratory for Digital Government (Uruguay) based on three workshops in 2017. |
| 2018 | Conliffe et al. | Report | Guidebook by the Brookfield Institute maps approaches to policy innovation on a spectrum from participatory (design with) to expert (design for), and service (public-facing) to policy (government-facing). |
### Table 1. Continued.

| Year | Author(s) | Journal or unless otherwise stated | Brief description |
|------|-----------|------------------------------------|------------------|
| 2018 | Kokki     | Master’s thesis                    | Master’s thesis that uses participant observation and design experiments to study experimentation in the Finnish Immigration Service (Migri). |
| 2018 | Martin et al. | Report                  | Five Canadian social innovation labs are examined based on staff interviews. Issues examined include functions, funding, challenges, and measuring impact. |
| 2018a| McGann et al. | Policy Sciences      | A highly cited paper develops several policy lab taxonomies regarding their relations to government, how they are funded, and the methods employed (data/open government, evidence-based, design-led, and mixed). |
| 2018b| McGann et al. | Report                   | Reports the results from a 2017 survey of 26 policy labs in Australia and New Zealand. Descriptive results include the number of employees and their backgrounds/skill, sector, the method employed, challenges, relationship with governments, stakeholder engagement, and role in the policy making process. |
| 2018 | Nesti     | Policy and Society           | Qualitative analysis (interviews) of three Urban Living Labs (ULL) in Amsterdam, Boston, and Turin were conducted to assess the extent of co-production in each. |
| 2018 | Romero-Frías and Arroyo-Machado | El profesional de la información | A Twitter-based network analysis examining the structure of the relationships between 42 European policy labs. |
| 2018 | Timeus and Gascó | Journal of Urban Affairs | Examines the contribution of labs to the innovation capacity of public organizations in Barcelona by developing a four-part analytical capacity framework. |
| 2018 | Thorpe and Rhodes | She Ji: The Journal of Design, Economics, and Innovation | Highlights examples of three projects undertaken by the Public Collaboration Lab’s (PCL) in London (UK). Focuses on the challenge of balancing efficiency and efficacy. |
| 2018 | Swan      | Master’s thesis             | Action interventions, participant observation, field notes, and semi-structured interviews of key stakeholders in the Inland Design organization (Finland) were conducted in 2018. |
| 2017 | Buchinger | Book chapter               | Single case study of a policy lab tasked with implementing Public Procurement Promoting Innovation (PPI) for the Austrian government. |
| 2017 | Coblence et al. | Ideas               | Innovation-Oriented Teams (IOTs)(France) Concept of hybridization. Interviews of lab members. |
| 2017 | Coblence and Vivant | Sciences du Design      | Design methods applied across various levels of government in different sectors in France. |
| 2017 | McGann et al. | Conference paper          | Preliminary analysis of 20 innovation labs that are developed in McGann, Blomkamp, and Lewis (2018a) above. |
| 2017 | Olejniczak et al. | Conference paper       | Preliminary version of Olejniczak et al (2020) (above). |
| 2017 | Piffren and Soutullo | Conference paper | A case study of Chilean Governmental Lab and how it adopted the Double Diamond model developed in the UK. |
| 2017 | Tönurist et al. | Public Management Review | A highly cited paper applies public management and organizational theories to explain the growth of policy labs. A survey and in-depth interviews of representatives of 11 labs in Europe and North America were conducted. |
| 2017 | van Veenstra and Kotterink | Conference paper | Data-driven policymaking and the role that innovation labs can play are conceptually examined. Maps the innovation process to the policy cycle. |
| 2016 | Acevedo and Dassen | Report               | Based on key informant interviews from seven Latin American labs. Develops a theoretical framework outlining five factors important for policy innovation. |
| 2016 | Bailey and Lloyd | Conference paper       | Interviews (15) of senior civil servants were conducted in 2015 to assess the specific effects of the UK Policy Lab’s design methods and other novel approaches. |

(continued)
| Year | Author(s) | Journal or unless otherwise stated | Brief description |
|------|-----------|----------------------------------|------------------|
| 2016 | Fuller and Lochard | Report | Catalog and map of 63 policy labs in the EU area. |
| 2017 | Gryszkiewicz et al. | Journal of Innovation Management | Policy labs apply the principle of openness (open science, open government, and open innovation) in the process of policy change. Four case studies in Europe and North America are discussed. |
| 2015 | Christiansen and Sabroe | Report | MindLab (Denmark) is introduced with an emphasis on an experimentation process in service, policy, and governance design. |
| 2015 | Kimbell | Report | A guidebook that includes three case studies (e.g. prototyping, the use of ethnography) from the UK Policy Lab. |
| 2015 | Williamson | Journal of Educational Administration and History | Coins the term ‘labification’ and chronicles the development of policy labs, particularly their emergence on Twitter via the #psilabs hashtag. |
| 2014 | Puttick | Report | Guidebook describing the innovation methods and approaches required to implement an innovation lab. |
| 2014 | Williamson | Book Chapter | Case studies of how the Demos, Nesta, and the Innovation Unit act as policy intermediaries of information and communications technology (ICT). |
| 2014 | Williamson | Public Policy and Administration | An elaboration and revision of the above chapter. |
| 2014 | Junginger | Book chapter | Examines the design approaches by the US Office of Personnel Management (OPM) lab. |
| 2012 | Carstensen and Bason | The Innovation Journal: The Public Sector Innovation Journal | Case Study of MindLab’s (Denmark) evolution from 2006 to 2012. Examines three generations from creative platform to innovation unit to change partner. |
| 2012 | Bellefontaine | Report | This early report introduces the different design approaches and lab functions to a broader practitioner audience. |
| 2011 | Westley et al. | Report | This conceptual report identifies four disciplinary and theoretical streams that define policy labs: group dynamics and group psychology, complexity theory, design thinking, and computer modeling and visual language. |
| 2005 | Lewis and Moultrie | Creativity and Innovation Management | Highlights three early UK policy labs and the methods they employ, namely the Royal Mail Innovation Laboratory (RMIL), the UK Department of Trade and Industry, Future Focus Laboratory (DTIF), and the University of East Anglia, Staff Development Hub (UEAH). |

*Articles included in this special issue.*