



# Mapping design activities and methods of public sector innovation units through the policy cycle model

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## Abstract

Over the last two decades, the design practice has been expanding to the public sphere to generate solutions for public challenges. In particular, the reflections on the design practice of public sector innovation (PSI) units, working in or with governments, are increasingly contributing to a growing body of literature attempting to characterise the practice in policy making. Although scholars conclude that design's significant contribution in policy refers to the implementation of public services and programs, there is also an urgent advocacy for a deeper study of the nature of design practices within earlier stages of policy processes addressing more specifically policy proposals and reforms. As part of a broader investigation, this paper seeks to shed light to this matter by identifying design-led activities and methods of PSI units in the policy making process and positioning them in the stages of the policy cycle. This research examines academic, grey literature and web content to uncover and position design activities of 46 PSI units from different continents in a policy cycle model based on Howlett, Ramesh and Perl (2009). Our work confirms that most design activities develop in the implementation stage rather than in early stages of the policy process. While design interventions are growing within policy formulation and agenda-setting stages, few of them were identified in the stage of policy evaluation. Decision-making stage remains purely political. This research may serve to a further understanding of the design practice and its potential contribution to policy making in the future.

**Keywords** Public sector innovation units · Design methods · Public policy · Policy making · Policy cycle model · Innovation labs

## Introduction

The design practice has been expanding from the private to the public sector along the last fifteen years (Bason, 2014, p. 3). While initially design consultancies worked with the public sector mainly in developing service design projects (Bason, 2018, pp. 171–178), in a second evolutionary phase innovation units were created to work on more profound public

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issues in a collaborative endeavour between designers and public sector experts (Bason, 2018, p. 173).

Design practice in the public policy realm has become the subject of study for the design discipline's inquiry in the field of *design for policy*. While this field is undergoing delimitation and construction, the book *Design for Policy* edited by Christian Bason (2014) illustrates the use of design approaches and methods in policy making according to four major themes:

- *intent*: improving the delivery of policy results by generating a common understanding of the intent among the policy actors at all levels of governance;
- *insights*: providing insights by using design research methods;
- *ideation*: facilitating ideation through visualisations and models;
- *implementation*: supporting the implementation of policies through the design of services, communication artefacts, interfaces, and products.

Recently, political scientists have been studying the potential of design for public administration and public policy (Van Buuren, Lewis, Peters, & Voorberg, 2020). Generally, these scholars refer to the design discipline as “design-thinking” to differentiate it from a more generic use of the term design within the political science field (Blomkamp, 2018; Clarke & Craft, 2019; Howlett, 2020; Van Buuren et al., 2020). It is important to underline here the lack of clarity in defining what “design thinking” is also within the design discipline. This unclarity gives form to distinct and at times ambiguous interpretations of what is intended by “design thinking” and if it is to be considered different (a distinct way of doing and thinking, a specific approach, process or methodology) from design, rather than intended as the designers' project culture (Zurlo, 2019) or a cognitive approach to problem-solving (Kimbell, 2009, 2011).

Despite examining various challenges to use design in the public context (Hermus et al., 2020; Howlett, 2020), political scientists recognise the value of different activities: combining various sources of information, creating design representations (e.g. visualisations), testing and refining solutions, collaborating with multiple actors (e.g. business and civil society), and facilitating user-orientation (Olejniczak et al., 2020; Van Buuren et al., 2020). These activities suggest a potential contribution of design in traditional policy practices to stimulate collaboration (e.g. involving various actors on analysing a public issue, co-creation, co-design), address public challenges (e.g. design methods for researching, representing and testing ideas), and shape policy delivery (e.g. public services) (Bason, 2014; Blomkamp, 2018; Kimbell, 2015; Kimbell & Bailey, 2017; Mager, 2016; Olejniczak et al., 2020; Van Buuren et al., 2020). Accordingly, design has been increasingly explored as a complementary approach to shape public policies and services. This has been experimented at different governmental levels (i.e. local, regional, national) as well as by diverse stakeholders in the public sector sphere (e.g. governmental agencies, public entities, non-for-profit organisations) involving and in collaboration with a heterogeneous range of design agencies and institutions (Bason, 2010, 2014, 2017; Brookfield Institute for Innovation + Entrepreneurship, 2018; European Commission, 2013; Manzini, 2015; Tönurist, 2018).

In this context, among the many actors involved, innovation units have been considered important advocates of the use of design approaches and methods in the public sector to create and test alternative solutions to public problems, innovate in public services and policies, and propose alternative ways in which government might cope with public issues (Bason, 2014; Lewis, McGann, & Blomkamp, 2020). In previous studies on innovation

units, these have received multiple labels<sup>1</sup> as *innovation labs* (Bason, 2010; Gryszkiewicz, Lykourantzou, & Toivonen, 2016; Tönurist et al., 2017; Vibeke Carstensen & Christian, 2012), *public sector innovation labs (PSI labs)* (Ferreira & Botero, 2020; McGann, Blomkamp, et al., 2018), *policy labs* (Fuller & Lochard, 2016; Vaz-Canosa, 2021), *public innovation labs* (Junginger, 2014a), *government innovation labs* (Bason & Schneider, 2014; Selloni & Staszowski, 2013), *innovation teams (i-teams)* (Puttick, Baeck, & Colligan, 2014) and *public sector innovation units (PSI units)* (McGann, Lewis, & Blomkamp, 2018). Moreover, scholars have concluded that design's major contribution to policy happens in the implementation of public services and programs (Bason & Schneider, 2014; Hermus et al., 2020; McGann Blomkamp, & Lewis, 2018; McGann, Lewis, et al., 2018). However, it remains unclear what the impact of design is on developing policy proposals (Blomkamp, 2018; Lewis et al., 2020; Van Buuren et al., 2020). A closer examination of the inclusion and uptake of design activities in the policy making process, particularly at a higher upstream strategic level is therefore necessary.

The present research conducted in 2020, seeks to identify design-led activities and methods in policy making processes by positioning them in the stages of the policy cycle. It does so by studying *Public Sector Innovation Units (PSI units)* (McGann, Lewis, et al., 2018) as unit of analysis. These units have been acknowledged as spaces for the experimentation of alternative approaches to public governance (Junginger, 2014a; Lewis et al., 2020; McGann, Blomkamp, et al., 2018; McGann, Lewis, et al., 2018; Tönurist et al., 2017; Vaz & Prendeville, 2019), but clarity still needs to be made about how they specifically employ design methods in their multi-disciplinary settings.

This research builds a sample of 46 PSI units (around the world explicitly using design) and examines documentation about their design work with the public sector published in websites, blogs, reports, and academic publications. This research uses the policy cycle model of Howlett et al. (2009) as a heuristic device to support identification of design activities and methods at different moments of policy processes. Further empirical evidence is needed to better understand relationships between design activities and different categories of policy work, as other authors have aimed to evince (Lewis et al., 2020; McGann, Blomkamp, et al., 2018; McGann, Lewis, et al., 2018; Vaz & Prendeville, 2019), or to develop a system analysis (Bason, 2017; Blomkamp, 2021).

## Design practice in policy making

### Innovation units and design practice

The literature studying innovation units proposes a variety of labels to name those attempting at innovating the mechanics of the public sector. This research adopts the term *Public Sector Innovation Units (PSI units)* (McGann, Lewis, et al., 2018) as an umbrella term to include labels such as innovation labs or teams, government innovation labs, PSI labs, policy labs, behavioural insights units or teams, smart city labs, as well as dedicated teams within government and non-government organisations, working to address public issues. Their work comprises introducing new approaches in areas

<sup>1</sup> For instance, one of the innovation units was found to be called “social innovation lab” by O’Rafferty (2016); “policy lab” by Olejniczak et al. (2020); “PSI lab” by McGann et al., (2018a, 2018b), and an “agency” in the Design and the Public Sector map (La 27e Région & Nesta, 2017).

such as policy making, public policies, public services, capability building, and government operations. The choice of *PSI units* as a broader term situates innovation units' area of action in the public sector. Moreover, it responds to scholars' conclusions that current labels (e.g. policy labs, PSI labs) vaguely encompass the diverse organisations mapped, particularly those not identifying themselves as *labs* or not working specifically in policy making (McGann, Blomkamp, et al., 2018; McGann, Lewis, et al., 2018; Olejniczak et al., 2020; Vaz & Prendeville, 2019; Vaz-Canosa, 2021).

Scholars have studied PSI units by distinguishing them under categories such as organisational models, government levels, institutional relationships, approaches used, and operational modes (Gryszkiewicz et al., 2016; McGann, Blomkamp, et al., 2018; McGann, Lewis, et al., 2018; Rodríguez, 2018; Schuurman & Tönurist, 2017; Tönurist et al., 2017; Williamson, 2015a). Moreover, PSI units have been investigated according to their geographical sphere in areas such as Europe (Fuller & Lochard, 2016), Australia and New Zealand (McGann, Lewis, et al., 2018), and Latin America (Acevedo & Dassen, 2016; Ferreira & Botero, 2020). While the examined labs employ different methodological approaches, a generic “design-led” or “*designerly*” approach reflects in some of these characterisations (McGann Blomkamp, & Lewis, 2018; McGann, Lewis, et al., 2018; Vaz & Prendeville, 2019). Among the PSI units' studies, three works have shed light on describing their design activities in policy making processes, recognising, naming, characterising and comparing units: *Design for Policy* (Bason, 2014), in particular, *Public design in global perspective: empirical trends* (Bason & Schneider, 2014); *The rise of public sector innovation labs: experiments in design thinking for policy* (McGann, et al., 2018); and *When design meets power: design thinking, public sector innovation and the politics of policymaking* (Lewis et al., 2020).

Bason and Schneider (2014) in collaboration with Selloni and Staszowski (2013) characterised in terms of roles, activities, and provided services 17 *Government Innovation Labs*. The labs analysed were active in 2013 in North America, Europe, Asia and Australia (Bason & Schneider, 2014, p. 35). This work identifies more consistent use of design (in 13 out of 17 labs) on problem framing and generation of “solutions, programs and services” (p.37). The authors conclude that in the public sector context, design approaches are used from the “high-level (macro) ‘policy design’ to the more tangible ‘service design’ of human-system interactions, and ‘participation design’ to help drive citizen and community engagement” (p.38). Finally, the authors suggest that the most creditable potential of design in the public context is in the area of service design.

McGann, Blomkamp, et al. (2018), examined 20 *PSI labs* active in 2016 in North America, Europe, Asia and Australia to classify them according to their approaches and relationship with the government. The authors identify four dominant approaches to public policy: *Design-led*, *Open government/data*, *Evidence-based*, and *Mixed methods*. They define “*Design-led*” as applying design thinking, using “user-centred” methods, and co-creation to identify the policy problem and devise solutions (McGann Blomkamp, & Lewis, 2018; p. 260). Moreover, the authors link the PSI labs' key project activities to six types of “policy-relevant activities” derived from the policy cycle model of Howlett et al. (2009). They describe the “*policy-relevant activities*” as:

- (1) identifying problems and informing the policy agenda (e.g. through research and/or data generation, analysis or dissemination).

- (2) generating proposals and identifying potential solutions (e.g. through ideation, crowd-sourcing, researching options).
- (3) testing solutions (e.g. prototyping, piloting).
- (4) decision-making (e.g. choosing solutions/courses of action, determining/producing policy).
- (5) implementing policy instrument(s) and/or scaling solutions;
- (6) monitoring and evaluating. (p. 262)

McGann, Blomkamp, et al. (2018), found a correlation between PSI labs' approaches and the policy process. Their results highlighted a prominent "design-led" approach focused on generating proposals and testing solutions closer to service design or capability building. However, the extent to which PSI labs contribute to addressing current policy problems remains unclear at formulation and structural levels.

Lewis, McGann, and Blomkamp (2020) studied 52 *PSI labs* in New Zealand and Australia to examine design thinking impact on policy making. This study analyses PSI units' survey responses regarding their methods, work areas (levels of design and stages of innovation), and relationship with the government. PSI labs active in 2018 reported using various of methods, among which the researchers recognised a high number associated with human-centred design. To categorise the areas in which the labs apply design, the authors used the Design Council (2013) "public sector design ladder" describing it as follows:

1. "design for discrete problems (usually service design projects);
2. design as a capability developed in public sector employees;
3. design of policy". (p. 121)
4. design concerning stakeholder-engagement or consultation.

Additional to the ladder, the authors used the seven stages of Nesta's innovation process (Puttick, 2014, p. 14) to inquire about the stages of innovation in which the PSI labs' work. Following the ladder, less than 30% declared to work regularly on "developing policy proposals and reforms". At the same time, most of them principally engaged in activities linked to discrete problems resolution, capability building and engagement/consultation (Lewis et al., 2020, p. 122). They found PSI labs' work concentrates on the first three stages of Nesta's innovation process: "identifying/scoping problems and generating ideas, followed by piloting and prototyping solutions" (Lewis et al., 2020, p. 122). The researchers conclude that their study finds little evidence to suggest a significant impact of design thinking on policy making.

Drawing on the findings of the above-described studies, design practice in the public policy realm seems to engage mainly through service design, while also applying design for other purposes like capability building, citizen engagement/consultation and finding solutions to discrete problems (Bason & Schneider, 2014; Lewis et al., 2020; McGann, Blomkamp, et al., 2018). These authors identify a generalised use in policy implementation (e.g. for public services) and minor use of design approaches at the early stages of the policy process (i.e. developing policy proposals and reforms). Hence, it remains unclear what is (or could be) the contribution of the design practice at a more strategic level.

In the present research, *design practice* is understood as a set of activities interconnecting approaches, methodologies, methods and tools, which practitioners apply to run projects, work together and shape objects of design such as products or services (Bason,

2017; Kimbell, 2009; Meyer, 2011; Sanders, Brandt, & Binder, 2010). Multiple authors have attempted to identify and classify design practices of PSI units (Blomkamp, 2018; Boyer, 2020; Design Council, 2013; Kimbell, 2015; Kimbell & Bailey, 2017; Mager, 2016; Williamson, 2015a). However, it remains necessary to distinguish the activities and connected methods concerning different types of policy work. Further studies will allow to better understand design practices in the policy making process and analyse more consistently design potential contribution to policy making.

## Policy cycle model and design practice

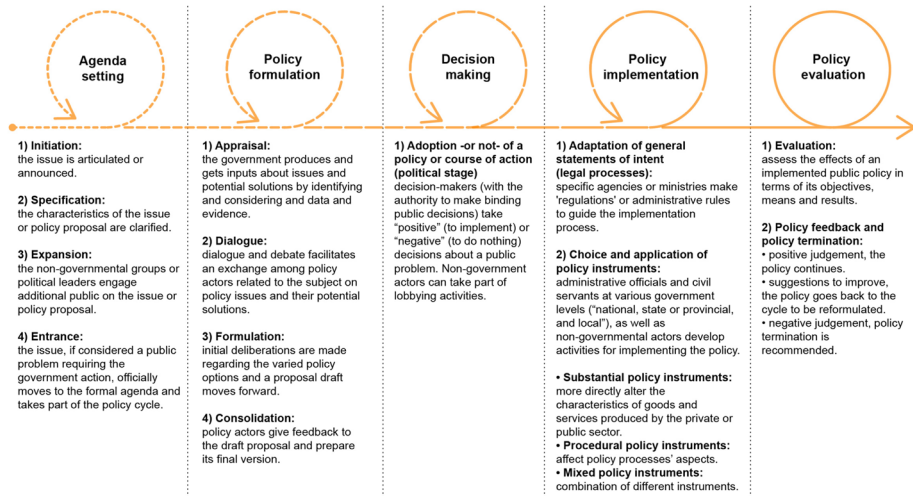
The public policy process is associated with a theoretical policy cycle model, which divides the process into stages that can be investigated individually or as a whole (Cobb & Elder, 1972; Cobb, Ross, & Ross, 1976; Howlett & Ramesh, 2003; Howlett et al., 2009; Lerner & Lasswell, 1951; Thomas, 2001). The policy cycle model is used in teaching public administration and public policy, as an "organising device" and a starting point for scholars and practitioners "for describing and analysing the complex landscape for public policy making" (Lindquist & Wellstead, 2021, p. 305). This cycle assumes that policy making, and decision-making follow a rational and rigorous approach to policy. However, in real-life practice, policy processes develop less systematically and rather resemble complex systems affected by "multi-level policy processes", multiple influential factors, and several actors (Cairney, 2019a, 2019b; Colebatch, 2005; Hallsworth, Parker, & Rutter, 2011; Howlett et al., 2009; Jenkins-Smith & Sabatier, 1994; Lewis et al., 2020).

There exist different policy cycle models that have been associated with policy analysis both in academic and practitioners' work (Althaus, Bridgman, & Davis, 2017; Anderson, 1972; Brewer & DeLeon, 1983; Dye, 2013; HM Treasury, 2003; Howlett & Ramesh, 2003; Jann & Wegrich, 2007; C. O. Jones, 1970; Lasswell, 1956). The policy cycle model has been used as an analytical approach for policies in varied fields such as healthcare, tourism, and social policies (Dye, 2013; Edwards & McClelland, 2009; Howlett, 2013; Pforr, 2005). Among these models, the work of Howlett et al. (2009) has also been referenced to theorise about design practices in the emerging field of design for policy. The *policy cycle* is a familiar concept for designers in this field, and the model serves as a simplified device to differentiate policy making from policy implementation, and various stages and work in the policy process (Junginger, 2013, 2014b; McGann, Blomkamp, et al., 2018; McGann, Lewis, et al., 2018; Vaz & Prendeville, 2019).

Howlett et al. (2009) use the policy cycle to describe the policy process in five stages:

- (1) *Agenda-Setting* concerns the rise of public issues and the recognition of those requiring a formal government action (p. 93).
- (2) *Policy Formulation* involves the process of identifying, refining, and formalising courses of action or policy options to address the issues on the formal agenda (p.110).
- (3) *Decision-Making* generally produces a statement of intent by authorized decision-makers who can take "positive" (to implement) or "negative" (to do nothing) decisions about a public problem (p.139).
- (4) *Policy Implementation* translates policy decisions into action (p.160).
- (5) *Policy Evaluation* assesses the effects of an implemented public policy in terms of its objectives, means and results (p.178).





**Fig. 1** Policy cycle model phases and stages. Description based on Howlett et al. (2009) [built on Cobb and Elder (1972), Cobb, Ross and Ross (1976), and Thomas (2001)], Howlett (1991), and Howlett, Mukherjee, & Woo (2018)

This methodical approach to policy making is the base of the concept of *policy design*. According to Howlett (2014a) and Howlett et al. (2015), *policy design* means to systematically develop an efficient and effective policy by the application of knowledge (from understanding the causation and defining goals to matching them with policy instruments) to a plan for intervention that is likely to achieve the desired aims in a specific policy context. While *policy design* comes originally from policy sciences (Howlett & Mukherjee, 2014), design practitioners in the design for policy field are increasingly using this term to refer to design interventions in the policy process (Bason, 2014). However, it is essential to acknowledge that while this term includes the word *design*, and may be adopted in relation to design-led activities, its original construction does not imply the use of design discipline's methods or approaches (Howlett, 2014b, 2020; Peters, 2018).

The present research intends policy design as the application of *policy instruments* (also called *governing instruments*, *tools of government* or *policy tools*) to policy objectives, that is, the combination of techniques or means to achieve a specific policy goal (Howlett, 1991; Howlett, Mukherjee, & Woo, 2018; Howlett et al., 2009). These instruments can affect the substance of the citizens' daily activities (*substantive policy instruments*) or the government's mode of operation (*procedural policy instruments*) (Howlett et al., 2018). For instance, the provision of services to citizens (as a materialisation of policies, i.e. delivering benefits) is an example of a substantive policy instrument in which design-led methods can be applied. Moreover, building design capabilities of public servants could be considered a procedural policy instrument as it can have an effect on how policy processes are developed. This research adopts this differentiation to distinguish design activities for substantive policy instruments from those for procedural policy instruments, thus affecting government practices and its relationship with citizens. Figure 1 provides a representation of the policy cycle model, stages and phases based on previous work:

Junginger (2013, 2014b) and Vaz and Prendeville (2019) compare the policy cycle to a design process in which policy is a product of "a design" (that is an intentional act of planning). Adopting this general perspective, it is possible to say that PSI units apply design

processes to implement existing policies (e.g. by designing public services). Other authors also reference design methodologies more explicitly in this area, as the Design Council's Double Diamond or IDEO's design thinking (Design Council, 2015; IDEO, Design for Europe, & Nesta, 2017).

Junginger (2013, 2014b) points out that design processes can also occur in small cycles at the early stages of the policy cycle or integrate policy making with policy implementation. In the same vein, the study of Vaz and Predeville (2019) on PSI units' design methods using the policy cycle model clearly illustrates this possibility. They surveyed 16 European policy labs and mapped their design interventions, methodologies, methods, and tools in every stage of the policy cycle. This mapping includes design methods such as scenarios, prototyping, user journey mapping and personas, thus illustrating how some of them could be used in multiple stages for different purposes. Building on the labs' responses, they observed a stronger orientation to certain "*designerly mindsets*", rather than a strict definition and application of specific design *methodologies, methods, and tools*. Specifically, Vaz and Predeville (2019, p. 154) describe the following mindsets:

- *User-centredness*: focus and involvement of the policy target users in the policy making process.
- *Co-creation*: collaborative development of policies with stakeholders typically not involved in the process, such as the policy users and public servants delivering the policy.
- *Exploration*: experimenting with alternative policy solutions and recognising failure as part of an iterative process of testing assumptions with stakeholders.

Previously mentioned studies serve to identify design-led practices in policy processes, these practices present broad categories such as *problem identification, finding solutions to public problems, capability building, and citizen engagement or consultation* (Bason & Schneider, 2014; Lewis et al., 2020; McGann, Blomkamp, et al., 2018; McGann, Lewis, et al., 2018; Vaz & Predeville, 2019). The present study intends to build on this understanding by identifying design activities in relation to types of policy work and in different moments of policy processes. In doing so, the policy cycle model's theoretical basis of a policy process serves as a valuable device to differentiate the moments in which design activities and methods take place.

## Research methodology

The academic literature distinguishing the design activities and methods of PSI units at each stage of the policy process is limited. To explore this area, we initially created a list of PSI units in various geographical locations. This was then filtered to select a sample of PSI units developing design work with governments. Through desk research and web content analysis, the design activities of the sample were interpreted according to the policy cycle model. A compendium of these activities was analysed and is depicted in this paper. To collect units working with the government in policy making in various locations, the "public policy labs" key term was consulted in open search on Google Scholar (GS) and Google Search Engine (GSE) in May 2020. The scan of a chosen corpus of academic and grey literature publications deriving from GS and GSE results revealed a total of 475 "public policy labs" in 6 continents. Although the "public



policy labs” key term intended to map the units involved in public policy making as defined in previous studies (Fuller & Lochard, 2016; McGann, Blomkamp, et al., 2018; McGann, Lewis, et al., 2018; Vaz & Prendeville, 2019), it also revealed other types of units, innovation work, and various labels. Thus, while this research adopts the umbrella term PSI units (McGann, Lewis, et al., 2018), it builds a research sample which only embraces units working directly with government in public policy processes, applying design methods. A total of 19 publications were chosen for scanning: 10 primary references from the GS and GSE results (Apolitical, 2018; Christiansen, 2016; EUPAN, 2018; Fuller & Lochard, 2016; Guelpa, Genoud, & Genoud, 2016; McGann Blomkamp, & Lewis, 2018; McGann, Lewis, et al., 2018; Olejniczak et al., 2020; Rodríguez, 2018; Villeneuve, Barron, & Boskovic, 2019), and 9 secondary references tracked from the previous ones (Acevedo & Dassen, 2016; Gascó, 2017; Gryszkiewicz et al., 2016; La 27e Région & Nesta, 2017; O’Rafferty, 2016; Ramírez-Alujas, 2016; Tönurist et al., 2017; Williamson, 2015a, 2015b). These publications from 2015 to 2020 were written in English, Spanish and French and revealed a total of 475 PSI units in 6 continents and 58 countries. This process is described in Table 1.

Due to the inconsistent typologies of units identified, a further recognition of PSI units working directly with government in public policy making was required. For this purpose and because of limited resources, the list of 475 PSI units was narrowed down to 113 by selecting those cited in more than one of the 19 publications. This comprised units operating at a country, state, region, and city level. PSI units officially closed in 2020, or whose online documentation or presence on the web could not be reached by September 2020 were excluded, reducing the number to 86 PSI units.

Further desk research reviewing publicly available documentation of PSI units’ work in websites, blogs, reports, and academic publications was developed to distinguish the design work of these 86 PSI units and select a final sample of 46 PSI units. Although some of these PSI units were documented as applying design approaches in the public sector (La 27e Région & Nesta, 2017; McGann, Blomkamp, et al., 2018), the brief descriptions of their design work were insufficient to classify their activities in the policy process. Hence, a web content analysis was developed for the 86 PSI units’ gathering information about their approaches, methods and projects’ descriptions which were documented in web or blog posts, reports, and academic publications. This allowed to select those PSI units providing sufficient information that could permit to differentiate design activities from other types within their work.

The content analysis to select the PSI units’ sample considered the following criteria:

- (1) They state clearly and explicitly the use of design approaches and methods;
- (2) They declare a direct work with government organisations;
- (3) They describe the work or projects with government in which design activities and/or methods are used.

For instance, PSI units selected claimed to apply design, namely *design thinking*, *human-centred design*, *user-centred design*, *co-design*, or *service design*, describing their use in the work with governments and allowing to understand the purpose of the design activity. Instead, PSI units were excluded from the sample when: the content did not mention design approaches; it made no further references to design methods; it did not refer to working or collaborating with government organisations; and it did not provide further information about the projects where design was used. It is relevant to

**Table 1** Overview of the process for creating the list of 475 PSI units around the world

Step	Description	Outputs
1. Web-based open search on "public policy labs"	Consulting the key term "public policy labs" on Google Scholar (GS) and Google Search Engine (GSE) and previewing the first 50 top hits in each search engine	- 50 results in GS - 50 results in GSE
2. Filtration of results	Narrowing down 100 resulting publications with the following criteria: (1) it studies PSI units related to public policies and the policy process; (2) it provides a list of the PSI units investigated; (3) it was published from 2015 onwards Checking cross-references, tracking additional references, and removing duplicates	- 10 primary references (from the consultation) - 9 secondary references (tracked from the primary)
3. Scanning literature	Finding in the literature PSI units and information about them (e.g. name, location, and online presence)	- List of 475 PSI units in 6 continents

emphasise that this content analysis is a first part of a broader investigation. Hence, validation of this desktop research is outside of the scope of the present study.

Finally, to identify the design activities in the policy process, PSI units design work was examined using as a reference the Design Council's Double Diamond design process and its stages: *Discover*, *Define*, *Develop* and *Deliver* (Design Council, 2007, 2015, 2019). Several collections of design methods (J. C. Jones, 1992; Sanders & Stappers, 2013; Stickdorn, Hormess, Lawrence, & Schneider, 2018) were combined with this process as a reference framework. The content analysis from the examination of all 46 PSI units' design work was coded. Patterns in the activities were identified, classified and screened against the policy cycle model of Howlett et al. (2009). This research uses this policy cycle model proposed by Howlett et al. (2009) as a heuristic device to ultimately support closer examination of the relevant design activities and methods at different moments of policy processes.

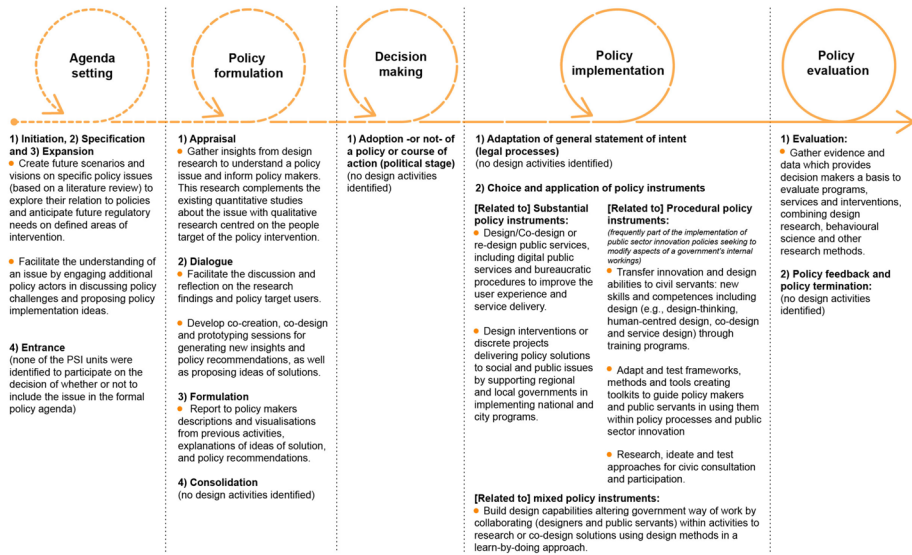
In this content analysis, it was key to examine whether each activity unfolded when a public policy document was under construction or after approval for implementation. Also, identifying if one activity happened before or after the decision-making stage influenced this classification. The interpretation and positioning of each activity in the policy cycle model (see Fig. 1) allowed to code activities, find patterns and classify activities within the stage categories. Finally, a descriptive analysis led to creating the compendium of design activities in the policy process described in this paper. A table presenting names of the 46 PSI units, geographical locations, level of government they operate, websites, and indicating the policy cycle stages applying design is provided in Appendix.

## Design activities of PSI units in the policy process

This section presents an overview summarising key patterns emerging from the research findings. The research confirms that PSI units' design activities in the policy process concentrate mainly in the policy implementation stage (46 PSI units) and are less frequent in the early stages of the policy process. Interestingly, a smaller proportion of PSI units were found to be working in both the policy formulation (13 PSI units) and the agenda-setting stages (4 PSI units). Moreover, a minority of PSI units were identified to apply design methods in the policy evaluation stage (1 PSI units), and none in the decision-making stage.

Although design activities were found to support and provide inputs for taking decisions in most of the stages of the policy cycle model, design interventions were confirmed to be less common in moments where formal or legal decisions are made:

- In the agenda-setting stage in the *entrance* phase, to transition the issue to the formal agenda for a more detailed government consideration.
- In the policy formulation stage in the *consolidation* phase, to give feedback to the policy draft and prepare its final version.
- In the decision-making stage.
- In the policy implementation stage, in the adaptation of general statements of intent, where regulations or administrative rules are created to guide the implementation process.
- In the policy evaluation stage, in formal *policy feedback* and *policy termination*, when the judgment on the policy means and objectives are made.



**Fig. 2** Visualisation of design activities of PSI units identified and positioned in the stages and phases of the policy cycle model

More details on the analysis of the design activities and methods in the policy process are provided in the following paragraphs and summarised in Fig. 2 and Table 2, respectively. Table 2 matches the stages of the policy cycle model with the phases of the Design Council's Double Diamond, thus illustrating small design processes within one stage of the policy process. For instance, PSI units understand and characterise an issue to generate solutions that are tested before moving to another stage.

## Design activities in agenda-setting

In the stage of agenda-setting, design activities were identified in the work of 4 PSI units. These design activities were on the *initiation* and *specification* of a public issue, and the *expansion* of the type and number of actors engaged. On the *entrance* phase, none of the PSI units identified decided whether or not to move an issue from the public to the formal agenda. Additional updated information of the progress of the projects reviewed would be required to understand if the work positioned in the first phases enters to the formal agenda for formulating a policy. More details of the design activities recognised in each phase within the agenda-setting stage are provided below:

(1) Initiation, (2) Specification and (3) Expansion:

- Create future scenarios and visions on specific policy issues (based on a literature review) to explore their relation to policies and anticipate future regulatory needs on defined areas of intervention (e.g. civic participation, public and private relationship, farming, open justice, autonomous ships). For these explorations, designers create and use visual inputs (e.g. personas, prototypes/ *provotypes* -provoking prototypes-, boards and games, visualisations of future scenarios) during workshops and exhibitions to generate awareness and provide a basis for conversations with citizens, stakeholders,

**Table 2** Design methods and tools of PSI units in the stages of the policy cycle model confronted with the phases of the Design Council's Double Diamond (Design Council, 2007, 2015, 2019)

Policy cycle Design process	Agenda-setting	Policy formulation	Decision-making	Policy implementation	Policy evaluation
<b>DISCOVER</b> Understand the issue	<ul style="list-style-type: none"> <li>• Workshops/conversations</li> <li>• Visualisations</li> <li>• Future scenarios</li> <li>• User profiles</li> </ul>	<ul style="list-style-type: none"> <li>• Field research</li> <li>• Ethnographic research</li> <li>• Interviews</li> <li>• Diary studies</li> <li>• Shadowing</li> <li>• Journey mapping</li> </ul>		<ul style="list-style-type: none"> <li>• Observation</li> <li>• Ethnographic research</li> <li>• Interviews</li> <li>• Shadowing</li> <li>• Journey mapping</li> <li>• Contextual inquiry</li> <li>• Focus groups</li> <li>• Service safari</li> </ul>	<ul style="list-style-type: none"> <li>• Design research (Not specified)</li> </ul>
<b>DEFINE</b> Characterise the issue	<ul style="list-style-type: none"> <li>• System maps</li> <li>• Stakeholder maps</li> <li>• Personas</li> <li>• Prototypes/ Prototypes</li> <li>• Boards and design games</li> </ul>	<ul style="list-style-type: none"> <li>• Personas</li> <li>• Customer journey</li> <li>• Scenarios</li> <li>• Storytelling</li> </ul>		<ul style="list-style-type: none"> <li>• Personas</li> <li>• Storyboarding</li> <li>• User scenarios</li> <li>• Problem definition</li> </ul>	
<b>DEVELOP</b> Generate ideas of solutions to the problem	<ul style="list-style-type: none"> <li>• Storyboards</li> <li>• Drawings</li> </ul>	<ul style="list-style-type: none"> <li>• Scenarios</li> <li>• Script of interaction</li> <li>• Service blueprint</li> <li>• Customer journey map</li> </ul>		<ul style="list-style-type: none"> <li>• Brainstorming</li> <li>• Storyboards</li> <li>• Sketches</li> <li>• Customer journey map</li> </ul>	
<b>DELIVER</b> Test and improve solutions		<ul style="list-style-type: none"> <li>• Concept walkthrough</li> <li>• Rehearsal of interaction</li> <li>• Digital service prototypes</li> <li>• Experimental prototypes</li> </ul>		<ul style="list-style-type: none"> <li>• Wireframing</li> <li>• Service blueprint</li> <li>• Paper prototypes</li> <li>• Digital service prototypes</li> <li>• Card sorting</li> <li>• Desktop walkthrough</li> </ul>	

policy makers and other actors to reflect about future and current regulations. They combine design approaches (e.g. speculative design, participatory design) with other related approaches such as foresight. PSI units present the results of these explorations to policy makers and government agencies in reports explaining and illustrating future scenarios, profiles, and personas. The analysis of the visions of the future and policy implications intend to inspire policy makers on developing policy initiatives. (Kimbell & Vesnić-Alujević, 2020; Krzysztofowicz, Rudkin, Winthagen, & Bock, 2020; Vesnić-Alujević & Scapolo, 2019; Vesnić-Alujević et al., 2019).

- Facilitate the understanding of an issue by engaging additional policy actors in discussing policy challenges and policy implementation ideas (e.g. awareness raising and communication campaigns about an issue). PSI units facilitate one or various workshops, or events with different types of policy actors such as citizens and stakeholders using design and participatory design methods (e.g. stakeholder mapping, ideation techniques, storyboarding, drawings). These methods stimulate the conversation about an issue by analysing the context, identifying policy actors and policy challenges, and generating ideas. PSI units describe the inputs from this work -including images of the process and activities-, and present them to government agencies to be considered in the formal political agenda (Academia de Diseño de Políticas Públicas, 2019b; PDR, 2018).

## Design activities in policy formulation

In the stage of policy formulation, design activities have been recognised in the work of 13 PSI units (28% of the research sample) in different phases. In *appraisal*, to gather and examine data (usually qualitative and centred on the people target of the policy intervention) regarding the policy issue (13 PSI units); in *dialogue*, to support the discussion among policy actors about the research findings, and ideation of policy solutions (13 PSI units); and in *formulation*, to explain policy makers the ideas of solution and provide recommendations for policies, providing data for writing a draft of the policy document (9 PSI units). No design activities were identified in the *consolidation* phase, namely the moment in which policy makers and influencing actors give feedback to the policy draft and prepare its final version to be approved -or not- in the decision-making stage. The design activities recognised in this stage are presented in the following paragraphs:

### (1) Appraisal:

- Gather insights from design research to understand a policy issue and inform policy makers. This research complements the existing quantitative studies about the issue with qualitative research centred on the people target of the policy intervention (i.e. human-centred design approach). The qualitative research (e.g. field research, ethnographic research, interviews, diary studies, shadowing, journey mapping) gathers data from citizens, stakeholders, and policy implementers, and serves to understand their experiences and uncovering causes of policy problems. PSI units deliver a research report and present to policy makers findings, insights, challenges and hypothesis of interventions. These reports may include personas and customer journeys to represent the profiles and experiences of the people investigated. (Academia



de Diseño de Políticas Públicas, 2019c; Kimbell, 2015; LABgobar, 2018; Pulse Lab Jakarta, 2019).

(2) Dialogue:

- Facilitate the discussion and reflection on the research findings and policy target users. This discussion uses visualisations representing the research insights (e.g. personas, customer journeys, scenarios) to inspire policy makers, policy implementers, and stakeholders' reflection on the issue with a participatory and human-centred design approach. These discussions elicit opportunities for intervention and generally occur at the beginning of a session for generating ideas of solutions (Pulse Lab Jakarta, 2019).
- Develop co-creation, co-design and prototyping sessions for generating new insights, policy recommendations, and ideas of solutions (e.g. improve public services, re-design public spaces). During these activities potential policy interventions are ideated and prototyped with the participants of the sessions (e.g. policy makers, stakeholders) and -or- potential policy target users. The ideation session uses inputs from research (e.g. personas, visual scenarios, storytelling) and techniques to generate ideas (e.g. brainstorming). The prototyping sessions create a variety of visual design representations such as drawings (e.g. visual scenarios) and digital alpha and beta service prototypes (e.g. from mock-ups to public beta digital platforms). They also use prototyping methods for service design (e.g. script of interaction, service blueprint, customer journey, concept walkthrough) and experimental prototyping combining design with behavioural economics approaches (e.g. randomised controlled trials (RCTs)) to test ideas with policy target users (Kimbell, 2015; Vesnić-Alujević & Scapolo, 2019).. While RCTs are usually an evaluation method to validate the effectiveness of a policy intervention (Hopkins, Breckon, & Lawrence, 2020; Jowell, 2003; OECD, 2017), one PSI unit explains an RCT combined with design prototyping was conducted to learn about policy users and implementers' behaviour before deciding on the policy reform and scaling the experiment (Dominguez Vidal, 2020).

(3) Formulation:

- Report to policy makers descriptions and visualisations from previous activities, explanations of ideas of solution, and policy recommendations. Typically a written report provides data for drafting policy documents such as policy briefs, national innovation strategies, action plans, or interim policy frameworks (Dawson & Jordan, 2020; Departamento Nacional de Planeación, 2018; Spierings & Demeyer, 2019; The City of New York, 2016; ThinkPlace, 2019b; Whicher & Swiatek, 2018).

## Design activities in decision-making

In the decision-making stage, none of the PSI units were identified to make -or not- decisions about the approval of policy documents (e.g. development plans, national strategies, action plans) defining courses of action regarding a public issue. This may be due to the fact that this stage as described by Howlett et al. (2009) is innately political and implies a choice primarily made by authorised decision-makers (e.g. elected representatives empowered to make binding public decisions).

## Design activities in policy implementation

In the stage of policy implementation design activities from all the 46 PSI units were detected. Oppositely, no design activity was identified on the creation of 'regulations' or administrative rules to guide the implementation process.

Regarding *substantive policy instruments*, design activities are developed to improve or optimise the provision of goods and services. These activities are notably dedicated to design or re-design public services (32 PSI units), and design interventions or discrete projects to deliver policies or solutions to local public challenges (26 PSI units). To design these services or interventions PSI units develop one or more phases of the design process to understand and characterise the issue (e.g. research, qualitative data analysis and visualisation), generate ideas of solution (e.g. ideation), and test solutions (e.g. prototyping). Furthermore, in relation to *procedural policy instruments*, design activities intend to alter a government's way of working mainly by building capabilities on innovation and design-led approaches (32 PSI units), creating and testing methods and tools to be used in the government processes (10 PSI units). Also, by supporting community building and engagement, and improving civic participation approaches (12 units); or optimising internal procedures (3 PSI units).

Generally, design activities are developed in collaboration with public servants, citizens, and other actors. Moreover, collaborative activities to conduct research and co-design services or local interventions, contribute to transferring design abilities to the public administration and modifying government organisational and procedural systems—combining *substantive and procedural instruments*—in a learn-by-doing approach. An overview of the most common design activities in this stage are presented hereunder.

Design activities related to *substantive policy instruments*:

- Design/Co-design or re-design public services, including digital public services and bureaucratic procedures to improve the user experience and service delivery. These activities usually follow a design process cycle by applying design methods for gathering data, problem definition, ideation, prototyping, and service delivery through user experience and service design approaches. PSI units deliver to public administrators prototypes (e.g. digital service UX design, re-designed forms), reports and presentations describing the design process, and explaining the services and bureaucratic procedures (e.g. service blueprint, roadmap) (Academia de Diseño de Políticas Públicas, 2019c; Administrative Modernization Agency & Experimentation Lab for Public Administration, 2019; FutureGov, 2018, 2019; IDEO et al., 2017; LABgobar, n.d.-a, n.d.-b; Public Policy Lab, 2016; Pulse Lab Jakarta, UNDP, & BaKTI, 2017; Radywyl, 2019; Vink & Oertzen, 2018; Wetter-Edman, Vink, & Edman, 2016).
- Design interventions or discrete projects delivering policy solutions to social and public issues by supporting regional and local governments in implementing national and city programs, improve communications campaigns, modify public spaces and their services (e.g. schools, hospitals, train stations). These interventions involve design activities to understand, reframe, and tackle local challenges such as research, data visualisation, ideation, and prototyping in the fields of service, strategic, graphic, urban and web design (Bloomberg Philantropies, 2015; La 27e Région, 2010a, 2010b, 2012, 2016; The Auckland Co-design Lab, 2018a; BALab Innovación, 2020).

Design activities related to *procedural policy instruments*: the following design activities are frequently part of the implementation of public policies seeking to modify aspects of a government's internal workings (e.g. organisational culture and procedures).

- Transfer innovation and design abilities to civil servants: new skills and competences including design (e.g. design-thinking, human-centred design, co-design and service design) through training programs (Academia de Diseño de Políticas Públicas, 2019a; Departamento Nacional de Planeación, 2021a, 2021b; La 27e Région, 2016; The Auckland Co-design Lab, 2018a; BizLab Academy, 2019).
- Adapt and test frameworks, methods and tools creating toolkits to guide policy makers and public servants in using them within policy processes and public sector innovation (Academia de diseño de Políticas Públicas, 2019; BALab Innovación, 2020; Bloomberg Philantropies, 2015; IDEO et al., (2017); Ministerio de Ciencia e Innovación, 2020; Nesta 2018, 2019a, 2019b; Leurs & Roberts, 2018; Ministerio de Modernización, 2018; Pulse Lab Jakarta et al., 2017).
- Research, ideate and test approaches for civic consultation and participation (Academia de Diseño de Políticas Públicas, 2019b; Waag, 2020).

### Design activities in policy evaluation

PSI units generate feedback while conducting research for re-designing current public programs and services (The Auckland Co-design Lab, 2018b). Also, this research found that some of them claim to perform policy evaluation activities. Nevertheless, the documentation examined seldom declares the use of design approaches or methods to evaluate and measure policy impact. Among the PSI units reviewed, one PSI unit specifically states to use design methods for this purpose. This PSI unit combines design research, behavioural sciences, and other research methods to gather evidence and data which provides decision makers a basis to evaluate programs, services, and interventions (ThinkPlace, 2019a, 2019b). These mixed research approaches combine on the one hand, quantitative data, and on the other, findings from research with the policy implementers and the beneficiaries of the policy or program (e.g. gathering user feedback). However, little descriptions of the applied methods were found.

### Discussion, limitations and recommendations

This overview of design activities and methods in the policy cycle uncovers areas of design work and indicates potential design contributions to the policy making process. Nevertheless, the following paragraphs present and discuss unanswered questions and examine the limitations of the current research through four areas for further investigation.

#### Defining a more standard classification of the typology of PSI units

The literature scanned from the search on the key term “public policy labs” revealed other multiple labels used to name innovation units working in policy (e.g. public sector innovation labs, Innovation Labs/i-labs, policy labs, policy innovation labs). The heterogeneity of these labels reveals a lack of unanimity on naming the typologies of PSI units' structures and organisations. Also, the labels appear to be used interchangeably. Moreover, from

the evidence of previous studies in this field, existing labels vaguely encompass the variety of entities mapped under their definitions, for example some PSI units categorised as “policy labs” do not recognise themselves as such (McGann, Blomkamp, et al., 2018; Vaz & Prendeville, 2019). Hence, these different labels may be hampering the opportunity to investigate these organisations and compare their practices and impact (Olejniczak et al., 2020). A more widely agreed classification may facilitate a better understanding of PSI units’ design practices in policy making.

### **Gathering evidence of the application of design methods in the policy process**

Desk research and web content analysis allow to collect and analyse a large variety and amount of information with limited resources. Online publications (e.g. reports and academic articles) and web content were assumed to be the main means of dissemination of PSI units’ work. The documentation of this work allowed to explore PSI units’ design activities and present an initial overview of these activities in the policy process. However, this research approach entails methodological limitations in the validation of the analysis and the identification of other design activities, particularly in the stages of decision-making and policy evaluation. Supplementary investigations will be required to gather evidence that validates the interpretations made in this research and uncover non-disclosed projects or non-explicitly declared design interventions. Additional research will also contribute to depict the design practices and how the design methods are applied in the policy process.

### **Validating the policy cycle model as a framework for positioning design methods in the policy process**

The policy cycle model was used as an analytical tool to study the design work along the policy process. However, the interpretation of design activities from real-life practice against the definitions of the model is a more complex task. On the one hand, the reporting of the PSI units’ design work on this field was found to be scarce and brief, and on the other, the activities did not always follow systematically all the phases and stages of the model as affirmed by Howlett and Ramesh (2003). Although, the policy cycle model was considered suitable for this research, it should be further validated, for example, by using it as a tool to reflect with PSI units and designers on their types of design interventions and practices in policy making.

### **Monitoring the evolution of design activities in time**

Finally, this research presents a picture of current PSI units’ design work which may change in the short term, as the average PSI units’ lifespan has been calculated to be about 2–4 years (Fuller & Lochard, 2016; Tönurist et al., 2017). Hence, the monitoring of design practices in public sector will permit to observe the evolution of the design work in policy making. In fact, Junginger (2013) formerly mentioned a more traditional design work in the implementation of policies, while noticing a new role for design in “informing new and existing policies” and an emerging role in “envisioning future policies” (p.3–4). At the present time, this research’s findings confirm the main positioning of design in the policy implementation stage (e.g. public services) and emerging practices in envisioning and informing policies (i.e. design work in agenda setting and policy formulation stages).

Moreover, it found few design activities in policy evaluation. It is possible that in the future this will also influence the methods and training of designers according to political sciences' practices. However, in the medium and short terms, this also means that the recognition of design in this area of practice (i.e. in government and public sector) has not grown significantly. Interestingly, despite the Joint Research Centre having described in 2016 the emergence of policy labs across EU as a fast-growing phenomenon (Fuller & Lochard, 2016), this research shows that after 5 years of this statement, this area of practice is still in its "beta phase". The life and death of these units has a very short life cycle (Fuller & Lochard, 2016; Tönurist et al., 2017), which ascribes them still in the category of pilot projects or experimentation. Thus, future research might also concentrate on understanding the reasons behind this, and the new measures that might be adopted to allow design to become more effective in strategic roles in the policy making practice.

## Conclusions

This research allowed to present a large overview of the design work in different areas and stages of the policy process. It identified design activities in most of the stages of the policy process. While a major predominance of PSI units' design work was observed in the stage of policy implementation, a diversification of traditional design activities was also noticed in policy formulation, agenda-setting, and policy evaluation stages. Design interventions were detected to be less common in the decision-making stage and phases where formal decisions were made, such as: the entrance of an issue to the formal agenda, the consolidation of a policy, legal-administrative processes, and policy feedback and termination.

In line with the findings of previous studies, the results of this research indicate PSI units' design work is more frequent in the stage of policy implementation to design public services and build design capabilities in the public sector (Bason & Schneider, 2014; Lewis et al., 2020; McGann, Blomkamp, et al., 2018; McGann, Lewis, et al., 2018). Further studies are recommended to understand the relevance of building design capabilities and its higher prevalence over other design activities in the policy cycle. Moreover, the support that design offers to policy making maintains its relevance in user-centred and collaborative approaches (Bason, 2014; Blomkamp, 2018; Van Buuren et al., 2020; Vaz & Prendeville, 2019) as widely recognised in the design literature (Sanders & Stappers, 2008). When involving citizens and stakeholders in discussions about policy issues and adopting co-creation to bring a more innovation-friendly organisational setting in government, design has all the characteristics to help regain trust in public institutions. Yet, design discipline is challenged to demonstrate and advocate for its relevance in the public policy field (Hermus et al., 2020; Howlett, 2020).

Furthermore, like the results of Lewis et al. (2020) in Australia and New Zealand, the present research identified 13 PSI units worldwide (around 28% of the sample) developing design work on policy formulation. In this stage, different types of design activities were found to: understand the policy issue, facilitate the discussion about issues and options, and generate policy ideas and recommendations. In line with this, the research has shown that the adoption of mixed design methods and practices for policy formulation remains at the level of pilot experimentations at several governmental levels.

Similar to the work of McGann, Blomkamp, et al. (2018), McGann, Lewis, et al. (2018) and Vaz and Prendeville (2019), the present research found PSI units are seldom involved

in the decision-making stage. Comparatively, Howlett and Migone (2013) have found little empirical evidence on policy influence by external policy consultants. Therefore, this underlines PSI units' limitations regarding policy decision-making and the actual use of their inputs and recommendations for policy formulation.

Data herein seldom declares the use of design approaches or methods to measure and evaluate policy impact from the design perspective. Thereby, additional investigations may be required to observe how PSI units', policy users' and implementers' experiences draw evidence on programs and service evaluation as part of formal *policy feedback or termination*. Furthermore, while PSI units are introducing design methods in agenda setting (e.g. future scenarios), this research found that the effect of PSI units' work in this area is led mainly by government decisions to consider or exclude an issue in the formal agenda.

The present research observed that PSI units' design activities and methods in individual stages follow a sequence from *understanding* and *defining* an issue, to *generating* solutions and *testing* them. These activities recall the phases of a design-led process drawn from the steps of a creative process (Osborn, 1953), more recently represented by organisations such as the Design Council (2015) and IDEO (2017). Hence, the sequence indicates that design activities produce design process [sub]cycles which develop within each of the stages of agenda setting, policy formulation and policy implementation.

Further investigations are required to better understand the design practices in policy making. Future studies should consider examining field data of PSI units' activities to unveil the systemic relationships between design work and policy processes. Researchers and PSI units may benefit from the documentation of design practices in the design for policy field. This would also aid political scientists and public servers' understanding of the potentialities of integrating design approaches and methods in policy making.

## Appendix

See Table 3.



**Table 3** Sample of 46 PSI units studied in alphabetical order. The table includes PSI units' names, geographical location (continent and country), year of foundation, level of government operations, stages of the policy cycle where design activities were identified, keywords for the positioning, and websites examined

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
NA	US	18F	2014	National	Yes				X		Public services, technology and design, user experience	<a href="http://18f.gsa.gov/">http://18f.gsa.gov/</a> <a href="https://18f.gsa.gov/what-we-deliver/">https://18f.gsa.gov/what-we-deliver/</a>
EU	UK	Bexley Innovation Lab	2016	Local	Yes				X		Capability building, civic participation	<a href="https://bexleyinnovationlab.wordpress.com/">https://bexleyinnovationlab.wordpress.com/</a> <a href="https://bexleyinnovationlab.wordpress.com/2019/08/09/senior-leaders-and-enablers-to-civic-participation/">https://bexleyinnovationlab.wordpress.com/2019/08/09/senior-leaders-and-enablers-to-civic-participation/</a> <a href="https://twitter.com/innovate_bexley">https://twitter.com/innovate_bexley</a>
OC	AU	BizLab (Academy)—Department of Industry	Not found	National	Yes				X		Capability building, deliver policy	<a href="https://www.industry.gov.au/policies-and-initiatives/bizlab-academy">https://www.industry.gov.au/policies-and-initiatives/bizlab-academy</a>
NA	US	City of Jersey Innovation Team (i-team Bloomberg Philanthropies)	2015	Local	Yes				X		Interventions to deliver policies or solutions,	<a href="https://innovatejci.org/">https://innovatejci.org/</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
NA	US	City of Long Beach Innovation Team	2015	Local	Yes				X		Government innovation, capability building, interventions to deliver policies or solutions,	<a href="http://longbeach.gov/iteam/">http://longbeach.gov/iteam/</a>
NA	US	City of Los Angeles Innovation Team (i-team Bloomberg Philanthropies)	2015	Local	Yes				X		Public services and programs, interventions to deliver policies or solutions	<a href="https://www.losangelesinnovates.com/">https://www.losangelesinnovates.com/</a>
NA	US	City of Seattle Innovation Team / Seattle Innovation and Performance Team (i-team Bloomberg Philanthropies)	2015	Local	Yes				X		Public services, interventions to deliver policies or solutions, community engagement, internal procedures	<a href="http://www.seattle.gov/innovation-performance">http://www.seattle.gov/innovation-performance</a> <a href="https://www.bloomberg.org/program/government-innovation-teams/">https://www.bloomberg.org/program/government-innovation-teams/</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
NA	US	City of Syracuse Innovation Team / Office of Innovation (i-team Bloomberg Philanthropies)	2015	Local	Yes				X		Public services, interventions to deliver policies or solutions, improve operations, community engagement, capability building,	<a href="http://www.innovatesyracuse.com/">http://www.innovatesyracuse.com/</a>
EU	FR	Conseil Départemental du Val d'Oise / Departmental Council of Val d'Oise / County Council of Val d'Oise	2011	Regional	Yes				X		Public services, capability building,	<a href="https://www.valdoise.fr/667-innovation.htm">https://www.valdoise.fr/667-innovation.htm</a> <a href="https://www.valdoise.fr/2350-nos-formationen.htm">https://www.valdoise.fr/2350-nos-formationen.htm</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
EU	IT	Design Policy Lab	2000	Local/ Regional/ Multinational	No				X		Design in innovation policies; research, policy instruments implementation, capability building, interventions to deliver policies or solutions,	<a href="http://www.designpolicy.eu/">http://www.designpolicy.eu/</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
SA	CO	Equipo de Innovación Pública (EiP)—DNP	2015	National	Yes		X		X		Government innovation, capability building, experimentation, design methods, support policy making/formulation/reform, interventions to deliver policies or solutions,	<a href="https://www.dnp.gov.co/programas/Grupos-Modernizacion-del-Estado/Paginas/Innovacion-Publica.aspx">https://www.dnp.gov.co/programas/Grupos-Modernizacion-del-Estado/Paginas/Innovacion-Publica.aspx</a> <a href="https://medium.com/@eipdnp">https://medium.com/@eipdnp</a> <a href="https://www.nesta.org.uk/blog/experiment-transformation-towards-next-generation-public-innovation-colombia/">https://www.nesta.org.uk/blog/experiment-transformation-towards-next-generation-public-innovation-colombia/</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
EU	EU (BE)	EU Policy Lab/ The Joint Research Centre (JRC)	2015	Multinational	Yes	X	X		X		Future scenarios, discuss non-formal agenda with multiple actors, civic participation, methods and tools, public services, capability building, support policy making/formulation/reform,	<a href="https://blogs.ec.europa.eu/eupolicylab/">https://blogs.ec.europa.eu/eupolicylab/</a> <a href="https://blogs.ec.europa.eu/eupolicylab/portfolio/">https://blogs.ec.europa.eu/eupolicylab/portfolio/</a> <a href="https://blogs.ec.europa.eu/eupolicylab/category/tools/">https://blogs.ec.europa.eu/eupolicylab/category/tools/</a> <a href="https://blogs.ec.europa.eu/eupolicylab/exploring-the-stakeholder-policy-consultation-process/">https://blogs.ec.europa.eu/eupolicylab/exploring-the-stakeholder-policy-consultation-process/</a>
EU	SE	Experio Lab	2013	Multiregional	Partner				X		Healthcare public services and solutions, capability building,	<a href="http://experiolab.com/">http://experiolab.com/</a>



**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
EU	UK	FutureGov	2008	Local/ Regional/ National	No				X		Digital transformation, public services, community building, capability building, building.	<a href="http://www.wearefuture.gov.com/">http://www.wearefuture.gov.com/</a> <a href="https://blog.wearefuture.gov.com/search?q=public%20services">https://blog.wearefuture.gov.com/search?q=public%20services</a>
EU	UK	GDS Government Digital Service	2011	National	Yes				X		Digital transformation, digital public services, capability building,	<a href="https://gds.blog.gov.uk/about/">https://gds.blog.gov.uk/about/</a>
AS	ID	Global Pulse Lab Jakarta (UNDP)	2012	Local/ National	Partner		X		X		Public services, research, public policies, interventions to deliver policies or solutions, support policy making/formulation/reform,	<a href="https://www.unglobalpulse.org/lab/jakarta/">https://www.unglobalpulse.org/lab/jakarta/</a> <a href="https://pulselabjakarta.org/">https://pulselabjakarta.org/</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
EU	AT	GovLab Austria	2016	National	Yes				X		Government innovation, capability building, research, experimentation, civic participation, interventions to deliver policies or solutions,	<a href="http://www.govlab.austria.gv.at/">http://www.govlab.austria.gv.at/</a>
NA	US	HHS Ideas Lab / Department of Health and Human Services Office of the Chief Technology Officer (CTO)	2015	National	Yes				X		Healthcare public services, digital services,	<a href="http://hhs.gov/idealab">http://hhs.gov/idealab</a>
V	UK-AU-NZ	Innovation Unit	2002	Local / Multinational	No				X		Public services, capability building, interventions to deliver policies or solutions,	<a href="http://www.innovationunit.org/">http://www.innovationunit.org/</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
EU	NL	Kennisland	1998	Local	No				X		Social innovation, public services, research, interventions to deliver policies or solutions,	<a href="http://www.kennisland.nl/en/">http://www.kennisland.nl/en/</a>
EU	FR	La 27e Région	2008	Multiregional	Partner				X		Capability building, civic participation, methods and tools, action research, interventions to deliver policies or solutions,	<a href="https://www.la27region.fr/en/">https://www.la27region.fr/en/</a> <a href="http://www.la27e-region.fr/en/capabilities/">http://www.la27e-region.fr/en/capabilities/</a> <a href="https://latransfo.la27e-region.fr/?lang=en">https://latransfo.la27e-region.fr/?lang=en</a> <a href="https://www.la27region.fr/prospective/">https://www.la27region.fr/prospective/</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
EU	FR	La Fabrique de l'Hospitalité	2011	Local	Partner				X		Healthcare services and spaces, methods and tools, interventions to deliver policies or solutions,	<a href="http://www.lafabrique.org/">http://www.lafabrique.org/</a>
EU	FR	Lab Pôle Emploi	2016	National	Yes				X		Employment public services, interventions to deliver policies or solutions,	<a href="https://www.lelab.pole-emploi.fr/">https://www.lelab.pole-emploi.fr/</a>
EU	FR	Labo D'innovation Publique De La Région Champagne-Ardenne—Public Innovation Lab of the Grand Est Region	2009	Regional	No				X		Public services, UX/UI design, strategic innovation-design, capability building	<a href="http://en.users.tudio.fr/projects/labod-region-champagne-ardenne/">http://en.users.tudio.fr/projects/labod-region-champagne-ardenne/</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
SA	AR	Laboratorio de Innovación Buenos Aires (Buenos Aires LAB)	Not found. Publications since 2016	Local	Yes				X		Capability building, methods and tools, interventions to deliver policies or solutions,	<a href="http://www.www.buenoaires.gob.ar/educacion/">www.www.buenoaires.gob.ar/educacion/</a> <a href="http://ciencia-tecnologia-e-innovacion/laboratorio-de-innovacion">ciencia-tecnologia-e-innovacion/laboratorio-de-innovacion</a> , <a href="https://medium.com/balab/about">https://medium.com/balab/about</a> , <a href="https://twitter.com/balab">https://twitter.com/balab</a> <a href="http://innovacion.gob.cl">http://innovacion.gob.cl</a>
SA	CL	Laboratorio de Gobierno Chile	2015	National	Yes				X		Public services, capability building, interventions to deliver policies or solutions,	<a href="http://lab.gob.cl">http://lab.gob.cl</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
SA	AR	Laboratorio de Innovación y Gobierno Abierto/ Laboratorio de Gobierno LABgobar	2016	National	Yes	X	X		X		Discuss non-formal agenda with multiple actors, public services, capability building, methods and tools, interventions to deliver policies or solutions, support policy making/formulation/reform,	<a href="https://www.argentina.gob.ar/fejatura/innovacion-publica/laboratoriodegobernosiervicioscapacidaddeconstruccionmetodosyherramientasparaintervencionesyentregade politicas o soluciones, apoyo a la formulación de políticas, reforma,">https://www.argentina.gob.ar/fejatura/innovacion-publica/laboratoriodegobernosiervicioscapacidaddeconstruccionmetodosyherramientasparaintervencionesyentregade politicas o soluciones, apoyo a la formulación de políticas, reforma,</a>
EU	PT	LABX	2016	National	Yes				X		Public services, capability building, civic participation,	<a href="http://labx.gov.pt">http://labx.gov.pt</a>



**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
NA	US	Mayor's Office of New Urban Mechanics—Boston	2010	Local	Yes				X		Interventions to deliver policies or solutions, public services, Public services, capability building, civic participation, support policy making/formulation/reform,	<a href="http://boston.gov/departments/new-urban-mechanics">http://boston.gov/departments/new-urban-mechanics</a>
EU	UK	MoJ Innovation Team / User Centred Policy Design team	2013	National	Yes		X		X		Public services, capability building, civic participation, support policy making/formulation/reform,	<a href="https://mojdigital.blog.gov.uk/">https://mojdigital.blog.gov.uk/</a> <a href="https://mojdigital.blog.gov.uk/category/user-centred-policy-design/">https://mojdigital.blog.gov.uk/category/user-centred-policy-design/</a> <a href="https://mojdigital.blog.gov.uk/author/user-centred-policy-design-team/">https://mojdigital.blog.gov.uk/author/user-centred-policy-design-team/</a> <a href="https://mojdigital.blog.gov.uk/2020/09/24/secure-video-calls-coming-people-in-prison/">https://mojdigital.blog.gov.uk/2020/09/24/secure-video-calls-coming-people-in-prison/</a> <a href="https://mojdigital.blog.gov.uk/2019/10/21/supporting-people-with-legal-issues/">https://mojdigital.blog.gov.uk/2019/10/21/supporting-people-with-legal-issues/</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
EU	UK	Nesta	1998	Varied	No				X		Public services, capability building, methods and tools, our-work-government-innovation/	<a href="http://www.nesta.org.uk/">http://www.nesta.org.uk/</a> <a href="https://www.nesta.org.uk/government/innovation/our-work-government-innovation/">https://www.nesta.org.uk/government/innovation/our-work-government-innovation/</a> <a href="https://www.nesta.org.uk/toolkit/tools-and-insights/governments/">https://www.nesta.org.uk/toolkit/tools-and-insights/governments/</a>
EU	IE	Northern Ireland Public Sector Innovation Lab / Department of Finance (DoF)	2014	National	Yes		X		X		Public services, civic participation, internal procedures, interventions to deliver policies or solutions, support policy making/formulation/reform,	<a href="https://www.finance-ni.gov.uk/articles/introduction-innovation-lab">https://www.finance-ni.gov.uk/articles/introduction-innovation-lab</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
EU	ES	NovaGob Lab / Fundación NovaGob	2013	National	No				X		Capability building,	<a href="https://novagob.org/goblab">https://novagob.org/goblab</a>
NA	US	OPM Innovation Lab—Office of Personnel Management Innovation Lab / The Lab at OPM	2011	National	Yes				X		Interventions to deliver policies or solutions, capability building, public services, civic participation,	<a href="https://lab.opm.gov/">https://lab.opm.gov/</a> <a href="https://lab.opm.gov/our-services/">https://lab.opm.gov/our-services/</a> <a href="https://twitter.com/LABopm">https://twitter.com/LABopm</a>

Table 3 (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
EU	UK	PDR	1994	UK Varied / Multinational	No	X	X		X		Public services, capability building, methods and tools, design in innovation policies, support policy making/formulation/reform, discuss non-formal agenda with multiple actors	<a href="http://pdronline.co.uk/">http://pdronline.co.uk/</a> <a href="https://www.pdr-consultancy.com/work/people-power-in-policy-innovation">https://www.pdr-consultancy.com/work/people-power-in-policy-innovation</a> <a href="https://www.pdr-consultancy.com/work/design-innovation">https://www.pdr-consultancy.com/work/design-innovation</a> <a href="https://www.pdr-consultancy.com/work/design-think-in-latvia">https://www.pdr-consultancy.com/work/design-think-in-latvia</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
EU	UK	Policy Lab	2014	National	Yes	X	X		X		Public services, capability building, methods and tools, anti-patry regulation, interventions to deliver policies or solutions, support policy making/formulation/reform, discuss non-formal agenda with multiple actors,	<a href="http://openpolicy.blog.gov.uk/">http://openpolicy.blog.gov.uk/</a> <a href="https://www.gov.uk/guidance/open-policy-making-toolkit">https://www.gov.uk/guidance/open-policy-making-toolkit</a> <a href="https://openpolicy.blog.gov.uk/2019/09/23/signals-of-change-using-speculative-design-to-anticipate-regulatory-needs/">https://openpolicy.blog.gov.uk/2019/09/23/signals-of-change-using-speculative-design-to-anticipate-regulatory-needs/</a> <a href="https://openpolicy.blog.gov.uk/2019/01/11/co-designing-by-doing-in-policy-learning-by-doing/">https://openpolicy.blog.gov.uk/2019/01/11/co-designing-by-doing-in-policy-learning-by-doing/</a> <a href="https://openpolicy.blog.gov.uk/2019/11/01/using-speculative-design-to-explore-the-future-of-open-justice/">https://openpolicy.blog.gov.uk/2019/11/01/using-speculative-design-to-explore-the-future-of-open-justice/</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
NA	US	Public Policy Lab	2011	US Varied	No		X		X		Public services, capability building, interventions to deliver policies or solutions, support policy making/formulation/reform,	<a href="http://publicpolicylab.org/">http://publicpolicylab.org/</a> <a href="http://publicpolicylab.org/projects/digital-services/">http://publicpolicylab.org/projects/digital-services/</a>
EU	UK	Satori Lab / Service Works	2014	UK Varied	No				X		Public services, capability building,	<a href="http://thesatoriab.com">http://thesatoriab.com</a> , <a href="https://medium.com/service-works-satori-lab-to-service-works-4cb003c5cb57">https://medium.com/service-works-satori-lab-to-service-works-4cb003c5cb57</a> , <a href="https://www.wareservi.ceworks.com">https://www.wareservi ceworks.com</a>
EU	GE	ServiceLab Public Service Development Agency / The ServiceLab, Georgia	2012	National	Yes				X		Digital public services, methods and tools,	<a href="https://sda.gov.ge/?page_id=4265">https://sda.gov.ge/?page_id=4265</a> <a href="https://sda.gov.ge/?page_id=7325&amp;lang=en">https://sda.gov.ge/?page_id=7325&amp;lang=en</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
EU	UK	SILK (Social Innovation Lab Kent)	2013	Local	Yes		X		X		Public services, methods and tools, support policy making/formulation/reform,	<a href="https://socialinnovation.typepad.com/silk/">https://socialinnovation.typepad.com/silk/</a> <a href="https://socialinnovation.typepad.com/silk/method-deck.html">https://socialinnovation.typepad.com/silk/method-deck.html</a>
OC	AU	TACSI (The Australian Centre for Social Innovation)	2009	AU Varied / Multinational	No		X		X		Public services, capability building, interventions to deliver policies or solutions, policy feedback, support policy making/formulation/reform,	<a href="https://www.tacsi.org.au/">https://www.tacsi.org.au/</a> <a href="https://www.tacsi.org.au/journal/home-for-good/">https://www.tacsi.org.au/journal/home-for-good/</a>

**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
OC	NZ	The Auckland Co-Design Lab	2015	NZ Varied	Yes				X		Capability building, policy feedback, interventions to deliver policies or solutions,	<a href="https://www.aucklandco-designlab.nz/">https://www.aucklandco-designlab.nz/</a>
V	AU-NZ-KE-SG-SN-US	Think Place Global	2005	AU Varied / Multinational	No		X		X	X	Public services, capability building, policy evaluation, interventions to deliver policies or solutions, support policy making/formulation/reform,	<a href="http://www.thinkplaceglobal.com/">http://www.thinkplaceglobal.com/</a> <a href="https://www.thinkplaceglobal.com/work/successful-quit-smoking-program-young-maori-women-solutions/">https://www.thinkplaceglobal.com/work/successful-quit-smoking-program-young-maori-women-solutions/</a> <a href="https://www.thinkplaceglobal.com/making-measuring-impact-reform/">https://www.thinkplaceglobal.com/making-measuring-impact-reform/</a>



**Table 3** (continued)

Continent	Country	Name	Founding year	Level of operation	Inside Gov	Agenda-Setting	Policy-Formulation	Decision-making	Policy-implementation	Policy-evaluation	Design-related Keywords	Websites
V	WW	UNICEF Innovation Labs / UNICEF Office of Innovation	Not found	Multinational	No				X		Interventions to deliver policies or solutions, <a href="https://www.unicef.org/innovation/scale">https://www.unicef.org/innovation/scale</a> , <a href="https://www.unicef.org/innovation/topics/innovation-labs">https://www.unicef.org/innovation/topics/innovation-labs</a>	<a href="https://www.unicef.org/innovation/scale">https://www.unicef.org/innovation/scale</a>
SA	CO	ViveLab Bogotá / New name: Lab 101	Not found	Local	No				X		Digital public services, capability building,	<a href="http://lab101.co/new/">http://lab101.co/new/</a>
EU	NL	Waaig technology & society	1994	NL Varied	No		X		X		Digital identity, capability building, support policy making/formulation/reform,	<a href="https://waaig.org/en/publications">https://waaig.org/en/publications</a> , <a href="https://beleidslab.waaig.org">https://beleidslab.waaig.org</a> , <a href="https://digitaleidontiteit.waaig.org/over/">https://digitaleidontiteit.waaig.org/over/</a>

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## Declarations

**Conflict of interest** The authors have no relevant financial or non-financial interests to disclose.

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