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The Rise of Policy Labs

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The craft of policy labs: an overview of methods applied for development and testing of policy solutions

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CONTENT

Abstract and Key Words

The article explores the ways in which dynamically emerging practices of policy labs address two challenges of public policy: better insights into mechanisms that drive behaviors of policy subjects, and just-in-time feedback on effectiveness of policy solutions.

Analysis is based o the comparative study of 20 well-established policy labs from Western Europe, North America, South America, and Asia. It covers: (a) labs' missions and organizational arrangements, labs' scope and level of operations, (c) approaches and methods used by labs for policy design, and overview of lab's outcomes.

Policy labs, policy innovation, policy cycle, behavioral insights

Introduction

Public administration faces two main challenges in their pursuit of designing public policies that could bring effective and sustainable socio-economic change.

The first challenge is limited insights into real mechanisms that drive response of the policy subjects to the implemented policy measures. Policy subjects (also called policy targets) are citizens, companies, and institutional actors. Evaluation literature argues that public interventions (project, programs, policies and regulations) should be viewed as levers that are designed to activate certain change mechanisms, that in turn should lead to desired effects - a positive change. Evaluators use term "Theory of Change" or "change mechanism" to describe the set of assumptions about certain policy input that trigger a response in policy subjects and bring an expected output (Chen, 2005; Coryn, Noakes, Westine, & Schroter, 2011; Donaldson, 2007; Leeuw, 2003). Designers of policy interventions often ignore existence of mechanism, assuming direct, automatic link between policy action and policy subjects' reaction. This so-called "black box" approach to policy design has been widely criticized in both practice and literature (Astbury & Leeuw, 2010; Pawson, 2013). Furthermore, even when unpacking the black box of mechanisms, designers often follow rational choice theory assuming full rationality of policy subjects, and their unchanging set of preferences (Amadae, 2007). The latest empirical findings of cognitive psychology reveal that these assumptions do not match reality (Kahneman, 2011). People have bounded rationality that often lead to systematic errors and biases in decision-making (Munro, 2009; Simon, 1997; Sunstein, 2000, pp. 1-10). Therefore, in order to design effective policy it is crucial to obtain more realistic insights into change mechanisms that drive behaviors of policy targets - citizens and organizations (Shafir, 2013; Weaver, 2015).

The second challenge is limited feedback on effectiveness of the implemented policy solutions. Public administration has problem with receiving meaningful feedback on what policy solutions worked, the degree of success or failure and the explanatory factors of those effects. There are few underlying reasons for limited policy learning (Bardach, 2006; Leeuw, Rist, & Sonnichsen, 1994; Olejniczak & Mazur, 2014; Sanderson, 2002). First, policy effects are usually postponed in time. So there is a time gap between introducing the solution and seeing a positive, structural change in the group that was target of the policy. Second, causal chains between intervention and its results are often complex. There are lots of actors who are involved in policy delivery and number of intermediate factors that can influence the final effect of the policy solution. Third, unlike in business sector, in public sector there is rarely one clear success indicator. Policy solution can be judged based on number of different criteria: the size of the covered population, the level of public savings, satisfaction rate or performance of policy subjects, etc. Thus, obtaining evidence-based feedback on what works and why early in the process could be very useful for public organizations for their policy learning and improvement of designed solutions.

The current emerging trend of policy labs seems to offer some promising solutions to those shortcomings of the public policy practice. By definition "laboratory" is a place providing opportunity for experimentation, observation, or practice in a field of the study (Merriam-Webster Dictionary). Thus, policy labs, at least in principle, could help addressing the discussed challenges of public policy - namely provide insights into real life mechanisms that drive behaviors of the policy recipients, and allow testing of new policy solutions.

Policy Labs emerge all over the world with a mission to support policy practitioners with innovative solutions, grounded in empirical research. The trend started less than a decade ago (Price, 2015), and recent study have identified 78 policy labs in the European Union alone (Fuller & Lochard, 2016, p. 8-9). While the idea of policy labs gains high popularity, the

name tends to be applied to very different activities and approaches. This could be explained by diverse strands that provided methods for labs: design thinking, ethnography, behavioral insights, collaborative governance, and social entrepreneurship. However, the lack of coherent typology of the labs and their methods, results in a limited possibility to compare their operations and outcomes for academic and practical purposes.

We are, thus, motivated to define, systemize, and challenge the idea of policy labs. For this, we will ask: ***"What are the ways in which labs address two challenges of public policy: providing insights into mechanisms that drive behaviors of policy subjects, and providing just-in-time evidence-based feedback on policy solutions effectiveness?"*.**

We address this question by presenting results of the comparative study of 20 well-established policy labs from Western Europe, North America, South America, and Asia. The systematic, deductive content analysis (Hsieh & Shannon, 2005) covers grey literature, documents and web content on lab activities, records from the analyzed sample of policy labs, and semi-structured interviews with their management.

Paper has three parts. We start with framework that captures the spectrum of labs missions, organizational arrangements, activities, and outcomes. In the empirical part of the article we apply the framework to map methods and tools applied by 20 well-established policy labs across four continents. We specifically focus on methods used for testing the effectiveness of created solutions. This comparative analysis allows us to discuss in conclusions the ways labs address two challenges of the public policy design. We close by presenting possible direction for the future research on labs practices.

The presented research on new phenomena of policy labs will be useful for both academics and practitioners. The examination of organizational settings and methodological practices and orientations of policy labs will contribute to deepening our understanding of the role of policy labs in enhancing evidence-informed policies. For practitioners, the article will provide an overview of strategies to overcome the limitations of current design and testing of public policy solutions.

1 Methodology

1.1 Criteria for selection of cases

For the selection of cases we used following four dimensions: definition of the phenomena, geographical scope, quality of lab and level of governance addressed by labs.

(1) Definition of the phenomena: We focus on policy labs - the entities that declare that they work on: "policy design", solutions for citizens", "solutions for social impact', "designing policy solutions" with a use of "inclusive, multi-stakeholders partnerships", and providing "open forum for new ideas and solutions". Thus, we exclude entrepreneurship labs, majority of which support start-up companies. We also exclude the 'influencers' - organizations that are interested in labs and social innovation, publish articles and reports about them, and offer networking events, but do not design public policies on their own. Among examples of this group there are: NESTA (UK), iMinds (Belgium), OECD Observatory for Public Sector Innovation (France), World Bank (USA) or LabGov (Italy).

(2) Geographical scope: we choose five continents with the highest number of nationally grown policy labs, identified by two network organizations: NESTA (Price, 2015 updated by O'Rafferty, 2016;) and EU Policy Lab (Fuller & Lochard, 2016) – see Table 1). That is why we excluded Africa, as there are mostly international (UNESCO) labs. Moreover, in order to select enough cases following our criteria, we merged Asia and Australia into one geographic group.

(3) Lab quality: We focus on positive outliers. That means labs that: (1) are currently in operation and have been operating for at least one year, (2) have an operative website with information on their activities and additional documents, (3) are present in a network databases or pointed by topical sources (OECD reports, literature on labs, etc.).

(4) Level of governance: We narrow down to labs that provide national or local/regional activities. We exclude labs run by international organizations since they often work as platforms or networking nods that disseminate other labs work.

We leaved out two criteria: policy focus and ownership of labs. In case of policy focus we decided not limit our research to one type of policy issue (transport, taxes, urban issues). That is because our initial review showed multi-sectoral orientation of most of the labs, (b) innovation in topics that are difficult to catalogue in line with traditional sectoral taxonomies. We also left open ownership of the lab because: (a) they often work in a partnership formula that is difficult to untangle based on desk research, (b) multi-partner operating formula could be part of their innovative approach to policy design.

For the selection of cases we applied procedure consisted of three steps.

In STEP 1 we identified labs based on following sources:

- Lab world map / database
- Labs overview reports
- Word of a mouth (links from NESTA webpage, OECD references, our earlier interviews, media news article search)

There is little literature setting out the worldwide overview on labs. The only sources available online has been prepared by the network organizations. One is the 'World of Labs' map prepared by NESTA in 2015, developed by Irish academics in 2016, and the other is the

report 'Public Policy Labs In European Union Member States' by EU Policy Lab. Both organizations prepared networking events for labs: NESTA's Lab Works in 2015[1] (London, UK) and 2016[2] (Santiago, Chile), and EU Policy lab's Lab Connections in 2016[3] (Brussels, Belgium).

Although the overview sources are not academic, they seem to be up-to-date, reliable and have clear selection criteria that go along with the scope of our research. That is why we decided to combine them in the table below and use as a starting point of the case study selection process for our research.

POLICY LABS	Local	Regional	National	Other	TOTAL
Europe	16	21	19	9	**65**
North America	15	17	8	4	**44**
Asia	1	2	6	6	**15**
Latin America	2	1	5	1	**9**
Africa	0	0	1	6	**7**
Australia & Oceania	1	0	3	2	**6**
TOTAL	**35**	**41**	**42**	**28**	**146**

Table 1 Source: Elaborated by the authors on the basis of (Fuller & Lochard, 2016; O'Rafferty, 2016; Price, 2015)

We are aware of the caveats of the sources mentioned above: they are both based in Europe, so their knowledge about the labs in other continents might be limited. However, we have not found any databases or reports presenting the overview of labs from the network organizations based in other continents. That is why we treat the table above as the starting point, and go beyond it in our desk research. This is also why we do not choose our case studies proportionally to the table, as it can be bias and we want to compare the same number of labs from each of four chosen continents.

In STEP 2 we selected cases based on our criteria, reviewing briefly web page content with the use of four dimensions described above (definition, geographical scope, lab quality, and level of governance).

In STEP 3 we collected basic data of the chosen labs, built comparative table and after an analysis we provided short justification why lab was chosen.

1.2 Protocol for case studies analysis

In our analysis we applied exploratory coding {Saldana, 2012, #4312}. Codes are divided into four groups of issues: Who they are, what they do, how they do it, and outcomes of the lab's work.

A) WHO they are

This issue covers basic information about the official mission of the lab, its year of establishment and organizational arrangement (legal status, involved institutions, etc.).

B) WHAT they do

[1] More information: www.nesta.org.uk/event/labworks-2015
[2] More information: www.nesta.org.uk/blog/more-labworks-events-2016
[3] More information: http://blogs.ec.europa.eu/eupolicylab/lab-connections/

Under this heading we examine topics covered by lab, types of interventions (regulations, small community projects, big programs, etc.), level of operation (local, regional, city, national or maybe international level).

C) HOW they do it

This coding allow us to understand the network of the lab (with whom they cooperate, engage into projects), process and methods they apply for design and analysis, and lab's link to policy making (what policy stage they feed into and how they mainstream their solutions).

D) OUTCOMES of labs' work

This issue covers records of the impact of lab's work (What they accomplished in terms of social change, influence on policy, etc.) and identification of case studies - any interesting, detailed cases when lab was able to formulate a policy solution and scale-up.

The current analysis focuses on points A and B since it is based primarily on web information. is paper we focus on point A & B. Issues C and D are initially explored as a background for follow up in depth interviews with labs personnel.

2 Analysis and Findings

2.1 Selection of case studies

Following the selection criteria, we aimed to analyze high-quality policy labs with detailed information on their activities available online. Initial desk research based on such criteria showed enormous diversity of the labs. Hence, we decided to highlight this diversity during the selection of labs for analysis. Following the criteria and further conclusions from desk research, we aimed for variety in terms of location, experience, legal status and level of operation. Below it will be described how we fulfilled each of these aspects. Table 2 presents a summary of chosen case studies.

	No.	POLICY LAB	LOCATION	CREATION YEAR	LEGAL STATUS	LEVEL OF OPERATION
Europe	1	**MindLab**	Denmark, Copenhagen	2002	public	national
	2	**Policy Lab**	UK, London	2014	public	national
	3	**Kennisland**	Netherlands, Amsterdam	1999	NGO	local
	4	**Design Policy Lab**	Italy, Milan	2000	academic	local, international
	5	**La 27e Région**	France, Paris	2008	NGO of public entities	regional
North America	6	**GOVLabPHL**	USA, Philadelphia	2016	public-academic partnership	local
	7	**Ideas42 & Gov42**	USA, Chicago, New York	2008	NGO	local, international
	8	**Social and Behavioral Sciences Team**	USA, Washington DC	2014	public	national

	9	**GovLab**	USA, New York	2012	academic	national, regional, local
	10	**Alberta CoLab**	Canada, Alberta	2014	public	regional, local
Latin America	11	**iGovLab Laboratório de inovação em Governo**	Brasil, San Paulo	2015	NGO of public-academic partnership	national, local
	12	**Ethos Laboratorio de Políticas Públicas**	Mexico, Mexico City	2008	NGO	national, international
	13	**LPP Laboratorio de Políticas Públicas**	Brasil, Rio de Janeiro	2000	academic	national
	14	**LabGob Laboratorio de Gobierno**	Chile, Santiago	2014	public	national
	15	**Smart Lab**	Argentina, Buenos Aires	2015	public	local
Asia & Australia	16	**Seoul Innovation Bureau**	Korea, Seoul	2013	public	local
	17	**PS21**	Singapore, Singapore	1995	public	national
	18	**Auckland Co-Design Lab**	New Zealand, Auckland	2015	public	regional, local
	19	**NSW Behavioural Insights Unit**	Australia, New South Wales	2012	public	regional
	20	**Pulse Lab Jakarta**	Indonesia, Jakarta	2012	NGO-public partnership	national

Table 2 Summary of selected case studies.
Source: elaborated by the authors on the basis of web content

Location

Our case studies cover 20 labs located 5 continents, 16 countries and 20 cities. In every continent we tried to find diverse labs in terms of other criteria. Consequently, in every geographical group there are labs with various ownership statuses, levels of operation and ages of experience. The location of all selected cases has been presented in the Figure 1.

Figure 1 Map of selected case studies. Source: elaborated by the authors using Google Maps. Legend: Green – local; Blue – regional; Red – national.

Experience

The oldest labs among our selection were launched between 1995 and 2002, and we included 4 of them into our analysis. However, some of them started as a different kind of institution, e.g. think-tank, and were transformed into a lab later on. The entity claimed to function longest as a lab is Danish MindLab established in 2002 (Price, 2015). Majority of our labs are not older than five years old. The youngest lab included in our analysis is Philadelphian GOVLabPHL launched in 2016.

Legal status

A half of selected labs is exclusively owned by public sector at various levels of governance. Within that, some of them were launched by multiple ministries, or a national government in cooperation with a city office. Three of them function as an independent non-government organization (NGO), other three are run by universities. The remaining four labs have a form of an NGO launched by a kind of partnership: public-academic, public-NGO or between multiple public sector entities. The clear dominance of public sector can be explained by the area of labs' interest, which in this case is public policy.

Level of operation

Selected labs operate at local, regional and national level. Some of them are additionally active at the international level. Most labs are specialized in one particular level, but seven of them operate at more than one. The most labs among our selection operate at the national level. However, at least one lab from each level was included into analysis within every continental group, with the exception of Latin America.

2.2 WHO they are: labs' missions and organizational arrangements

When analyzing mission statements published at labs websites we often find a similar set of key-words describing their focus and approach to public policy interventions. Labs identify themselves as having a unique approach to gathering knowledge and designing solutions to problems on both policy as well as societal level. Most commonly used expressions include words like: design, innovation, co-production, creativity, data-driven and user-experience.

Figure 2 Word cloud of how policy labs describe themselves.
Source: Elaborated by the authors based on webpages of the analyzed policy labs.

Labs often define themselves as platforms or “shared spaces” of collaboration, knowledge production and implementation, to underline their inter-sectoral bridging capacity. They are usually a cross-departmental or cross-agency teams or units that comprehend various actors on different policy areas. Sometimes they define themselves as action research-oriented units that aim to promote government effectiveness and cultural shifts.

The empowerment of citizens as important participants of decision-making processes is often part of their mission, as it allows an in-depth diagnosis of needs and preferences of public policies’ end-users. In other words, labs situate themselves in-between governments and citizens to enable better communication and bottom-up participation, and between governments and academics to facilitate the integration of data and scientific knowledge into the policy making and implementation.

Depending on the scope of their activity, labs focus either on supporting city-level, regional or national governments, addressing either local, regional or country-wide policies and processes. Majority of studied cases use internet platforms to disseminate knowledge in form of databases, reports, recommendations or materials from workshops. We can stipulate, that digital dissemination allows for bigger impact in terms of not only addressing local problems, but also cross-fertilizing the field of policy laboratories.

Labs are both physical and discursive spaces for sharing knowledge and ideas. In several cases (e.g. MindLab, iGovLab) labs’ facilities and equipment serve as infrastructure that allows for more creative cooperation, venue for meetings and workshops. Some labs are designed to be an operating structure suitable for dealing with complex problems, as well as

the polygon to test methodologies and techniques for redesigning services and innovative platforms. Even if they don't have specific facilities, labs strive to develop new or more adequate products or knowledge, bridging the gap between users and decision-makers, or as Design Policy Lab from Milan put it "re-synchronising governments with society". Experimental approach as well as behavioral science methods seem to be crucial in terms of how labs tackle those topics.

To summarize, analyzed labs describe themselves as:

- Producers or facilitators of innovations – both social and technical
- Platforms for collaboration, creativity and co-creation
- Testing hubs for evidence-based policy
- Spaces for dialogue and empowerment of citizens
- Knowledge producers and accumulators, including digital resources and big data
- Action-research centers involving multi-disciplinary teams composed of designers, idea generators, and social scientists
- Laboratories of ideas or think tanks to make informed decisions
- Toolsheds introducing new policy tools and techniques
- Incubating hubs that aim to enhance innovative culture and new cultural paradigm within organization by changing the mindsets of public bureaucrats

2.3 WHAT they do: labs' scope and level of operations

The level of labs intervention varies from national, regional to local. Among our cases the smallest scope of lab involvement was a metropolitan city (e.g. Buenos Aires, Seoul, Singapore). Particularly in Asian countries, there are notable policy experiments and initiatives to make public sector efficient at the municipal level. Most often, however, labs work on the national level, tackling the issues that are state government's responsibility. In this context they often focus on developing interventions that would allow for convergence between state and local authorities in the field of public innovation.

As innovation is the main line of action for policy labs they are often involved in promoting an innovative state and strengthening an innovative culture in both public as well as academic or private institutions, for example enterprises. One level of innovation is to involve new methods of analysis, another to employ innovative tools, but a third important part is building innovative capacity inside organizations. For example, on the operational (management) side, there is much focus on how to enhance public sector efficiency by changing the organizational culture and mindsets of public bureaucrats. According to Director of MindLab, implementing innovative thinking into public administration is one of the main functions of policy labs[4]. Following this point, it can be argued that once public sector starts operating in an innovative way, policy labs will disappear, as separate units delivering innovative insights to policies will not be needed anymore. Also, there is a considerable emphasis on collaborative management and policy decision-making among different actors (government actors, and non-government actors such as private sector and civil society organizations). Another important type of action is knowledge sharing, because as Kennisland lab notes on its webpage "knowledge only gains value when it is shared".

Through their activities, policy lab contribute to strengthening the notion of open government and citizen engagement (including 'citizen-sourcing'), based on the values of transparency,

[4] Interview with Thomas Prehn, Director of MindLab, Copenhagen 21.04.2016:

efficiency and partnership. To reach their goals, labs strive to create a synergy of resources and approaches, mobilizing capabilities of all involved stakeholders. A starting point for re-examining public policy is usually the analysis of concrete experience and behavioral patterns of involved actors. This allows for designing responses that address the needs of residents, civil servants or businesses in creative and effective ways. As Ideas42 claim at their webpage: lab work is to "use the power of behavioral science to design scalable solutions to some of society's most difficult problems".

Projects implemented by studied labs usually fall under the following categories: social innovation, policy development, service design, entrepreneurship support, digital solutions. In terms of sectors in which labs are most present most are involved in project focused on public administration, education, health, social development and poverty alleviation, security and criminal justice, labor market and entrepreneurship, urban development, transport and mobility. Less present, yet significant among our cases were the issues of human rights, gender equality and aging, democratic governance, cultural heritage, environmental protection, public housing, and international policy. Urban labs usually focused on topics connected to the city governance and the needs of diverse urban population, including access to employment, public transport, housing and recreation.

There seems to be two main reference groups in labs narrative. First one are the citizens of the nation, region or city, whose life the lab seeks to improve. Second reference group consist of governments (or public servants), whose activities labs seeks to support by supplying knowledge, tools or prototypes to implement. Those two perspectives are often combined in labs projects, as in case of GovLab which describes its mission as: "To improve people's lives by changing the way we govern[5]".

In terms of type and scope of intervention we can discern two types of labs – those working on the community level, often engaging in projects addressed to local communities, and those working on the big scope projects at the national level. For example MindLab based in Copenhagen mostly assists during policy-making or improvement of existing policy, helping with regulations and big programs at the national level. Similarly, ETHOS think tank is dedicated to the analysis and design of public policies in Mexico, sometimes even engaging in interventions the concern whole Latin America. Design Policy Lab from Milan leads big international (research) programs, within which partners perform projects locally and then compare with each other and produce joint publications. On the other hand Kennisland in Amsterdam, La 27e Région from Paris or GOVLabPHL from Philadelphia are all focused on small community projects within the city. Some labs, especially in Asia region (eg. Seoul Innovation Bureau) combine those two levels, engaging both in community projects and big programs focused on enhancement of government efficiency and citizen engagement.

Those of the labs that work mainly on national-level, big policy programs and central policy challenges tend to be more focused on areas of public finance, governance and democracy, while more locally focused labs are interested in innovation, design and urban development. However, they all seek to understand the factors that determine people's poverty, well-being, progress and happiness, in order to provide viable and effective solutions that add value to existing ones. One of the ways is to develop alternative metrics that have empirical rigor but, at the same time, consider human concerns and allows for more innovative approaches to address the issue.

Through both local and national involvement, policy labs often contribute to formulation and monitoring of development strategies that aim to strengthen the public space as a sphere of

[5] "About the GovLab," GovLab Official Website, http://thegovlab.org/about/, accessed on 22.05.2017.

effective realization of citizens' rights. They either do it directly, acting as an advisory body in consultation or policies formulation, or indirectly, mobilizing citizens for greater engagement and training public officials to build their capacities to learn and respond to strategic challenges.

In general, policy labs are producers of series of programs and projects that seek to explore, solve, train and deliver tools to improve public services through innovation. This includes investing in new spaces for entrepreneurs, SMEs, students, academics, citizens and NGOs to put their talent and solutions at the service of the priority challenges for the local or national state. For example, the Laboratorio de Gobierno from Santiago de Chile, works on promoting the development of skills, motivations and opportunities for public innovation in government officials who, through learning experiences, can become a source of innovation and agents of change in the public sector. This involves specific capacity development programs like Experimenta, created by civil servants for public officials, seeking to establish the concept and practices of innovation within the institutions of the public sector.

2.4 HOW they do it: labs' approaches, processes and methods

While some of the studied labs are very much action-oriented, some focus on less direct knowledge-sharing activities, promoting the availability and use of data, crowdsourcing and collaborative governance in policymaking. Based on our analysis we can discern four main profiles of labs activities:

- **Knowledge producers** – focused on knowledge creation and sharing, translating existing data for decision-making purposes
- **Experimenters** – focused on testing new solutions, implementing innovative approaches
- **Re-designers** – focused on change-making and co-creation of new solutions addressing problems, needs and behaviors of citizens
- **Facilitators** – focused on communication, facilitating processes and creating a synergy of resources

The division between profiles is not rigid, as it reflects the fact that policy labs often remain flexible in terms of their involvement, in response to changing requests from potential clients and needs of their focus groups.

We also studied how labs efforts **link with reality**, to see which stage of policy making process they usually address and feed into. Majority of work seems to be focused mainly on early stages of the political process, what is visible in the frequency and variety of their methods. As the example of MindLab shows, the biggest number of methods is used for research (10), analysis (8) and ideation (6). Less methods are designed for testing (4), and implementation (2). Also the order of frequency shows that most of MindLab's work is focused on early stages of the process (especially research and analysis, dominating in the first 9 most often methods) (MindLab, 2017).

Policy Lab UK offers different levels of intervention and experiments with methods dedicated to each: 1) Lab light, covering only the diagnosis stage, 2) Lab sprints, covering one chosen stage (excluding Deliver) and 3. Full demonstration project, covering also the Discovery, and Development and Delivery stages. The biggest variety of methods is used at the first (10)

and third stage (9). The least methods are in the discovery (7) and delivery (3) stages (Andrews, 2015).

In other words, labs mostly support policy-making stage (policy analysis and design). To achieve this, they usually advocate, try to influence actors and stakeholders as well as engage in knowledge transfer. Second important way of engaging with reality is implementing new solutions or improving existing ones through institutional redesign (collaborative governance and crowdsourcing), "removing behavioral bottlenecks" and promoting the understanding, diffusion and implementation of various mechanisms that facilitate the collaboration between the agents. Interestingly, in labs from Asia and Australia region we could see additional focus on generating feedback concerning existing or implemented policies.

In terms of **networks**, labs usually have strong ties with various institutions from the public sector including ministries or municipalities and academic institutions, who are involved as projects partners or funders. In terms of target groups that labs engage in their projects these vary depending on the local context and topic. In general, labs work together with government, business, knowledge institutes and social organizations that share their ambitions, constantly exploring cooperation opportunities with different possible partners. Their regular partners usually include local and regional authorities, public administrations and private stakeholders who provide funding to both benefit from and actively contribute to the common good. Civil society organizations are an important partner for labs, as they represent bigger groups of citizens or specific social interests. As for private sector companies or corporations they are usually involved as sponsors of projects or as partners in programs supporting entrepreneurship. Some labs are also associated with various international projects, usually financed by foundations, OECD or European Commission. Some of the introduced projects are umbrella initiatives involving several actors to address a specified challenge. In general labs are trying to diversify the ownership of the project by engaging at least two main actors or groups.

In terms of applied **processes and methods** studied policy labs realize their mission through an intensive use of innovative approaches to create and test solutions, such as information analysis, big data, prototyping (business models), and social media. In recent years we can also observe an increase of use of behavioral insights and learning by doing methodology. Labs often apply randomized experiments or RCTs – the most impactful way to obtain strong causality in testing which intervention works and which don't. No all studied labs publish detailed information about methods that they use, but in general they usually employ a variety of techniques to ensure a human-centered design process for their innovation projects. The methods used vary from project to project and depend on purpose, stakeholders and size.

As for employed processes they often include several stages. For example MindLab delineates five process phases: Research, Analyses, Ideation, Test and Implementation. It has also set out 19 main methods that they use (order depending on frequency): Theory of Change, Project Focus, Project Journey, Target Group, Interview, Film & Sound, People Shadowing, User Journey, Cultural probes, Portraits, Pattern Recognition, How might we?, Perspective Cards, Brainstorm, Priority Grid, Explore Your Ideas, Concept Poster, Proto- & Provotypes, and Future Scenarios. Some methods are useful for more than one stage (e.g. for both research and ideation).

On the other hand, Policy Lab UK discerns 4 stages of their open policy making: 1. Diagnosis (finding the policy problem), 2. Discovery (understanding user needs), 3. Development (generating ideas), 4. Delivery (prototyping and improving ideas). For each stage the Policy

Lab has developed a set of tools (all together 27) including: policy canvas, hopes & fears cards, challenge setting, 5 whys, data discovery cards, user segmentation, personas, user journeys, desk research, evidence safari, data science, interviews, service safaris, design ethnography, film ethnography, crowdsourcing, idea sketch sheets, ideation sheets, ideas days / 'jams', change cards, role cards, future speculations, service blueprints, 'backstage' policy levers, speculative design, desktop prototyping, experience prototyping. The methods are divided into basic, intermediate and specialist, depending on how long and in-depth project is expected by departments.

Smart Lab from Buenos Aires apply what they call “agile methodologies”, such as Design Thinking and Lean Startup, to go through all stages, including the investigation of problems, co-creation of solutions, prototyping, and validating them together with end users, and then implementing them on a large scale throughout the city.

Kennisland from Amsterdam describes its involvement in terms of steps where Step 1 is to collect, interpret, check and publish stories, systematizing emerging story threads. Step 2 is about pursuing those stories with organizations to organize and systematize emerging action opportunities. Then Step 3 is focused on generating collaboration between organizations and citizens around new initiatives to allow for Step 4, which is to experiment with and sustain new initiatives (‘letting go’ of the lab) (Kieboom, Sigaloff, Exel 2015). Each step includes citizens intermediate collective evaluation.

As a different example, NSW Behavioural Insights Unit for Australia enumerates three main stages of their work: 1) understanding the policy issue and its context; 2) building insights and interventions; 3) testing, learning, and adapting, which employ Randomized Controlled Trials methods and if not feasible, pre- and post-tests (Behavioural Insights in NSW Update Report 2016, p. 4).

Design Policy lab from Milan underline the centrality of complexity in their approach, which can be divided into three stages: 1) Understand complexity – help public administrations gather insights and use data meaningfully, while investigating the real needs of policy beneficiaries on the field; 2) Interpret complexity – find the most relevant elements to define public issues and evaluate the most interesting possibilities for experimenting resolutions; and 3) Handle complexity – set fast experiments to test the validity of solutions and support the scale up of successes.

To deal with complex socio-political issues some of the labs use foresight tools, like “Les Eclaireurs” (The Frontliners) – a collaborative foresight tool developed by La 27e Région helps identify the tools, methods and processes that public authorities could employ in the future. Each session of Les Eclaireurs gathers a small group of participants – researchers, experts or practitioners of the selected topic, who together with a team of designers and public policy specialists, identify the major controversies, explore blind spots of the topic and imagine new ideas, solutions and tools.

What guides the policy labs methodology is an applied theoretical framework, often based on management theories and organizational coaching as well as collaborative ethnography and action research practices. Applied approaches to collaborative research span from different traditions, which share three elements: action (real-world change), research (the generation of new scientific knowledge) and participation (the collaboration of scientists with practitioners).

We can discern two main approaches visible in how labs describe their work: behavioral approach and participatory approach. GOVLabPHL and several other labs based in United

States and Australia/New Zealand use typical behavioral approach in which they first explore (conduct research), then design small, low-cost interventions, and finally test them – ideally with RCTs (experiments). Pilot testing is often conducted through randomized trials using behavioral insights (including libertarian intervention or 'nudging'), mainly through email messages, prompts, notifications, and delivery of information to participants. Even those labs which don't mention behavioral approach still underline that their method is based on learning by doing, embracing failures and experimenting to better understand what works and what doesn't and to translate theory and hypotheses into actionable insights.

As for participatory approach it put users at the center, as empowered actors of the process, to ensure that actions stay focused on improving people's lives and employs a mixture of intuitive and participatory ('people-centered') methods that can embrace the complexity as well as involve end-users in creating relevant solutions. This approach is more typical for Latin American region, where the issue of empowerment and building partnerships between society and governments seems especially valid. In the similar spirit, labs in Asia are very much focused on the use of internet and social media as the key tool that increases citizen participation in day-to-day politics, allowing to break the traditional bureaucratic norms. Both in Korea, Singapore and Indonesia we found a strong focus on social media, open government tools (websites, forums, policy workshops of mayoral conversations etc.), along with interventions that aim to reduce bureaucratic culture and red tape. Those methods, as labs argue, allows for creating and disseminating knowledge as well as changing organizational culture of Asian bureaucracy.

In practice, labs usually employ some combination of human-centered design and crowdsourcing, with behavioral insights and strategic thinking, to build evidence-based policy. As some of them point out, human-centered approach welcomes citizens' ideas and solutions, allows for embracing ambiguity and identifying the conditions for co-design and implementation.

To summarize, policy labs produce and disseminate findings using information analytics, exploratory data and prototyping; they use human-centered research to understand the interface between data and human thinking; and employ crowdsourcing, ecosystem strengthening and capacity building techniques to support stakeholders for optimal decision-making processes.

2.5 OUTCOMES of labs' work

Labs aims to create **impacts** through two major ways: by engaging citizens, and by changing the culture of government, though increasing the adoption of suggested changes and improvements by the relevant agencies and government departments.

In terms of impact that studied labs report they include issues like: providing the implementation/user perspective to policy-makers, gathering information, developing and prototyping ideas and initiatives, organizing collaborative processes between different policy actors, preparation for scaling-up and bridging policy principles with real-life implementation, playing an advisory role for decision-makers. Policy Lab practice has involved three main levels of impact: 1) delivering new policy solutions through inspiring practical projects; 2) building the skills and knowledge of the policy profession and wider civil service; and 3) inspiring new thinking and innovations in policy through writing and experimenting. Similar descriptions of impact we could find in other cases.

In some cases we can see a spill-over effect of lab intervention in terms of generating social capital and new practices in local community. Kennisland point out to labs activities resulting in new connections and new initiatives that show how new interactions between citizens and the system may look like and develop. Their experience in Amsteldorp also led to developing and learning about innovation methodologies: generating stories through Feed Forward proved to be a clear added value of a social lab. Stories made it possible for residents to meet new people, to proceed towards action and to develop new plans in unexpected places.

Some labs mention how many people were influenced by their activities. For example Policy Lab enumerates that it has worked with over 5,000 people from across the country on award winning practical projects and workshops. Many more people were reached through the open policy-making toolkit, Policy Lab blog and slideshare which altogether have had over 50,000 views. Policy Lab projects are being scaled up and achieved savings, e.g. the Police Digitisation project is being rolled out across England & Wales, saving £3.7m. Other labs describe their impact in terms of publishing and dissemination results, presenting reports, infographics and number of meetings that took place.

In terms of **successful cases** of implementation we can point out to stories described on some of the labs websites.

MindLab describes the New Nordic School case as their main success, which involved creating change from within the education system in Denmark (Christainsen, Sabroe 2015). Policy Lab points out to the Police Digitisation project, which is being rolled out across England & Wales, generating important savings as well as the homelessness prevention project as their main source of pride.

In case of Kennisland, the most recent example of their experimental approach is the LabSprint Amsteldorp, a program of active in situ research into growing old in a vulnerable neighborhood, to discover which formal and informal support networks exist for elderly people. This topic is relevant not just for Amsterdam, and since 2013 its been introduced also in Rotterdam.

Design Policy Lab from Milan describes the success story of “Design and Craft for the Trentino Region” project, aimed at promoting closer connections between design and craft in the local area of the Trentino Region. In particular, the initiative supports the creation of links between companies, universities and policy makers; development of opportunities for designers to work with firms and ideation of original concepts based on a design-driven approach.

La 27e Region project “New uses for the multimedia library” concerned the development of a library that was established in 2012 to include new uses related to reading, digital advances, and new cultural practices. Designed as a service node and a hub for social links and to generate dynamics in the local and regional context, the library is to be the source of innovative scenarios to better match the expectations of citizens and stakeholders locally.

Social and Behavioral Sciences Team from Washington DC and their success story concerns the Thrift Savings Plan (TSP), which is a retirement savings plan for federal employees. SBST and the Department of Defense (DoD) launched as a pilot email campaign to nearly 720,000 unenrolled participants who were assigned to nine variant groups. The most effective message encouraging enrollment approximately doubled the enrollment compared to no messaging. The SBST and DoD have announced their plan to scale up this intervention to all new service members into TSP beginning in 2018 (SBST 2015 Annual Report, p. 6).

GovLab from Brooklyn NY introduced a joint project with the Aspen Institute and Sloan Foundation called “Information for Impact: Liberating Nonprofit Sector Data”. Its implementation increased level of transparency in disclosing data on nonprofit organizations enabling facilitative detect of fraud by public authorities and enhancing innovation among nonprofits. The outcome of the project triggered the IRS to issue a public statement that it will provide electronically-filed Forms 990 in a machine-readable format, while ensuring that sensitive or personally identifiable information continues to be protected from public distribution (Noveck & Goroff, 2013).

In Canada, with the success of the CoLab at the Energy Department, other industries are benchmarking and franchizing the CoLab business model (potential scale-up of systematic redesign of the government organizations). Also, the CoLab has recently launched its second branch within the department.

Laboratorio de Gobierno in Chile program Experimenta is a good practice in terms of training civil servants to develop more innovative mindsets. Experimenta is a capacity building program to innovate within the public sector, using the methodologies provided by the Laboratorio with the support of an expert team, to develop an innovation project, which intends to establish permanent innovation practices in the public sector institution. Experimenta has a stage prior to the application, consisting of a series of exploratory workshops, where the institutions that want to participate in the program can receive the support of the Laboratory in their application, seeking and prioritizing their problems.

One of the LPP Laboratorio from Buenos Aires project is the open data project to build SUBTE.data website, which collect all the relevant information about the subway of the City of Buenos Aires. To facilitate access and use of information, LPP present the documentation in several formats, also in addition to the raw information, website contains reports and analyzes from the area of uUrban development, mobility and habitat. Access to information on the management of a public service like subway allows to exercise citizen control and to demand changes and improvements.

iGovLab in Brasil implements SPUK Health project that aims to accelerate the incorporation of scientific research results into products and services that contribute to improving the health of the population. It focuses on the State Health Research Institutes and is guided by the open innovation strategy, which means that the institutes open up for collaborative partnerships with other organizations, universities and companies. Collaboration allows for accelerating the generation and exchange of knowledge, alignment of research with emerging needs, and the development of new products and services.

Seoul Innovation Bureau success story is that more than 600,000 citizens participated in individual programs through social media and policy workshops. The Bureau records the levels of outputs of the Sharing Seoul initiative through measuring the number of companies that participated in sharing, and the number of citizens participating online and offline in suggesting ideas (crowdsourcing) (Puttick, Baeck, and Colligan, 2014, p. 86).

In Singapore, from 2012 to 2013, in order to address important municipal issues such as high-rise littering and dog litter in public spaces, the Design Thinking Unit engaged a group of community members in Punggol to understand and identify their problems, and strengthen mutual trust and relationships between the public servants and the residents. This joint effort

led to an effective redesign of public services and cultivation of residents' ideal living experiences[6].

Successful case study from NSW Behavioural Insights Unit in Australia is the design and implementation of RCTs that use text messages to remind and make sure people to attend their hospital appointments. It is projected to save just one hospital more than $66,000 per year.

In Jakarta, Pulse Lab introduced a Haze Gazer in 2016, which is an information and data visualization tool for crisis management and real-time information on disastersas a prototype platform. The Pulse Lab made it publicly available to encourage a higher level of citizen engagement and empowerment, and to promote local community resilience. Now it is in the phase of further development, which aims to include increased coverage of geographical locations and types of data on natural disasters and likely crises[7].

As the above examples shows, policy labs success stories are diverse and concern different levels of policy- or change-making. They are also a practical proof of labs efficacy in terms of connecting knowledge with action to inform public policies. However, apart from working on the ground level, some of the labs also invest in spreading their methodologies and business model internationally as well as locally. European labs have been particularly active in terms of publishing about labs, their mission, and successful case studies (AA.VV., 2014; Christiansen & Bunt, 2012; Expert Group on Public Sector Innovation, 2013; Kieboom, Sigaloff, & Exel, 2015; Kieboom, 2014; Mortati, 2015; Tiesinga & Berkhout, 2014). Such publications were often supported by international networks, for example NESTA. Moreover, some of the labs published their own guidelines of methods used at different stages by policy labs (Andrews, 2015; MindLab, 2017; Open Policy Making, 2017). Many of them publish their case studies, methods, and sometimes particular tools on their web-pages.

What seems to be lacking in terms of policy labs outcomes is a systemized effort to measure their impact after the project full implementation. Some labs are satisfied with general feedback from community, partner institutions or local government ("Looks like Mayor is happy") often collected during workshops to summarize the annual achievements or finalizing the project. However, there seem to be no research involved to measure the real change in terms of approaches or behaviors of citizens or public servants. One of the reasons may be that it's very difficult to measure change in terms of mindsets, decision-making, empowerment or innovative capacity, especially on the short term basis. On the other hand, labs seem to be satisfied with the level of research and analysis that was involved in preparatory phase of their projects and which informed their actions. This approach however, may limit the positive impact of labs work, as it doesn't allow for learning from experience and developing better tools and methods for the future.

[6] "PS21: Building a Future-Ready Public Service – Achievements," Public Service Division (Prime Minister's Office), https://www.psd.gov.sg/what-we-do/ps21-building-a-future-ready-public-service, accessed on 27.05.2017.

[7] "Scaling up Haze Gazer: an analysis and visualization tool for haze crisis management," Jakarta Pulse Lab Web Blog, http://www.unglobalpulse.org/news/scaling-up-haze-gazer, accessed on 27.05.2017.

3 Conclusions

In the introduction we discussed two main challenges facing policy designers: limited insights into real mechanisms that drive policy subjects, and limited feedback on effectiveness of implemented solutions.

Our overview indicates that policy labs try to address the two discussed challenges in at least three different ways: by an overall organizational set up, by dynamics of the process, and with methods they apply during the process.

Let us start with the challenge of insights into change mechanisms that drive behaviors of policy targets - citizens and organizations. At the level of organizational arrangements labs seek to establish partnerships between practitioners from central or local government, academia and research community, and social partners. The assumption is that involvement of those partners brings into the process their unique understanding of how things work in reality. In some cases these are formal partnerships at the institutional level that have direct transmission onto working process (for example in GovLabPHL each project has two leaders - researcher and practitioner), in other cases these are network, project-based links (e.g. GovLab).

The most interesting solutions are applied at the methodological level. Practically all labs use a user-center approach, borrowed from industrial design thinking (Bason, 2014; IDEO, 2012; Stickdorn & Schneider, 2012). The basic idea is to explore the policy solutions from the perspective of the end user - group of citizens that will be exposed to the intervention. In order to understand users labs apply number of observational methods such as ethnographic studies, interviews, service safari, and process analysis.

A growing number of labs reach out for behavioral insights to understand better the bounded rationality of individuals that are subjects of policy solutions. The basic strategy here is to break down the "journey" of the citizen throughout the intervention into sequence of interactions and decisions, and then analyze "behavioral bottlenecks" - heuristics and biases that can block desired behaviors (Service et al., 2015; Stephans, 2016). Also majority of labs try to unpack black boxes of mechanisms by giving the voice to different stakeholders, empowering them, involving them in a participatory process of co-creating solutions on the project-by-project basis (e.g. Italian lab, South American labs, MindLab in Denmark).

The challenge of limited feedback on effectiveness of policy ideas is also tackled by labs through organizational, processual, and methodological arrangements. First, labs try to create safe space for experimentation. In several cases they provide actual venue meetings, workshops, and small project opportunities that could be used as polygons to test new ideas without fear of failure.

Second, majority of labs focuses on working at the early stages of policymaking process - that is problem definition and policy formulation (Howlett, 2011). Some labs (e.g. GovLab) focus on improving already existing and functioning services. These are usually labs that use behavioral insights. What is especially interesting is that labs often try to build within the main policy cycle a smaller loop of design - testing - adaptation (Haynes, Service, & Goldacre, 2012). They win some time by applying small-scale solutions and pilot studies that can be quickly implemented and then feed back into main policy cycle.

Third, all labs declare "testing" of solutions as a central element of their operations. The spectrum of testing methods is quite vast: from randomized control trials commonly accepted as golden standard for evaluating net effects of public interventions (Danielson, 2007;

Glennerster & Takavarasha, 2014), through service prototypes, to assessment and consultations with stakeholders.

Summing up, the reviewed practices of labs seem indeed promising in addressing the challenges of the policy design. However the methodological limitations of our current study (analysis based only desk research of web sources and labs own reports) raises four issues for further studies.

First, there is a need for more in-depth comparative study of labs activities. The use of interviews would allow to verify to what extend terms commonly used by labs have the same meaning. For example number of labs report "experiments" as their way of testing solutions. However it is unclear to what extend this is a generic term describing any idea testing or methodologically advanced RCTs. That type of clarifications could eventually allow building typology of policy labs and their methodological approaches across the world.

Second, it is important to explore the roots of the ideas behind the rise of labs. Some of the sources of inspirations that drive labs are pretty clear. These are namely links to the new developments in service design and behavioral economics (Hassan, 2014; Hustwit, 2009; Hustwit, 2011; Jones, Pykett, & Whitehead, 2013). However it seems that labs are disconnected from the well-established practices of policy and program evaluation (Alkin, C., 2004; Shaw, Greene, & Mark, 2006) or recently emerging predictive analysis of behavioral patterns based on big data (Breul & Petersson, 2017). It would be worth exploring to what extend labs are aware of those synergies.

Third, it is unclear how effective are the analyzed labs in feeding their solutions into the actual policymaking and policy implementation process. Are they stand-alone initiatives that strive for decision-makers attentions, and occasionally feed ideas into policy cycle, or they are integrated into institutional policy system of the particular region or government? Again, a planned cycle of interviews with labs' personnel could provide us with better understanding how systematic is their role in the policy process.

This issue leads to the last limitation of current findings. We do not know how sustainable are the labs in a longer time perspective and what make them durable in organizational terms. Based on current observation we can hypothesize that labs set in a local or regional government by single public policy leader will have a lower survival rate then initiatives established by a coalition of academic researchers and government representatives. However this hypothesis can be verified only in a future. Majority of the labs are relatively young, emerging only in the last 2-3 years. It is still far too early to decide if they are just a temporary fashion or an approach that will substantially change the way we design our public policies.

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