Renegotiation and Maintenance: *Conceptualizing Interactions of a Public Sector Innovation Lab from a Governance Perspective*

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To enable more flexible and responsive public procedures and services, foster innovation, and potentially develop new ways of governing, governments around the world are introducing public sector innovation (PSI) labs. Due to their use of methods influenced by design, PSI labs represent one of the most distinctive ways in which design enters the public sector. Through a case study of a PSI lab in Uruguay, this paper highlights particular challenges that PSI labs face in the public sector related to governance. This is achieved by understanding interactions as manifestations of governance. To capture nuances in the lab's interactions with various actors, the paper introduces the concepts of renegotiation and maintenance. Through these conceptual lenses, the paper makes evident how PSI labs juggle between hierarchical and horizontal interactions, face a need to manage very different ideals and expectations, and how they could, by influencing civil servants and other actors' perspectives on public innovation, challenge the idea of politics and the political and thus contribute to shape varied perspectives of governance.

Keywords **–** Governance, Maintenance, PSI Labs, Renegotiation.

Relevance to Design Practice **–** This article offers designers and other PSI lab practitioners an understanding of the skills they acquire through practice by making the social and political aspects of their interactions evident. It also offers the conceptual tools of renegotiation and maintenance to aid in self-reflexivity.

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Introduction

Design is increasingly recognized and utilized in the public sector, among other strategies, to help governments around the globe change their ways of operating and deal with pressing social, environmental, and economic issues (Bason & Austin, 2022; Julier, 2017; Mazé, 2021; Pirinen et al., 2022). Within the public sector, design approaches and practices take on an expanded and more recent understanding of design, where design takes more of a process role, such as ideation, prototyping, and problem redefinition (Julier, 2017) related to service or systemic perspectives, and focusing on collaborative and human-centered approaches (Pirinen et al., 2022). One of the most distinctive ways in which design enters the public sector is through Public Sector Innovation (PSI) labs (Ferreira & Botero, 2020; Lewis et al., 2020).

PSI labs are experimental institutional forms introduced to support the development of public services and public policies and to develop methods for citizen engagement (Ferreira & Botero, 2020; Lewis et al., 2020; McGann et al., 2018; Tõnurist et al., 2017). Their methods, approaches, and perspectives are influenced by design, bringing creativity, a human-centric perspective, and citizen participation to public administration (Bason & Austin, 2022; Ferreira & Botero, 2020; Lewis et al., 2020). By reaching and making visible real people and their experiences, they contribute to changing the logic of public administration (Kimbell & Vesnic-Alujevic, 2020). Design approaches and PSI labs could be interpreted as promoting new ways of governing (Bason & Austin, 2022) or "produc[ing] new 'governing methods'" (Williamson, 2015, p.252) as they interact with various actors, introducing experimental approaches that have collaborative and people-centered values. Because of these values and approaches, PSI lab methods have been connected to more participatory governance models (Lewis et al., 2020).

However, operating within a traditional institutional landscape comes with challenges for PSI labs. Labs' experimental and collaborative approaches are frequently not comprehended in the public sector (Ferrarezi et al., 2021). Like other design works in the public sector, it faces discontinuity and fragmentation of its work and projects (Pirinen et al., 2022). Moreover, PSI labs face difficulties with capability building and developing these new

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collaborative, more creative approaches (Lewis, 2021). They also experience tensions with public sector culture that is traditionally more siloed, expert-oriented, and lacks a clear understanding of what design is and how it can contribute (Pirinen et al., 2022). Evaluation is another challenge for PSI labs (Tõnurist et al., 2017). In response, the PSI labs attempt to produce 'valuable' evaluations and communication of the results of their projects (Ferrarezi et al., 2021; Zurbriggen & González Lago, 2019), thereby trying to create some balance between the dissonance of their methods and the public sector audit culture. These challenges can also be linked to the clash that arises when these experimental institutional forms face hierarchical frameworks and power structures (Lewis et al., 2020). Thus, the lack of understanding of government and policymaking bureaucratic context poses critical challenges for design in such a context (Clark & Craft, 2019).

Such observations support the suggestions that design in this context needs to understand both the challenges it faces in a political environment (Lewis et al., 2020) and especially its relation to governance (Rosenqvist & Mitchell, 2016; Tunstall, 2007). In general, there is a need to develop a more critical perspective on what is required for design to contribute within the public sector (Kimbell et al., 2022; Mazé, 2021; Vaz & Ferreira, 2022). Design has the potential to make governance more tangible for people (Tunstall, 2007), but to do so, there is a need to not only understand underlying and unarticulated issues around public services and policies but also to question governance structures, processes, and responsibilities (Rosenqvist & Mitchell, 2016; Rosenqvist, 2017). In that regard, Rosenqvist emphasizes the importance for designers to understand governance relations, acknowledging governance as complex and encompassing a broad spectrum of actors and relations.

The overall purpose of this paper is to contribute to a more nuanced understanding of PSI labs and design in the public sector from a governance perspective through a case study of a governmental PSI lab in Uruguay. To achieve this, the paper will follow Kooiman (2003), who emphasizes the importance of understanding governance through interactions. Defined as "a mutually influencing relation between two or more actors or entities…considered as predominantly between human actors with social-political governing roles" (p.13), Kooiman argues that interactions highlight social and political dimensions. As an analytical tool to understand governance, they thus bring forth social and political aspects related to power, authority, and responsibility.

To conceptualize and articulate nuances of the interactions of the PSI lab in the case study, I introduce the concepts of renegotiation and maintenance. The concepts and my use of them build on ideas from science and technology studies and the perspective on governing a technological society presented by Barry (2001), emphasizing the entanglement of the social, technical, and the political. This paper is thus an attempt to answer the question of *how we can conceptualize PSI lab interactions from a governance perspective.*

This paper is structured as follows: the next two sections frame governance, design, and PSI labs and then introduce the concepts of renegotiation and maintenance. The paper proceeds to present the methods used to gather the material for the case study. Then, the case study is developed through the concepts of renegotiation and maintenance. Finally, the paper discusses the findings of the case study and concludes with some remarks on how the concepts of renegotiation and maintenance might help understand the interplay of the social, technical, and political aspects of PSI lab interactions.

Design and Governance

Governance is a broad and ambiguous term that one can find embedded in discussions and documents of government reforms that follow a fashionable discourse in academia and practice (Pollitt & Hupe, 2011). In this paper, I use the concept as it enables me to focus on governing and actors that are engaged in governing. Despite its ambiguity, for Pollitt and Hupe, governance involves "the notion that steering society or making policy increasingly requires the active participation of a range of actors in addition to government itself" (p.646) as it emphasizes a wider concept than government, where government is part of but not opposite or contrary to it. Notably, the relevance governance gives to actors other than the government helps to acknowledge these actors (here as individuals) that have individual interests and expectations and exert a certain amount of power related to their place in institutional structures and concerning institutional culture (Zurbriggen, 2011). It also stresses the relevance of informal interactions between government and other actors (Rhodes, 2007) and how interactions reflect the varied "governing efforts" and the diversity of entities, actors, and their relations (Kooiman, 2003).

Research connecting design and governance highlights the importance of the relationship between design and governance and understanding and questioning governance structures, processes, and responsibilities (Mazé, 2021; Rosenqvist & Mitchell, 2016; Tunstall, 2007). For example, Mazé (2021, p.14), while introducing the expansion of design forms (design thinking, co-design, and service design) in government, explains how governance (or the process of governance) deals with the change from hierarchical frameworks to more horizontal and distributed ways of managing government, regulation, and conduct. Therefore, we might say that this shift emphasizes how interactions between the government and other actors are part of the governance process. Rosenqvist (2017), for example, points out how the understanding of governance displayed by designers such as Tunstall (2007) is restricted to modifications of processes and structures within governments. Instead, Rosenqvist stresses the importance "for the designer to consider governance a networked activity" (p. 147), emphasizing the variety of actors, goals, and their interactions.

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PSI Lab's Interactions from a Governance Perspective: *Renegotiation and Maintenance*

The concept of renegotiation is based on the work of Gomart and Hajer (2003) on the importance of understanding politics through practice or empirical investigation. Here, they try to advance the relevance of science and technology studies to the understanding of contemporary politics but also hinting the idea of experimentation in relation to new political forms. They use the term renegotiation in relation to how "the ways and 'forms' of doing politics are being renegotiated" (p.34), emphasizing the crucial role of continuous negotiation in changing how we understand politics and the political. With the concept, they foreground the constantly changing nature of politics and its forms, as well as the power structures and the continuous renegotiations and adjustments associated with change. Using the term underlines how the political is not something static but rather in flux, in constant redefinition. By identifying some PSI labs interactions as acts of renegotiation, the paper highlights the tensions and struggles of experimental institutional forms in the public sector, which revolve around challenges to conventions of public administration, power structures, and validation criteria.

The concept of maintenance comes from the maintenance and repair studies within science and technology studies. Maintenance and repair studies highlight the mundane and invisible practices and work in the 'background' that helps keep things going (Denis, 2019), not only emphasizing care and materiality but also acknowledging their vulnerable and relational conditions (Denis et al., 2015). Maintenance stresses the multiple actors and practices, and the interactions needed to keep things going, where some practices could sometimes be competing or even contradictory (Denis, 2019; Denis et al., 2015). Moreover, maintenance and repair studies challenge the idea of innovation by engaging with and making evident more plural, mundane, and invisible sites of innovation (Denis et al., 2015). It highlights objects and technology as imperfect and, therefore, requiring maintenance, adding and keeping in view an inherently social and political layer to our understanding of technology (Denis, 2019). This maintenance process is an ongoing process that involves learning and attending to breakdown and failure (Graham & Thrift, 2007). By referring to some interactions as acts of maintenance, the paper emphasizes the relevance of mundane, everyday work done by the Lab team members to maintain their practices, values, and social networks. These interactions involve dealing with failure and care for material or social aspects relevant to PSI labs to preserve their work and values and increase the likelihood of new opportunities.

To support the applications of these concepts, it is also useful to introduce three different types of social interactions based on Kooiman's (2003) distinction between interferences, interplays, and interventions. I will refer to them as spontaneous, horizontal, and hierarchical interactions to avoid confusion with common labels for certain design actions. Spontaneous interactions are common daily interactions of societal processes, horizontal interactions are primarily collective actions, and hierarchical interactions are the more structured and formalized interactions where we can identify rules and regulations playing an important role. For example, we will see that renegotiation consists primarily of hierarchical interactions constrained by the power structures within the context of government. On the other hand, maintenance concerns primarily how to maintain and affect the material, social and cultural context, and consists of mainly horizontal and spontaneous interactions.

Methods

The overall aim when gathering and analyzing the material for this study was to gain a deeper understanding of the PSI lab's interactions from a governance perspective. To that purpose, I delved into a case study of a Uruguay lab to gain context-dependent knowledge based on the actors' experiences in their context (Flyybjerg, 2006). My unit of analysis is the PSI lab–"Social innovation lab for e-government" (known and referred to here as the Lab), which was within the National Agency for e-Government and Information Society (AGESIC) in Uruguay in the period from 2015 to 2019.

The collected material primarily focuses on two months of ethnographic fieldwork with the Lab in Uruguay (October-December 2019), where I engaged in participant observation (Crouch and Pearce, 2013) as a field researcher, capturing mainly interactions among the Lab team members and other people working in AGESIC. This resulted in field notes, pictures, and audio recordings of primarily internal Lab team meetings, but also some meetings and workshops with internal project partners (AGESIC) and external meetings and presentations with outside stakeholders.

Navigating "the space between" (p. 60), my relationship with the Lab team could be described as that of being an insider-outsider as presented by Dwyer and Buckle (2009). I could be seen as an insider (for sharing some similarities with the Lab team) but also as an outsider (as, for instance, I am not a practitioner myself and for my role as a researcher). Therefore, this ambiguity and blurriness bring potential biases and blind spots, which I attempted to minimize by triangulating the data with different literature, discussing my analysis and writing with other researchers and some Lab team members. However, it remains important to acknowledge the partiality of my 'situated knowledge' and practice as a researcher (Haraway, 1988), recognizing that my perspective on the events will be somewhat biased through my involvement with the Lab.

This material is complemented with other fieldwork, interviews, and informal interactions (2017-2023), online research (including the Lab's section in AGESIC's website and open documents shared by the Lab), documents and literature with information about the Lab (Castagnola & Arancio, 2020; Acevedo & Dassen, 2016; Totorica et al., 2016; Zurbriggen & González Lago, 2019). Additionally, the material includes 19 semi-structured interviews (60 to 90 min long, audio recorded) between 2017 and 2019, including: 4 Lab members and management, 3 members from another lab, 1 consultant and researcher, 2 from other participatory municipal actions and 5 designers connected with the public sector, public policy, or design education.

To illustrate the Lab's interactions and develop my analysis, I selected three examples representing each of the three different periods of the Lab (as identified in the Lab report produced by Castagnola & Arancio, 2020). The examples are all projects, enabling me to understand better how interactions were similar or different within each period. The two first examples are based on reports, interviews, and other resources, whereas the third one is the main project I encountered during my field research. Being projects, the interactions with the project partner have similar time frames (lasting at least for a couple of months) and vary in reach of actors, as will be explained in the analysis.

The analysis itself was done over multiple iterations. Initially, a thematic analysis (Braun & Clarke, 2006) was done, aiming to identify and understand the type and quality of the interactions of the Lab. While contraposing this thematic analysis to literature used for the theoretical background, the concepts of renegotiation and maintenance were identified as concepts to interpret the main characteristics of the interactions found in the data. In the later stages, the data was analyzed and reinterpreted through the concepts of renegotiation and maintenance. Then, I focus on developing situational analysis to bring forth the nuances of interactions (Clarke, 2003) through diagrams based on stakeholder maps and systems visualizations.

With the PSI lab being part of a governmental institution, the study required a nondisclosure agreement with the institution, making some information confidential. Moreover, as the Lab team consists of a small number of people, I have chosen to take an analytical approach that would give relevance to the individuals but at the same time blur them in my writing to protect and preserve their anonymity. Henceforth, I will refer to the Lab team as an actor per se.

A PSI Lab to Contribute to Uruguay's E-government Development

PSI labs emerged in the 2000s in Europe and have since become a way to introduce innovation in governments (OECD, 2017). As a trend, they have expanded worldwide, creating hype about this public innovation' instruments' and familiarizing the public sector with design. This trend has also reached Latin America, where PSI labs have been proliferating (Acevedo & Dassen, 2016; Ferrarezi et al., 2021; Ferreira & Botero, 2020; Galindez & Nuñez, 2020; Lauriano & Ferreira, 2022; Silva Junior & Emmendoerfer, 2023; Zurbriggen & González Lago, 2015). The introduction of PSI labs has been aligned with the 'innovation imperative' proposed by OECD (Lauriano & Ferreira, 2022) and with existing agendas for open and e-digital government in the region to primarily develop collaborative and participatory methods (Acevedo & Dassen, 2016; Galindez & Nuñez, 2020; Ferreira & Botero, 2020). Uruguay also followed this trend, however not to the same extent within municipal and state governments as elsewhere in Latin America. Instead, we find in Uruguay the Lab in AGEISC (since 2015) at the state level to foster exchange between public institutions primarily and a more urban city approach with the lab part of Montevideo City Council MvdLab (since 2017).

Uruguay is a democratic republic, which is seen as one of the full democracies in Latin America (Uruguay XXI, 2024). The country has three branches of government: executive, legislative, and judiciary, where the president is the head of state and government and has both executive and legislative power. It has a third level of decentralization of government (municipios in Spanish) since 2014 (IMPO, 2016). Uruguay's government has been steering towards an e-government particularly since 2005 (Uruguay Presidencia, 2017), by implementing various projects and legislations striving for innovation and social inclusion through technology and digitalization. For instance, important milestones include the implementation of a national agency of research and innovation in 2006 (ANII, n.d.) as well as setting up the National Agency for e-Government and Information Society (AGESIC) in 2007 (established as an 'executive unit' directly under Uruguay's presidency, see Figure 1) and starting a state level project in 2007 to support the use of technology in primary public education by giving laptops to children and to support the development of connectivity throughout the country (Ceibal, n.d.). In following mandates, the country pledged to open government agendas since 2011 (AGESIC, n.d.), fostering transparency and digitalizing the government to make it more accessible for people, and in 2015, starting a state project to promote digital inclusion for elderly people (Ibirapitá, n.d.). Continuing with the digitalization of government in 2015 the new government promised to develop online procedures from all public institutions, developing legislation about it and assigning AGESIC to lead the program of Digitalizing public procedures. Some members of the top-level management in AGESIC followed world trends and initiated a PSI Lab to contribute to the project of Digitalizing public procedures.

At this point, it is important to mention that the story that follows about the Lab, namely the case study, builds on the different conversations, text, data, and other things that contributed to my understanding and interpretation of the Lab.

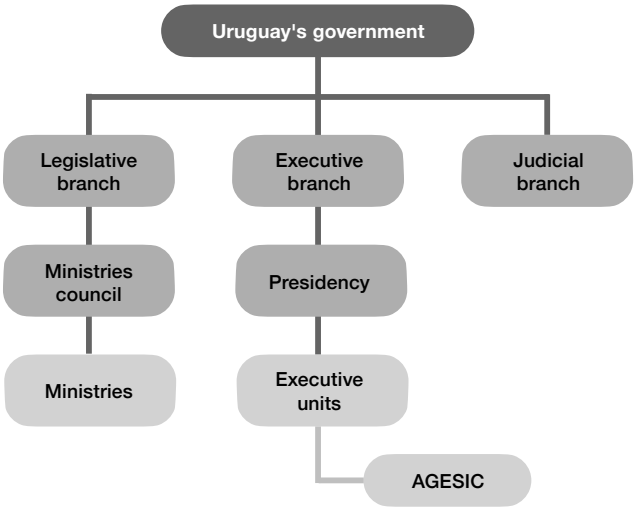

Figure 1. Placement of AGESIC within Uruguay's government. (Based on a synthesis of the official Institutional organization chart of Uruguay, accessed July 2023)

The Lab

The social innovation lab for e-Government (henceforth the Lab) was a small multidisciplinary team (3-6 people), part of AGESIC, established to develop innovation to help with the development of a digital government in Uruguay. They introduced people-centered and collaborative methods, creativity, and experimentation in the public sector. They aimed to help public sector workers and authorities understand other actors' experiences and expectations about how digital government could improve people's lives. To achieve this, the Lab worked collaboratively with different actors (e.g. different areas of AGESIC, ministries, other public institutions, organized civil society, and people in general) to primarily contribute to developing, improving, or updating public services and procedures. The Lab had a primary method with different stages to guide project processes, both to envision the overall project and to follow through the different stages with project partners/actors. This method evolved and developed throughout the Lab's history. Alongside the method, they had different approaches to tailor the different stages to the project and partner/actors' needs and interests.

The Lab was founded in 2015 to contribute to a presidential program. It had the support of the deputy director of AGESIC, and in 2016, the Lab also received support from the Inter-American Development Bank (IDB) through a technical cooperation.

In the following section, I will first present a brief history of the Lab. This will provide the reader with background information about the broader institutional context, how the Lab impacted the type of projects it had, and how it had to adapt its methods. Following the presentation of the history of the Lab, I look closer at three projects. With each example, my aim is to first gain a preliminary understanding of the actors and interactions of those projects and, then show how we can deepen our understanding of these interactions through the concepts of renegotiation and maintenance. The analysis is supported by visualizations that help bring forth the nuances.

Brief Story of the Lab (2015-2019)

In the final report of the Lab, Castagnola and Arancio (2020) present three different periods representing the institutional development of the Lab: creation (2015), growth (2016-2018) and consolidation (2019). For my analysis, I follow those but highlight with the visualizations the Lab's placement within AGESIC (see Figure 2) as that had a significant impact on their methods and interactions.

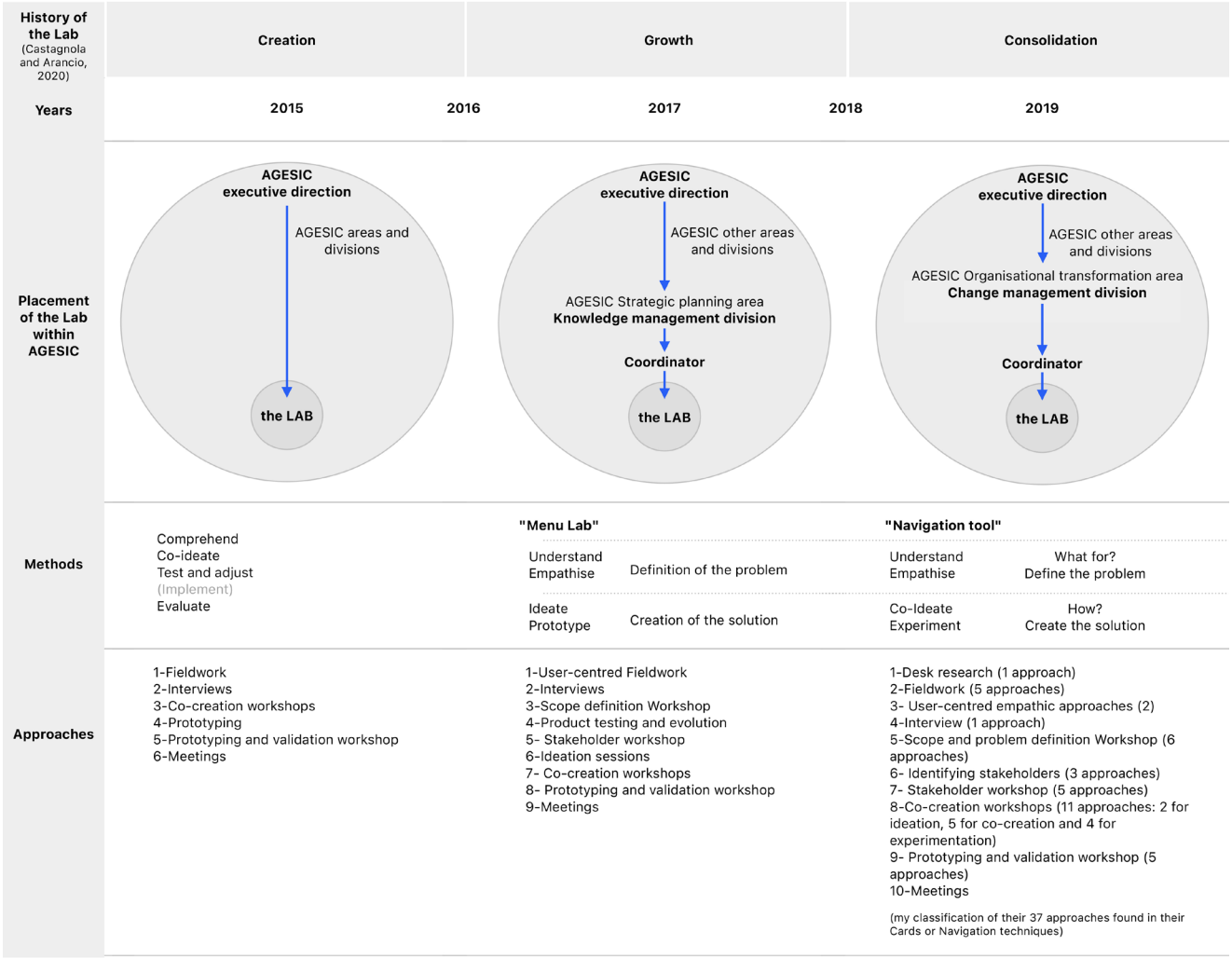

Figure 2. Visualization of the Lab history, showing its placement within AGESIC, their methods, and their approaches.

2015- Creation: Lab as a Change Maker

The Lab's conception was planned, sponsored, and driven by the deputy director of AGESIC at that time, who had envisioned the Lab and actively endorsed the technical cooperation project with IDB through a technical cooperation. This cooperation involved 80% of its funding, training, and reporting from 2016 to mid-2019. Therefore, during the first year, the Lab enjoyed considerable political support, visibility, and purpose as it was also connected to a project supporting the presidential flagship program Digitalizing public procedures. For the Lab, the Digitalization of public procedures project lasted from July to November 2015 and encompassed 34 procedures with 9 ministries and other public entities. Their method, stated in very general terms, was based on design thinking, co-creation approaches, and anthropology. It was presented as different stages to understand, co-ideate, test, and adjust the ideas, ending in evaluation. Notably, the implementation phase was planned before the evaluation, but it was done by an operative team. The Lab and its methods were clearly influenced by the international public innovation trend and other exemplary Labs. To validate the Lab methods, as it was important that their methods and the Lab itself were "*not seen as random*" (as someone from management expressed), they followed exemplary labs or other reports (e.g. meeting with the Danish MindLab and followed reports from Nesta).

At this initial stage of the Lab, the interactions between them and the executive direction were more direct, and the Lab was perceived as a potential change maker. The Lab interacted with a wide range of actors, having project partners primarily outside AGESIC. In general, the Lab had the capacity to act and influence their context. It seems there was a mix of excitement and resistance from both sides: the actors interacting with the Lab were excited but also skeptical about adopting the Lab's approach (i.e. using the tools provided by the Lab to understand the parts of the procedure and prototype a new way of doing it), and the Lab team was excited to innovate but lacked an understanding of the context they were operating in.

2016-2018- Growth: Lab as a Facilitator/Service Provider

After the digitalizing public procedures project ended and the deputy director left AGESIC, the political conditions for the Lab changed drastically and their method started evolving. The Lab lost support and endorsement, even though it was still under the executive division of AGESIC and the IDB cooperation was approved. This 'in between' period became a reflective and transitional moment for the Lab to rethink its role and understand what it could offer. To clarify its purpose, scope, and methods, the Lab team worked on its name (agreeing on "Social innovation Lab for e-government"), reflected on their methods (Totorica et al., 2016), and had trainings to develop them (e.g. a second training with MindLab). In addition, they also tried to develop a more suitable way of evaluating their projects supported by academics (see Zurbriggen & Gonzalez Lago, 2019).

The changes continued in 2017 when the Lab was moved to the Strategic Planning area under the Knowledge Management division. This organizational relocation coincided with a general restructuring of AGESIC and led to changes in the Lab's structure, as some team members moved to other parts of the institution and the Lab coordination changed; the Lab was now directed by the director of the new area. In addition, it was assigned a coordinator who had weekly meetings with the Lab and sometimes participated in the projects. It also meant a change in their political support as the restructuring moved them further away from executive power, losing visibility and affecting their validation within AGESIC. Therefore, to gain visibility, validation, and trust, primarily in AGESIC, the Lab worked on expanding the range of projects to include one-time activities in addition to long-term processes and engaged with new project partners. The Lab was seen as a facilitator or service provider, as they included in their work the facilitation of workshops and interventions with other actors. They developed and started referring to their method as "Menu Lab", which was a process and a communication tool. It had two main "action lines": defining a problem (encompassing the concepts of understanding and empathy) and creating a solution (involving ideating and prototyping). The Menu Lab provided different approaches for each action line, with clear stages (amount and type of meeting, potential actors) and timeframe (intervention, short or long-term project). This way of presenting their method was the result of renegotiation between the Lab team and the coordination. While the Lab team desired to create a shared language with potential project partners, the management expected something that could offer potential partners a clear picture of what they could do with the Lab. However, it also proved to be misleading and created confusion. Some project partners thought they could simply mix and match methods and processes as they wished, although some parts were key to project processes and could not be avoided.

2019- Consolidation: Lab as a Tool

At the beginning of 2019, the Lab was relocated again within AGESIC, this time to the Organizational Transformation in the Change Management division. This also led to changes in their management and their method. While the political support remained the same within the previous division, the Change Management division cooperated to a greater extent with other institutions outside of AGESIC. This enabled the Lab to again collaborate with outside partners through AGESIC projects and connect with other Labs more actively. Therefore, they adapted their method again towards what they called the "Navigation tool" method. They called it and used it as a 'template' to guide the partners and themselves in the process, adjusting their ways of referring to their tools to better align with the ones used by AGESIC. For example, they changed ideating and prototyping for co-ideating to emphasize collaboration and experimenting and to have a broader approach to experimental methods. They supported this tool with their 'Cards' or 'Navigation techniques', including 37 different approaches to tailor different stages of the process. The navigation tool method embodied key learnings of their work in public administration, as it presented a set of clear conditions for the project partners to be 'ticked off' at the beginning, which would work as a filter for selecting potential

project partners and favored long-term projects. This reflected key learnings from past interactions with other actors, such as how they could better identify with whom they could collaborate and how. The navigation tool acknowledged the challenges and limitations when facing project partners: some would follow the Lab process with no intention to change or innovate but to follow already pre-set outcomes and ideas, while others wanted to pursue innovative processes but lacked political/managerial support.

An Illustration of PSI labs Interactions, Navigating through Renegotiation and Maintenance

To understand PSI labs interactions, this subsection presents actors and interactions from three project examples. Those projects were developed by the Lab team through collaboration with other actors during the three different phases of the Lab, each project represents one of them. The presentations of the projects are based on my understanding of them from conversations with team members and other material (internal and publicly available documents, websites).

To unpack some of the nuances from PSI labs interactions, I turn to visualizations to aid me in presenting part of the materials I collected and enabling me to illustrate the interactions. The visualizations will be based on the template given in Figure 3.

Figure 3 presents a simple diagram that I will use as a template and develop further. The graph shows the Lab within AGESIC (delimited in grey) as explained earlier but adds more layers to visualize and unpack actors and their interactions. The Lab is in the middle, as the analysis is presented from their perspective. The second and the third circles represent different levels of contact with actors, other institutions, or other factors influencing the Lab or their interactions (e.g. legislation, organizational culture, etc.). The axes show the principle behind the organizing of the different actors: the vertical axis organizes actors in terms of hierarchical power, whereas the horizontal axis organizes actors and factors concerning the extent to which the actors are part of an institution. Therefore, the placement of the Lab in the middle also represents 'in between' the actors and the levels. Arrowed lines represent the interactions; the thicker ones represent interactions the Lab has, and thinner ones represent other interactions the actors have that influence the Lab but which it does not take part in. The arrowed lines also have different colors to identify the type of interaction: hierarchical, horizontal, and spontaneous. As different approaches produce different kinds of interactions, the approaches are marked with numbers close to the actors. Renegotiation and maintenance are represented by squares with the initial letter and are explained further in the text.

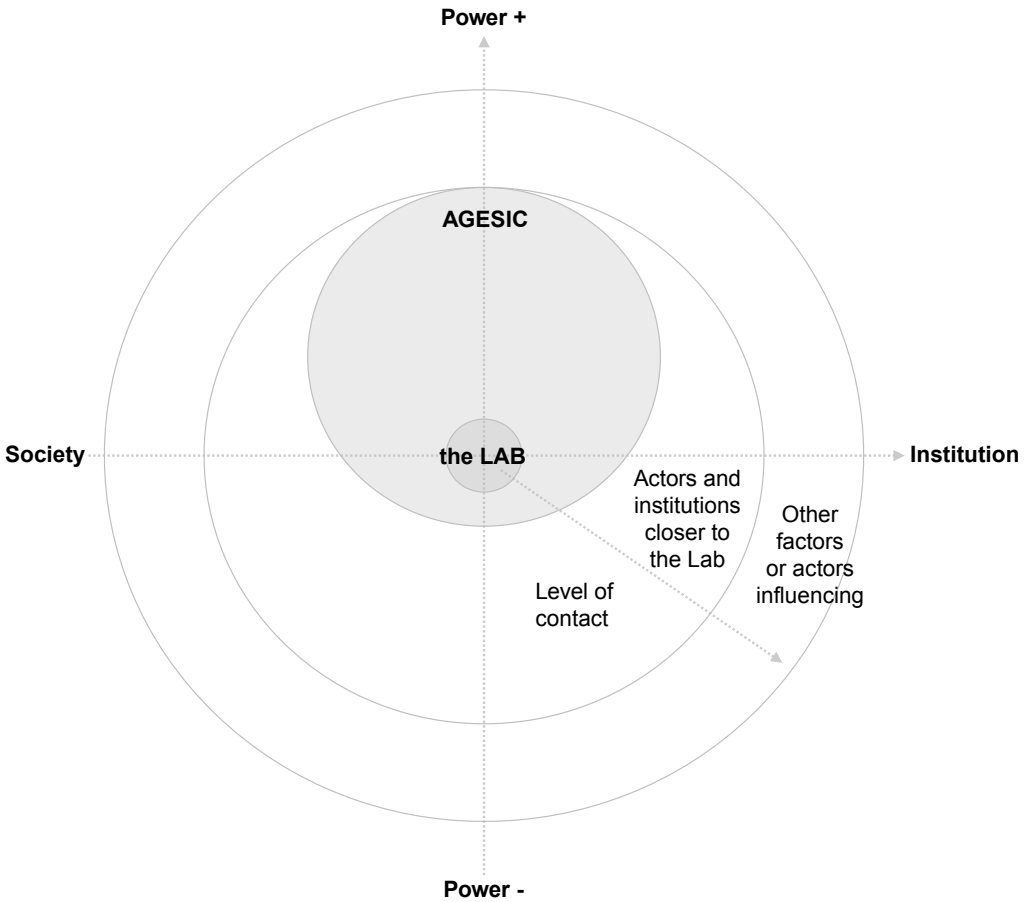

Figure 3. Template actors and interactions diagram. The diagram situates the Lab in the middle framed within AGESIC. Other circles represent the level of contact, and the axes demark power and type of actor.

Registering Cultural and Educational Institutions Procedure

The first example is a project the Lab developed in 2015. This project was part of the Digitalization of public procedures project. In particular, the project concerned the procedure for registering cultural and educational institutions.

For this procedure (Figure 4), the Lab team interacted primarily with a representative from the Ministry and some civil servants working with this procedure. They had a favorable relationship and interactions with the Ministry representative. This enabled them to move relatively freely in their premises for the fieldwork, to use some of their infrastructure for the interviews, and to facilitate contact with the civil servants and users. Therefore, the Lab could do fieldwork to gain knowledge about the user's experience of the procedure in the ministerial building by interacting with some users and civil servants to learn about their experiences with the procedures. These interactions enabled them to understand some of their difficulties, like how they struggled with the building and the time needed to navigate inside it since the place to do the procedure was different from the place to pay for it. From the fieldwork, they also noticed how common it was

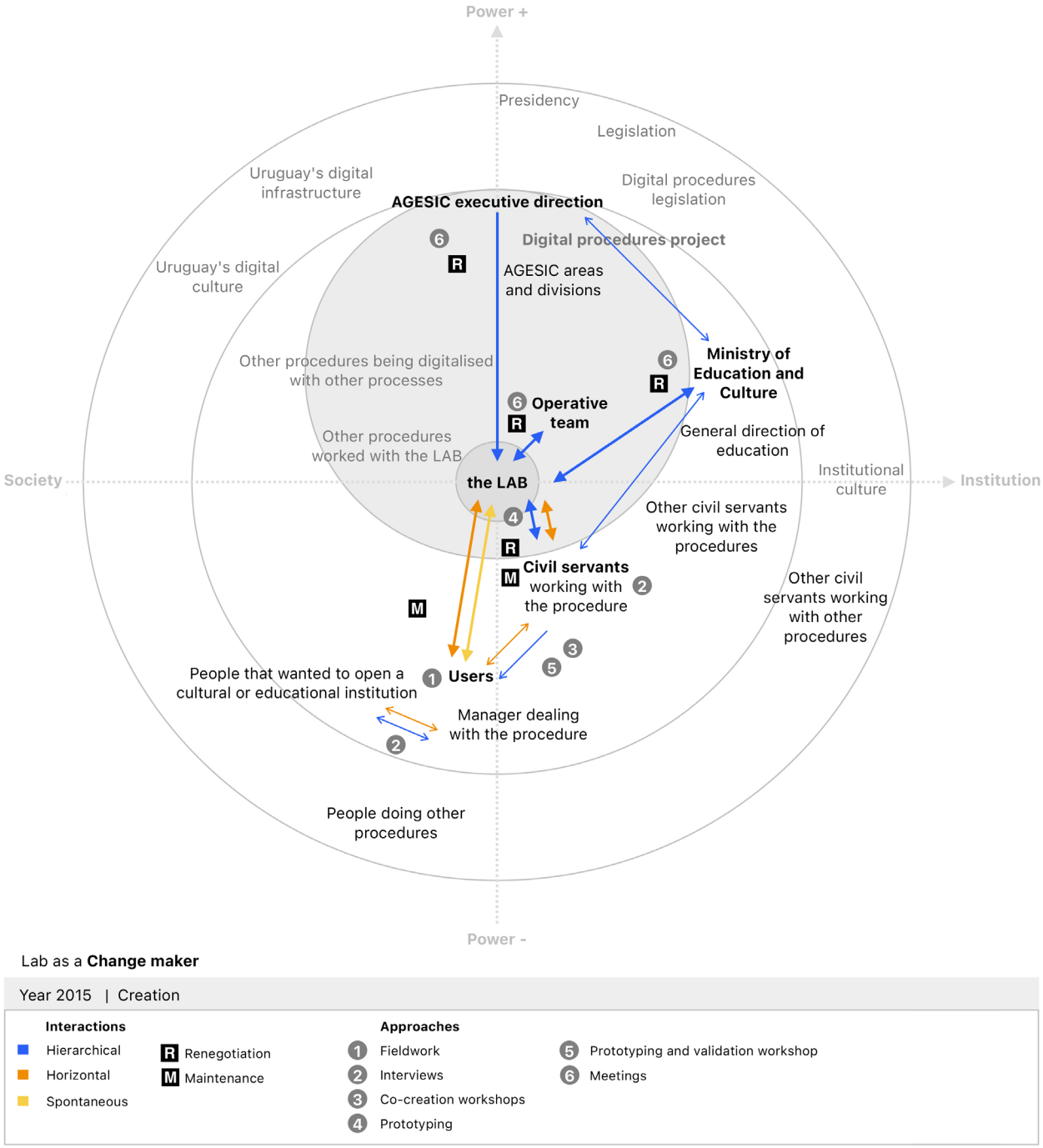

Figure 4. Registering cultural and educational institutions: actors and interactions.

that a professional consultant was hired to deal with the procedure instead of the actual people interested in doing it. This made part of the process run smoothly, not because of the procedure itself but because of the consultants' knowledge, as they would know the workarounds or tricks after having done the procedure several times. In a following stage of the project process, the Lab team interacted with users/people and civil servants working on the procedure through workshops organized together with the Ministry. The participants of the workshops were selected and contacted by the Ministry. From the workshops, it became clear that the users were very eager to participate and influence the procedure, displaying flexibility with the digital technologies even if they were not accustomed users. However, civil servants were simultaneously somehow open to updating the procedure through technology but resistant to change. By conducting separate interviews with the civil servants, the Lab team gained a better understanding of some of the challenges civil servants faced because of the institutional culture. For instance, civil servants were not against adopting digital technologies or making the process easier for users. Instead, their resistance to change was related to their feeling of 'ownership' or 'being knowledgeable' of the procedure, as it seemed to give them a certain status or power within the institution, and they had clear expectations to keep it. Nevertheless, the mandates and expectations from the Ministry side, and to a certain extent from AGESIC, became evident in the later stages of the project during the interviews and workshops. The presidential program aimed to digitalize all the public procedures of the country within a certain period, which made it difficult to consider alternatives that would entail more than digitalizing as that would require not only further processes and engagements (e.g. workshops) but also more time.

The interactions with the executive direction and the Ministry might be interpreted as hierarchical, as they are framed by the program set by the Presidency, the project set by AGESIC and the mandates also coming from the Ministry. On the other hand, the interactions during the fieldwork might be interpreted as horizontal, as they have a clear common goal of understanding and improving the procedure, and some as spontaneous, as they needed to build trust/empathy with the users as to get valuable information. During the workshops, the interactions were primarily horizontal between the different actors.

From the interactions I could identify in this example, I interpret the hierarchical interactions the Lab had with other actors as Renegotiation. These interactions the Lab had (with the Ministry, the executive direction of AGESIC, the civil servant and the operative team) are all layered in colliding individual and common interests, and they are also governed by mandates and hierarchical structures. Nevertheless, this was an initial stage of the Lab. Hence, the renegotiation they needed to do was towards explaining clearer how they could help and attempting to understand how to change the material and access the social and cultural context. Importantly, we should remember that the project was a pilot and, therefore, that the understanding of the Lab team members about their potential impact might be different from the reality and challenges of a bureaucratic environment. Moreover, the renegotiation they experienced between the Ministry and the civil servants highlighted the tensions arising between the mandate to change the procedure and the institutional culture.

Interactions connected to the Lab's everyday work, such as producing and planning workshops, I interpret as maintenance. These are primarily horizontal and spontaneous interactions. From the example, I can identify the interactions with the users and the civil servants during workshops and fieldwork as maintenance. These interactions also required mundane work on building trust and connection during a short period. Moreover, for the interactions here, I could also mention how the material starts playing an important role, for example, the space where they had the workshops and the materials utilized to prompt the conversation, in this case, about the procedure.

E-guides for Transportation of Mineral and Rocks

The second example is a project the Lab did in 2018, again concerning the digitalization of the Uruguayan government, but no longer under the Digitalization of public procedures project. This two-month project with DINAMIGE (National direction of mining and geology, part of the Ministry of Industry, Energy and Mining) aimed to improve the e-guides used to account for the transportation of minerals and rocks. The guides were digitalized, but they were being revised through this project because transportation workers (the users) supported by the transport union complained about them to the authorities.

In this case (Figure 5), the Lab interacted with the Ministry through a project manager (PM) assigned by the Ministry to work on projects with AGESIC (part of the restructuring measures done in 2017). Therefore, the interactions were already set by the type of exchange the PM was supposed to have with AGESIC. The Lab had a favorable exchange with the PM, who enabled them to interact with other actors. For this project, they did extensive fieldwork, visiting eight quarries to understand how the users utilized the e-guides in their context and to learn about their experiences. By experiencing the daily work routines, the Lab could identify workers' struggles with the e-guides in varied work conditions and spaces. This included, for example, issues related to using the e-guides on cellphones caused by website refreshing and waiting times that forced them to restart the process repeatedly because of system or connectivity issues. They also deepened their understanding through interviews with the users. The workshop was very fruitful as they had representatives from all the actors: the transport workers, the union, some civil servants, and some from the Ministry. For this workshop, the Lab focused on validating and prioritizing their findings. This was a moment where the Lab attempted to 'balance' the varied expectations, envisioning together how a better version of the e-guide could be through discussions and collaborative approaches. Nonetheless, issues related to the institutional culture, as mentioned in the first example, arose also in this case.

I interpret the interactions between the Lab and the Ministry, the National Direction of Mining and Geology as well as their interactions with their authorities, as renegotiation. The Lab needed to renegotiate with the Ministry to influence the outcome of the e-guide, for it to be informed by the experiences of the workers over preset ideas of how the procedure should be. Easier said than done, as the mandate of digitalization and

the amount of time spent were pressing issues for the Ministry and AGESIC. However, during the workshops, part of the renegotiation encompassed managing not only renegotiating with the Ministry, the civil servants, and the union, relevant insights from the workers' experiences, but also bureaucratic or legislative aspects from the Ministry side that were impossible to avoid. It was essential to consider how the material (in this case, the e-guides) already introduced a cultural context of the use of the digital. However, the social, or in this case, the working conditions and access to the e-guide, were found to be the key to the solution. Nevertheless, for planning the workshops and during the meetings with AGESIC authorities or the Ministry PM, it was crucial to be aware of and consider the institutional logic.

On the other hand, I interpret some of the interactions between the Lab and the workers, the Lab and the coordination, and the civil servants as maintenance. In particular, the mundane work required to prepare for and carry on with the innovative and collaborative process while simultaneously nurturing the relationships with the people they interacted with and account for in the Ministry and AGESIC. In the case of the transport workers, this also involved the Lab to develop relations of trust to understand the issues better.

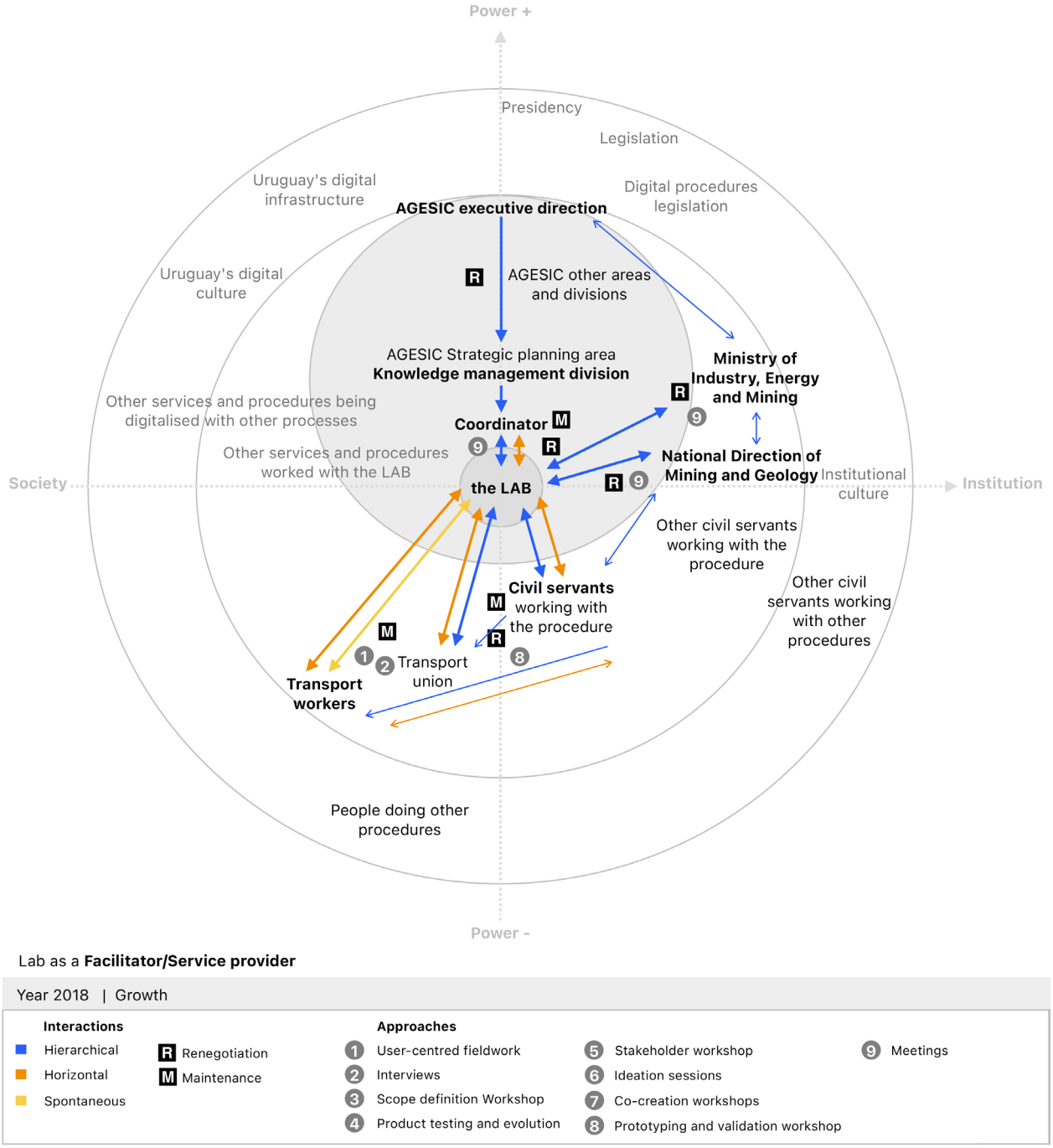

Figure 5. E-guides for transportation of minerals and rocks: actors and interactions.

Older Adults Digital Citizenship Project

The third example comes from a project developed by the Lab within AGESIC in 2019, where they collaborated with a group from AGESIC working on issues related to digital citizenship. The focus of this project was to understand elderly people's relationship with digital technology and, through this, to develop the idea of 'older adults digital citizenship'.

During this project (Figure 6), the Lab interacted mainly with a group working with Digital Citizenship (DC). They already had a good relationship with some of the members, which had been developed through other projects the Lab did with the same group. These members supported the Lab's approaches in meetings and workshops. However, other members of the DC team remained skeptical towards the Lab and their approach. To initiate the project, the Lab proposed starting with fieldwork to better understand the users and their context and to rethink their original questions for the project. This proved to be very difficult for the partner at the beginning. Therefore, the Lab team did fieldwork during a celebration for older adults organized by the Ibirapitá program (a governmental program promoting the digital inclusion of older adults mentioned earlier). Following the process, several meetings

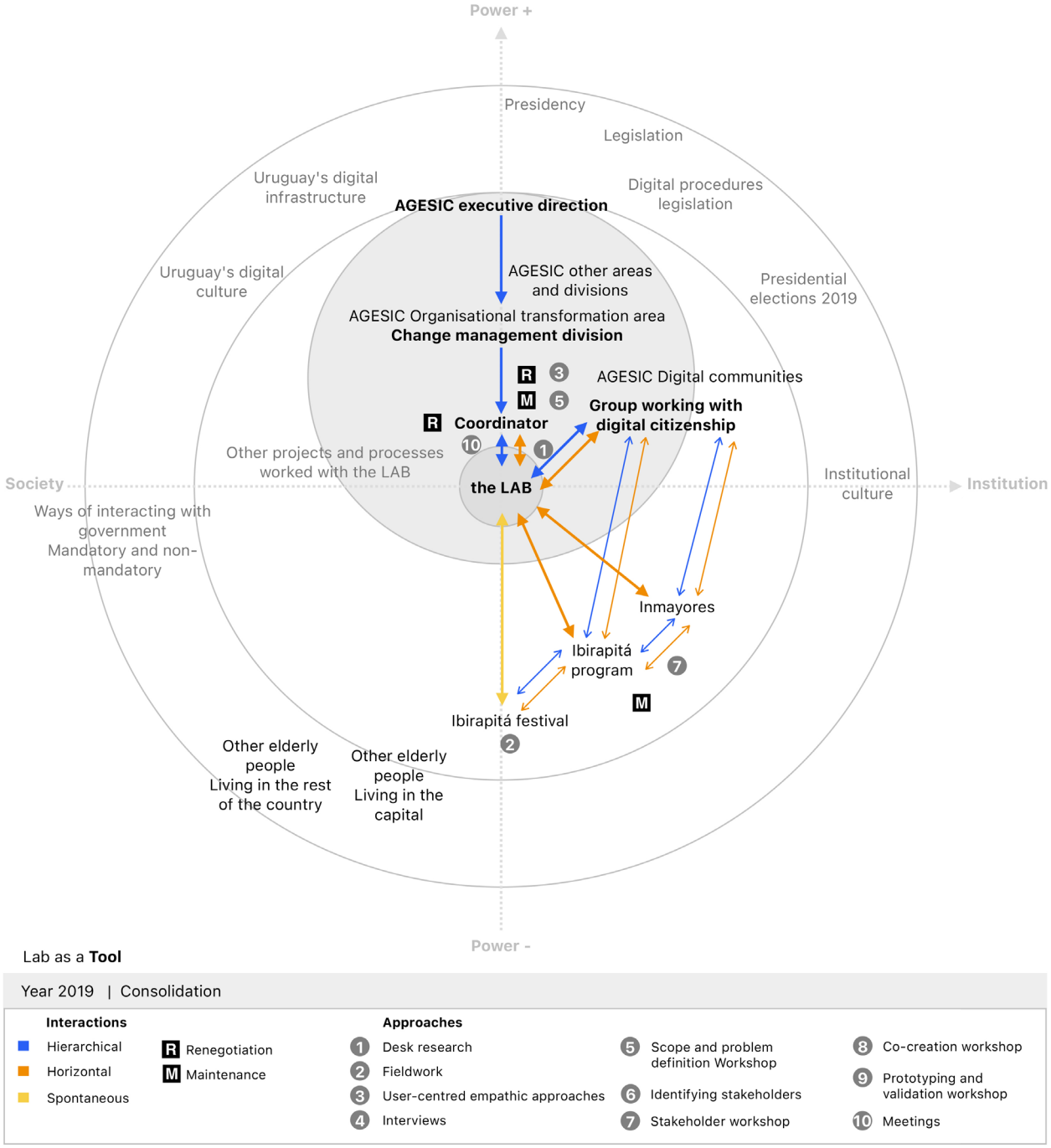

Figure 6. Elderly digital citizenship: actors and interactions.

and workshops with the DC group were programmed to define the scope and problem definition and enable them to use user-centered empathic approaches. In the later stages of the project, the partner came to appreciate the richness of information gathered by meeting older adults through interviews and a workshop organized by them together with the Lab, Inmayores (an institute for older adults started by the Ministry of Social Development in 2012) and the Ibirapitá program. The group performed the interviews, and the Lab led the workshop. It was a stakeholder workshop focused on understanding the motivation and interest of the stakeholders' present (18 older adults gathered by the program and the institute from different parts of the country). After this process, the group continued working on understanding their findings and systematizing the information.

I interpret the meetings with the partner and with the Lab coordination as renegotiation. Through my observations, I witnessed how tensions between the Lab team and the partner group manifested themselves in almost every workshop and meeting, as some of them were skeptical of the Lab methods. This led to some renegotiation of the methods used in the process, for instance, the icebreakers to start the workshops or how to follow the documentation of the process. Here, the cultural context and professional background of some of the DC and some of the Lab members would create friction. However, as other members of the partner group expressed their appreciation of the Lab practices, the renegotiation often took the shape of reflections rather than critical assessments. These continuous readjustments, even if many times minor, implied not only renegotiation but also maintenance within the Lab team and with the project partner. In that way, the interactions also expose the relational conditions of the Lab team and the care they needed to cultivate within their group and the partner. Moreover, the Lab team's fieldwork and their interactions with users during the workshop required maintenance to do everyday work and revisit their values. The presidential election (October and November 2019) was an external factor that was affecting the interactions and this process. Consequently, part of the discussions during the meetings and workshops revolved around the elections as they brought uncertainty and anxiety for all of them as the result was going to influence their work.

Through these examples, I have aimed to illustrate not only the different actors and interactions the Lab team had over the years, but also the challenges and other situations that those brought. Struggles and challenges were mainly exemplified when the Lab faced hierarchical frameworks and classical bureaucratic approaches embedded in an institutional culture. Fieldwork and interacting with the primary users or people affected by the project they were working with were highly valued by the Lab team. It represented their values and supported reframing problems and potential ideas of solutions toward real-life experience. Reflecting on those and other varied interactions contributed to the development of their methods and helped them navigate the intricate journey of dealing with hierarchical and horizontal frameworks.

Discussion

Through the lenses of renegotiation and maintenance, I aimed to present an analysis that would bring forth the nuances of PSI labs interactions from a governance perspective. Through visual and textual analysis, I attempted to do so by acknowledging and substantiating the interplay of the social, technical, and political aspects of PSI labs interactions. On the one hand, PSI labs are introduced to affect the public sector through the technical, with their methods and approaches, and the social, with people-centered values. On the other hand, the case study brings forth the entanglement with the political through their interactions. This can be illustrated through some of the challenges that design faces in a political environment, such as the lack of validation or the tensions coming from the organizational culture of a more siloed and expert culture or the lack of understanding of design (Pirinen et al., 2022). This is also reflected in how the Lab responded to the lack of validation, for example, by adding certain conditions in their last iteration of the 'Navigation tool' method to avoid that their processes became merely a creative exercise for the partner instead of something that can change ways of working in public administration. As Lewis (2021) noted, disseminating approaches like design requires an important mindset shift and cultural change. However, as the example working with the older adults digital citizenship project shows, support from authorities is not enough as the Lab processes encountered daily friction in relation to their methods. Instead, they need support and validation at the different levels they operate, not only from higher management. Nevertheless, many of these challenges also reflect the lack of understanding of government and policymaking from design, an observation also made by Clark and Craft (2019).

Those challenges reflect their need to navigate between various interactions from hierarchical and horizontal frameworks with very different ideals and expectations. Therefore, as we could see from the examples, the Lab team developed skills to adapt their methods and ways of approaching actors. They learned negotiation skills and how to be flexible so they could embrace and deal with different expectations, as they needed to promote collaboration while acknowledging and adapting to the changing conditions in the face of uncertainty. These skills allowed them to navigate but, at the same time, question the public sector, aiming at influencing change (or at least to keep their values).

Returning to governance, interactions of PSI labs highlighted the relevance of the relations with the various actors engaged in governing. Some of the struggles the Lab faced, as illustrated by, for example, the civil servants' resistance to change or perceptions about their methods, point towards how one should, as proposed by Zurbriggen (2011), consider individual values and expectations as well as institutional culture and power structures. Understanding the structures and relations enables us to reflect on the processes and responsibilities of design in the public sector and as part of governance (Mazé, 2021; Rosenqvist & Mitchell, 2016; Tunstall, 2007).

By introducing design, experimentation, and prototyping, PSI labs also engage in producing experimental, unfinished and actionable understandings of governing. Following Gomart and Hajer (2003), renegotiation reminds us not only about the crucial role of a continuous dialogue and the adjustments required to deal with different actors with varied expectations and power, but also about how the political and politics are in continuous flux and redefinition. In the materials, renegotiation was clearly identified in the ways the Lab adapted its methods, which entailed adjusting

to government logic while at the same time keeping their values and experimental nature. In so doing, they learned from their failures and became aware of the tensions they had with current governmental practices, values, and expectations. Maintenance, as understood by the repair and maintenance studies literature such as Denis (2019), reminds us of the importance of bringing attention to the mostly 'mundane', almost invisible work that maintains the practices and values. Maintenance, for PSI labs, stresses the work the Lab is engaged in to keep their values and experimental nature in conditions of flux. It also emphasizes the soft social interactions and the need to weave relations with the different actors they engage with. Both concepts acknowledge and engage with the idea of change, flux, and uncertainty. Moreover, renegotiation and maintenance recognize that the political, social, and technical aspects are entangled and embedded in their practices. They emphasize iterative, repetitive, or continuous practices, dealing with tensions and failure and learning from them.

Some of the clashes between experimental institutional forms and more traditional understandings of public administration highlight conflicts between different time perspectives and management (how to deal with time, what to do with it) and other worldviews. Traditional approaches understand politics and government as given (as they are), while experimental approaches consider them unfinished, in constant redefinition. Therefore, one key aspect of these experimental forms is how they deal with uncertainty.

The purpose of a case study is to develop and explore the concepts. Given its format and setup, the current study has limitations, both in evaluating the extent of the concepts as analytical tools and in utilizing them with other examples. This would require further and different studies not only of other Labs or design actions in the public sector, but it could also be beneficial if other academics or practitioners perform them, as to counter my bias towards their usefulness and include new perspectives. The study focuses on the Lab, team members and closer management, and their interactions. Therefore, given this methodological limitation, other views, like the participants and other project partners, are not represented through their own voices, making that an interesting avenue for future research. Moreover, the examples chosen to illustrate the interactions showcase more renegotiation than maintenance because of the nature of the interactions, as they were three projects. For further development it would be interesting to reflect more deeply on the everyday mundane work of the Lab and develop further nuances about maintenance.

The key takeaway for a practitioner from this study is an awareness of the skills they need to or have developed through interactions of renegotiation and maintenance in their practice within the public sector. After all, PSI labs are generally short-lived as they depend strongly on both economic and political support. However, focusing on interactions enables the practitioner to understand and highlight the relevance of dealing with these hierarchical and horizontal interactions, and the required skills will remain with the person beyond the lab. Moreover, the governance perspective, even if sometimes theoretically dense, might also contribute to seeing their work and processes from a broader perspective, and connect those more clearly with the political. Thus, the nuances that renegotiation and maintenance help us articulate align this study's takeaways with that of other scholars suggesting 'modest change' or 'humble change' about designers in such contexts (Suchman, 2011; Seravalli et al., 2022).

Conclusion

The aim of this paper was to contribute to a more nuanced understanding of design in the public sector, particularly of PSI labs, from a governance perspective. Approaching governance through interactions, the paper presented and analyzed a case study of a PSI lab in terms of the concepts of renegotiation and maintenance to articulate its interactions.

Looking at the case study through the lenses of renegotiation and maintenance enabled an analysis highlighting social, technical, and political aspects of the Lab's interactions. In particular, the research showed how the Lab navigated hierarchical and horizontal structures while considering diverse individual expectations, institutional culture, and power relations. This, in turn, indicates the kind of skills that the Lab members had to develop to navigate such circumstances. This observation seems relevant for practitioners in PSI labs and design in the public sector in general.

While the case study has emphasized social, technical and political aspects together with the wide range of actors involved in governing and governance, more exploration of the concepts of renegotiation and maintenance is required to further understand their relevance. Moreover, expanding our understanding of the governing relations and structures related to design in the public sector might also lead to further reflections on how these experimental approaches can contribute to shaping varied perspectives of governance.

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