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Transforming Public Sector Organizations through Design Culture: the relationship between design practice, innovation and organizational change

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Chapter 1: Transforming the Public Sector through Design Culture

While governments have always responded to difficult and complicated problems, those of the 21st century are 'wicked' and emergent in nature (Bourgon, 2011; Weber & Khademian, 2008), with large user bases, high levels of interdependency and no clear solutions. The problems, in other words, are unstructured, cross-cutting and relentless (Rittel & Webber, 1973). Often times, more knowledge will not contribute to a solution, requiring instead a holistic and participative approach that relies on the contribution of multiple actors (Bourgon, 2011, p. 39). In fact, public managers, today, are facing new circumstances and new challenges (Bourgon, 2011, p. 19) for which the tried and tested solutions of the past no longer work. They, moreover, are asked to chart new courses in a context of competing governance paradigms (Benington & Hartley, 2001): each exerting its own culture, tradition and ways of doing things. Public managers must therefore be savvy in their diagnosis of the problem space and its governing laws, norms and principles. These managers can be seen to feel their way to effective solutions (Bason, 2017; Snowden & Boone, 2007), engaging in acts of bricolage (Lévi-Strauss, 1966) and calling forth publics (Moore & Fung, 2012) that enable innovation. There is overall a recognition that public sector organizations must open up their organizational boundaries (Ansell & Torfing, 2014; Bourgon, 2011; Goldsmith & Eggers, 2004) to react to and lead solutions for the emerging challenges that are ever shifting and always growing. The environmental turbulence surrounding innovation in public sector organizations has not only been stimulated by emerging social and environmental concerns but also by advances in technology (e.g. e-government, blockchain technology, social media, etc.) that have changed the paradigm of government-citizen interaction, in terms of: governance (West, 2004), service delivery and policymaking.

As a result, the paradigms that govern the public sector (Benington & Hartley, 2001) have evolved, seeing a growing importance in the role of exploring and fostering co-production in public value creation (Moore, 1995). In response, government innovation labs have spread across Europe to help the sector tackle their growing demands. With this, design is being increasingly used in the public sector via internal and outsourced teams. While the design experiments are still in an early stage, questions nevertheless arise as to the effective integration of the resulting knowledge into the sector's working practices, service delivery and ultimately, its culture. In addition, given the networked and interdependent web of actors that span across different levels of government (Hartley, 2008), the transfer, reception and application of knowledge becomes ever more important. This is especially true for design as a discipline if it wants to maintain relevance as an asset for innovation in the sector.

Defining a learning strategy in public organizations is therefore a timely issue, as is understanding how knowledge is managed. While this is a complex task in any sector, the public sector has many constraints and pressures that are unique to the sector that create a more complex context. Moreover, differences in 'knowing' has problematized the uptake of design practice in policymaking (Bailey & Lloyd, 2016; Kimbell, 2015). Overall, what can be observed is an invitation for public sector organizations to improve their operating processes to better serve citizens. There is an emerging need for public sector organizations to open up their boundaries to different forms of support and knowledge (Brodtrick, 1998), and develop interactive learning partnerships with other actors in the system to achieve results that are valued by citizens. This will require them to build the capacity to continuously change to survive (Nadler et al., 1995; Pasmore et al., 2019).

Contemporarily, design has experienced a shift, or an expansion, from craftsmanship and industrial production to design thinking (e.g. Brown, 2008; Buchanan, 1992; Martin, 2009), experience and interaction design (e.g. Forlizzi & Battarbee, 2004; Garrett, 2011; Hassenzahl, 2010; Jensen, 2014; Moggridge, 2007; Shedroff, 2001) and design for social and environmental challenges (e.g. Brown & Wyatt, 2010; Manzini, 1998, 2015; Manzini & Meroni, 2014). Consequential to this evolution, and as observed above, designers have entered new problem spaces, including the public arena. In fact, as observed by the growing number of design-led government innovation labs (McGann et al., 2018; Puttick, 2014; Toñurist et al., 2017), design methods and tools are being integrated to help innovate the public sector. This can be seen also in the mass production of innovation toolkits to help practitioners in the field. The OECD's Observatory of Public Sector Innovation has curated a list of 213 of such toolkits (OECD-OPSI, 2019).

The rise in 'popularity' of design as a resource for innovation can be attributed to a push away from material objects to the application of the methods and processes of expert designers to solve just about any problem (Kimbell, 2009b). By diffusing 'designerly ways of thinking and doing' (Archer, 1979; Cross, 1982) through a modelized process and set of tools, design thinking has become a sort of innovation formula that promises creative solutions to a wide range of issues, celebrated as the competitive advantage of companies (Martin, 2009) and the strategic ally of business management (Brown, 2008). While design thinking has no doubt helped the field break into new areas of application, legitimizing the value of design, it has also paradoxically limited the potential of design by way of standardizing the process and inhibiting the real craftsmanship that lies behind design. The focus on the process rather than on the outcome, as pointed out by Verganti (2017), often deviates from the production of meaningful design. Deserti and Rizzo (2014, pp. 41–42) point out three faults in how design thinking has been used in management: (1) a lack of contextualization and situatedness; (2) a separation of the ideation and development processes; and (3) the idea of a top-down practice that principally affects management rather than the whole enterprise. They sustain that in order for design to be truly effective in organizations, it must become a part of its culture, situated in its *practices*, requiring continual negotiation and alignment in its innovation process.

Lucy Kimbell (2009b), also speaks to the need of going beyond design thinking towards an approach that moves the unit of analysis away from the individual designer to a wider frame, grounding the practices and competences of designers in the materials used and the practices of the stakeholders involved (ibidem, p. 11). She proposes pairing the concepts of *design-as-practice*, which acknowledges the role of designers and non-designers – stakeholders, users, managers and employees – taking part in the design process and *design-in-practice*, which "acknowledges the emergent nature of design outcomes as they are enacted in practice" (ibidem, p. 11). In other words, she promotes a more systemic vision to designing, in which the outcomes remain incomplete as their meaning and use are constantly being redefined. In this perspective, both 'expert' and 'diffuse' designers (Manzini, 2015) are included in a conception of design that views it as being a distributed social accomplishment dependent on its material and social circumstances (Kimbell, 2009b; Manzini, 2015; Suchman, 1987). Taking a design practice perspective could offer interesting insight on how (and if) design is contributing to innovation in the public sector by grounding the research in the tacit dimension of design, and the practices of the multiple actors that take a part in it.

This focus on the distributed and social nature of design practice resonates well with how design is being used in the public sector: mostly through participatory activities of co-design. The benefit of co-design in the public context, reputed as a more democratic and effective alternative to conventional approaches, is often seen in its ability to draw from the experience of a diverse range of participants in the exploring, developing and testing of solutions to public problems (Blomkamp, 2018). While many co-design experiments in the public sector are occurring, they are often done

outside organizational contexts in 'safe' spaces and often in the front-end of policy (Bradwell & Marr, 2008, p. 35). Questions regarding the legacy of these experiments remain, along with the need for more rigorous evaluation of the performance of co-design in the public sector (Blomkamp, 2018, p. 734).

The location of design competences is another issue linked to the breadth and depth of design's role and ultimate impact on the public sector. The main tenet of locational models, like the Danish Design Centre's (2001) design ladder among others, is the direct correlation between the impact of design knowledge and its level of organizational integration; in other words, the more design is taken as a core value and activity in the organization's activities from strategy to implementation, the higher its potential impact becomes. These locational tools show the use of design in different stages of maturity and its range of application and impact. Going from no design use to its use in aesthetic, final touches to service/product design to strategy, the models help organization's understand how they are currently using design and how to better exploit it. The models help chart a path of design maturity to reach higher impact, with the final objective of it becoming the basis of its culture, influencing how the organization thinks, acts and learns. This discussion is useful in understanding the role of design in policy labs and how design knowledge is being used (if at all) by public sector organizations after design experiments. In other words, it highlights the question of how the location of design competences might affect the transfer of design knowledge and its transformative impact.

The proximity of policy labs to government can range from being found within the executive branches of government, to spanning across multiple agencies and departments, to being contracted, non-profit organizations. From this viewpoint, the labs function as innovation niches, or rather as protective spaces (Kemp et al., 1998; Schot et al., 1994; as cited in Smith & Raven, 2012) that are completely removed from the selection pressures of the environment and organizational cultures that may work against the innovations. They are thus seen as 'shielded' units tasked to experiment new services and processes, free from the rules and regulations of the larger, parent organizations. Schuurman & Tõnurist (2017) regard them in fact as "change agents" and Tõnurist et al. . (2017) as "change champions", who work in autonomy in 'safe spaces' (Carstensen & Bason, 2012, p. 5) granting them the freedom to bring about more radical, disruptive change. While providing protection and relative freedom to act, the structural separation of policy labs from the formal public sector infrastructure, also creates problems in terms of implementing the innovations and integrating the knowledge coming out of the experimentations. While internal PSI labs, situated within government, are usually tasked to create organizational change (Tõnurist et al., 2017, p. 1467) by disrupting the organization's routines, norms and culture, it remains unclear to what extent (if any) this occurs. Policy labs located external to the organization have even dimmer chances of accomplishing this.

The link between design and organizational change has been attributed to dynamics occurring during the new product development process (Deserti & Rizzo, 2014; Junginger, 2007). Junginger (2007) discusses the product development process as a vehicle of change in organizations, particularly the value of what she calls "human-centered" product development. Human-centered product development is a systematic effort that unifies the four elements of the organization – its people, structures, resources, and purpose – in a learning-by-doing pathway towards both creating products that are meaningful for customers and organizing internal systems to produce it. Moreover, the participatory nature of the process can provide opportunities for double-loop learning in organizations (Junginger, 2007, p. 35). Building on Junginger's (2007) concept, Deserti and Rizzo (2014, p. 38) offer a cultural viewpoint to the discussion, seeing the final product not only as an expression of the user's needs but also a synthesis of the organization's own culture. They remark that in the process of developing a new product, the culture of the organization is affected as an

expected or unexpected externality of the process, revealing design culture as an implicit agent of change. The nexus between design culture, its practices and the management of change in organizations is in the tension that develops between the dual need to explore new ideas and solutions and exploit existing ones (March, 1991). What is made clear in their discussion is the situated nature of design practice, and the importance in giving value to the contextual factors that inform the design process as vehicles for creating bi-directional linkages from the inside out and the outside in. Design culture can then be seen as a construct that shapes exploration, yet at the same time, is constantly in emergence, being shaped by the organization's innovation activities. It is therefore a situated practice that is informed by context and expressed in the action of designing.

In this backdrop, a focus on the design culture of public sector organizations could emerge as a generative tool for co-designing public value. A design culture approach unites perspectives into a single frame by mediating between both the provider's and the citizen's worlds, assuming a joint-perspective on the contexts that inform its design, from the "outside-in" and "the inside-out". It is embodied in the knowledge, skills, competences and practices of an organization that shape its "way of doing things" in a context-dependent manner (Deserti & Rizzo, 2014; Bertola & Teixeira, 2003; Buchanan & Margolin, 1995; Pizzocaro, 2000). In short, the process of co-designing services through a human-centered design process could allow for a new or more evolved design culture to emerge and take shape and eventually influence a change in the culture of public sector organizations and the surrounding ecosystem.

Central to the discussion on organizational change lies the organization's capacity to act and therefore how it learns. The learning process underpinning the design process has been an object of study in literature (Owen, 1998; Beckman & Barry, 2007; Elsbach & Stigliani, 2018; Rizzo et al., 2017), particularly its connection with Kolb's (1984) experiential learning model. Namely, the models (Beckman & Barry, 2007; Elsbach & Stigliani, 2018; Rizzo et al., 2017) illustrate the correlation between Kolb's (1984) model and the iterative cycles in design, between: 'doing' and 'reflecting' – reflecting-in-action (Schön, 1983); exploring and exploiting (March, 1991) knowledge; and theory and practice (Owen, 1998). While they effectively capture the learning processes occurring during the design process, they fail to capture the transfer of the learning outcomes into the organization (if this happens at all), which is important for understanding any links between design practice and organizational change. The current research seeks to build off these models and investigate how to transfer the learning outcomes of the design process to the organization. This will be done by investigating the design process as a double-loop learning process, using Argyris and Schön's (1996) model, specifically focusing on the aspect of meta-learning.

In this context, the dissertation seeks to explore the role of design in public sector innovation efforts and the overall impact of these experimentations in terms of organizational change. What emerges from the literature is the importance of public value creation as the essence of innovation in the sector. Building on Moore's (1995) strategic triangle and its adaptations (Bryson et al., 2017), the dissertation builds a design-based framework for public value creation and organizational transformation. Particularly relevant to the discussion on co-design experiments in the public sector is how and if the knowledge and outcomes of the process survive the end of the project and what, if any, impact they have on the organization's capacity to act in the layered realities shaping innovation in the sector. In this setting, the knowledge context and how organizations process external knowledge is ever more important. Questions arise on how design experiments, particularly the use of co-design, are increasing the absorptive capacity of public service system networks and how this advances its innovation capacity. The dissertation seeks to understand how design acts as a medium for external knowledge to be recognized, valued, assimilated and applied in the working practices of public sector organizations and in the process: (1) enhance its capacity for future innovations; and (2) provide a learning mechanism and environment for continuous change.

The investigation was centered on two primary research questions and corresponding initial propositions:

RQ1: What is the relationship between design practice and organizational change in public sector organizations?

Proposition 1: The integration of design practices in organizations is directly linked to transformations in organizational culture, or more specifically, to changes in the norms, values and behaviours that make up the environment of the organization. Design practices can foster organizational change by: (1) building up the innovation capacities of the actors in the policy ecosystem through experiential learning processes in the form of design projects and (2) opening up and connecting the organization to external resources and actors.

RQ2: How can design advance the innovation capacity of public sector organizations?

Proposition 1: Design can help public sector organizations increase their innovation capacity by fostering "learning by doing" practices that enhance their ability to recognize, give value and apply different forms of information and knowledge.

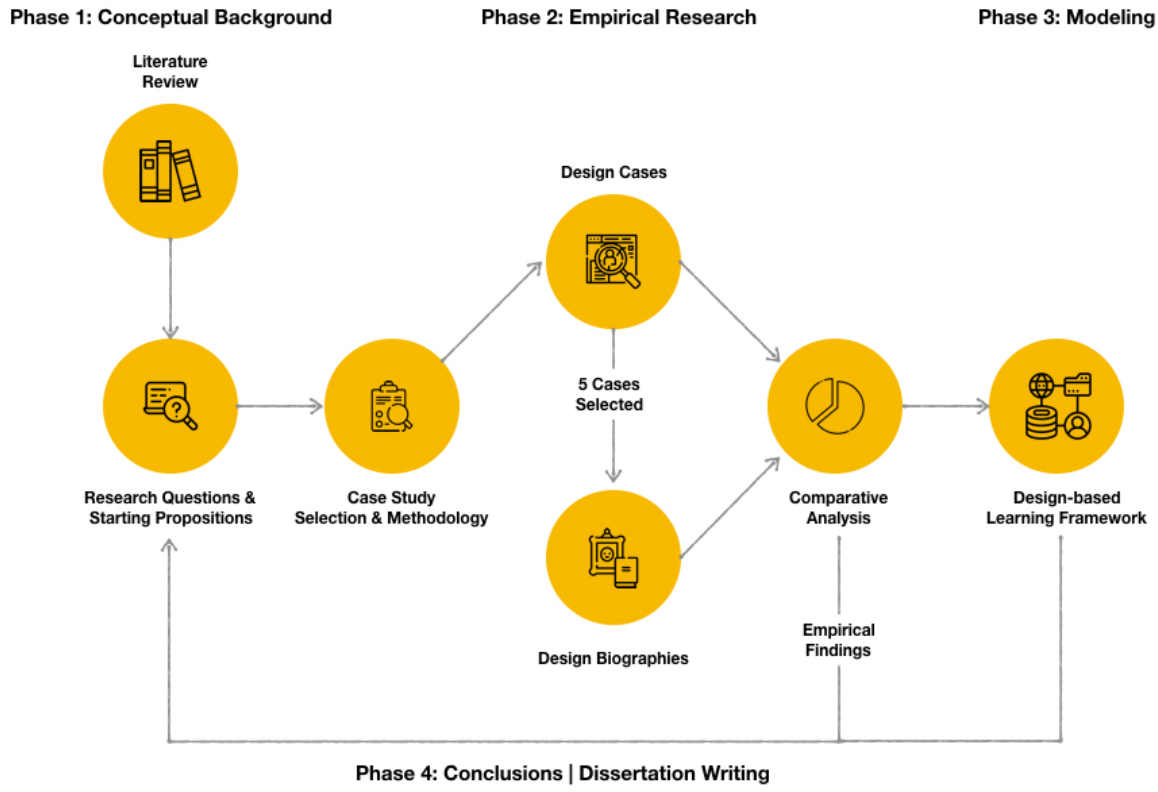

FIGURE 1. METHODOLOGICAL PROCESS

The research was conducted in four phases, namely: (1) mapping the boundaries of the conceptual background; (2) empirical research on the research questions emerging from the literature review through the analysis and comparison of design case studies and biographies; (3) modeling a learning framework based on the empirical findings and (4) building a set of conclusions

and future recommendations, along with writing up the final dissertation. These phases can be more clearly seen in Figure 1.

The literature review was conducted through a process of reverse and forward snowballing (Wohlin, 2014). The starting point for the search was directed by existing knowledge on the topics coming from my previous experience (e.g. participation in EU projects, Masters in Social Economics, etc.), initial insight on the leading scholars (e.g. – in alphabetical order by last name– Chris Argyris, Christian Bason, John Seely Brown, Wesley Cohen, Alessandro Deserti, Paul Duguid, Guy Julier, Sabine Junginger, David Kolb, Daniel Levinthal, Ezio Manzini, James March, Michael Polanyi, Francesca Rizzo, Daniela Sangiorgi, Edgar Schein, Donald Schön, Karl Weick, etc.) and their foundational works . This starting bibliography was also coupled by the deliverables and papers resulting from the EU Research Projects in which I participated. The search strategies employed to amplify the knowledge base were three-fold. The first was an electronic search via Google Scholar to avoid publishing bias as suggested by Wohlin (2014, pp. 2–3). The following are examples of keywords used for the search: co-design, design for policy, design for public services, design for organizational change, design culture, design thinking, organizational change, organizational learning, knowledge management, knowledge transfer, public sector innovation, public administration, and governance. The second strategy concerned asking my supervisors, colleagues and other scholars with whom I discussed my research for suggestions, either by providing specific literature or by suggesting other scholars working on the same topic. The final search strategy was attending conferences, summer schools and workshops on the topic that not only provided me a source for new papers to include in the review – keeping the knowledge relevant over the years – but also helped in finding cases for the empirical research.

Starting with foundational works, reverse snowballing was used to find more relevant papers. This same technique was then used for each additional paper. Thanks to the help of Scopus, forward snowballing was done through a citation search to find relevant papers published after the initial paper. This once again helped keep the research grounded in the present and up to date with the quick evolution of the topics, namely design experimentation in the public sector and the role of policy labs.

The empirical research involved desk analysis of 15 cases of design for public sector innovation across Europe. From the initial short list of 15 cases, 5 were selected for use as in-depth, innovation biographies. The thesis then presents insights stemming from a comparative analysis of the cases. The dissertation concludes with a proposal for design as a learning framework for organizational transformation in the public sector.

In what follows, I will briefly present the structure of the dissertation and its contents. Directly following this brief introduction, I will go through the conceptual background coming from literature, which framed the research and the empirical findings.

In Chapter 2, the conceptual foundation for the discussion of design's role in organizational change and learning is laid. It starts by reviewing the main organizational change strategies and the connection between change, learning and culture. Two models are used to facilitate the discussion, Schein's (1990) organizational culture model and Argyris and Schön's (1996) learning framework. Furthermore, the Competing Values Framework (Quinn & Rohrbaugh, 1981) is used to serve as a lens to understand the organizational change trajectories that design experiments are seeking to accomplish through experiential learning processes. As context is increasingly being recognized as an important influencer of innovation, the knowledge context and how organizations process external knowledge is also treated. Questions arise on if (and then how) design experiments, particularly through co-design, are increasing the absorptive capacity of public service system networks. A discussion is then made on the situated nature of knowledge and the difficulties of encoding external knowledge in the organization.

In Chapter 3, the relationship between design and organizational transformation is investigated. Only recently have researchers begun to reflect on the impact that design work has on organizational constructs like culture (Deserti & Rizzo, 2014; Elsbach & Stigliani, 2018). An overview is given of the current discussion on the interplay of design and organizational culture and its connection to organizational change. A first look is given to the evolution of design and its expansion into new problem areas and contexts. Specifically, the rising popularity of design thinking is addressed and compared with a more practice-based approach to design. Following this discussion, the main discourse on the value of design in organizational change measures (Buchanan, 2007; Junginger, 2007) is examined. Understood as a critical component of change, the learning frameworks used to describe the design process (Owen, 1998; Beckman & Barry, 2007; Rizzo et al., 2017) are then presented. A discussion is also made on the limitations of these models, and the design thinking process itself as observed in practice, seeking to move beyond individual learning and touch upon the organization's knowledge base.

In Chapter 4, an overview of innovation in the public sector and the three paradigms that shape its efforts is provided. While the paradigms – 'Traditional' Public Administration, 'New' Public Management and Networked Governance –are linked to specific historical time periods and ideologies, their legacies co-exist as layered realities, framing the innovation context, culture and behaviors within which public managers and politicians endeavor to serve citizens (Hartley, 2005, p. 29; Bourgon, 2011). Emerging issues and challenges are discussed, particularly focusing on the complexity and 'wickedness' of the problems along with the organizational constraints that inform innovation efforts. Innovation in the public sector is then investigated from the perspective of collaborative innovation (Hartley et al., 2013; Sørensen & Torfing, 2015; Torfing, 2019). A final yet central topic of the chapter is made on the discussion of public value (Moore, 1995; Benington, 2011; Bryson et al., 2017) as a key objective of innovation efforts in the public sector.

Chapter 5 maps out the role design has played so far in public sector innovation. After a short note on the use of design in services, a discussion is made on the use of co-design in the public sector, especially in policy labs. With the growing clarity surrounding the need for innovation in government, design methods and approaches have emerged as a means to generate policies and services that are 'better' and more citizen-centered. While there are many benefits coming from the labs, the challenges – namely the separation of policymaking activities from policy implementation and the location of design competences respective to the organization – and their consequences on the success or 'failure' of bringing innovation to the public sector will be explored. The chapter ends by critically questioning the *raison d'etre* of these labs and their effective impact on the policy ecosystem.

Chapter 6 provides a methodological note on the research process. The dissertation used a descriptive case study approach, supported by a review of literature, to analyze how design is supporting innovation processes in the Public Sector and its relationship to organizational change. The case study method was chosen as a research frame particularly appropriate for examining a contemporary phenomenon within its real-life context during its evolution, when boundaries are blurred and not so clearly defined (Yin, 2014, p. 13). A total of 15 cases were analyzed, five of which were investigated as in-depth biographies. The empirical findings were then triangulated and compared with literature, producing supported findings that were the basis of the final conclusions and the resulting design-based learning framework for public value creation and organizational transformation.

Chapter 7 presents the case study collection of 10 Design Case Studies and 5 Design Biographies that demonstrate the use of design in the public sector across Europe.

In Chapter 8, the main findings coming from the comparative analysis of the case study collection are presented. The insights are organized by a list of dimensions that were identified in the

literature review and that served as an analytical lens for investigating the emerging phenomenon. The issues are as follows: the open or closed nature of public sector organizations; the implicit or explicit use of design; the location of design competences and its influence on when and how design is used; the learning outcomes of design experiments in the public sector; and finally, the impact of the experiments on the organization in terms of learning and cultural change.

In Chapter 9, a proposal for design as a learning framework for organizational transformation in the public sector is given as the main contribution of the dissertation. The main conclusions of the research are presented regarding the role of design in public value creation, seen as the main objective of innovation efforts in the sector, and the relationship between design culture and the transformation of public sector organizations through practice. A model is also presented for designers working in the area that calls for a reflection of and in practice and the encoding of design knowledge into organizations.

Chapter 10 presents a list of summarizing conclusions of the research and recommendations for further action, as well as providing areas for future research.

Chapter 2: Managing Organizational Transformation

2.1 A sector in transformation: change needs and learning in public sector organizations

As introduced in the first chapter, the public sector is facing complex, 'wicked' problems. Public sector organizations are working in ever more networked and interdependent policy environments with shifting boundaries (Agranoff, 2008; Pettigrew, 2005) to meet citizen demands and manage rapid changes (e.g. population growth, technological advances, climate changes, etc.). As a result, the paradigms that govern the sector (Benington & Hartley, 2001) have evolved, seeing a growing importance in the role of exploring and fostering co-production in public value creation (Moore, 1995). The introduction of new competences and knowledge has emerged hand in hand with the new challenges, as seen in the rise of government innovation labs across Europe and the increasing use of design in the public sector via internal and outsourced teams. While still in an early stage, questions nevertheless arise as to the effective integration of this knowledge on the sector's working practices, service delivery and ultimately, its culture. In addition, given the networked and interdependent web of actors that span across levels of government (Hartley, 2008), the transfer, reception and application of knowledge becomes ever more important. This is especially true for Design as a discipline if it wants to maintain relevance as an asset for innovation in the sector.

Defining a learning strategy in public organizations is therefore a timely issue, as is understanding how knowledge is managed. While this is a complex task in any sector, the public sector, as pointed out by Rashman et al. (2009, p. 484), has many constraints and pressures that are unique to the sector that create a more complex context, such as: the political environment and process; bureaucratization; public and administrative law (Finger & Brand, 1999); professional boundaries (Newell et al., 2003); and the role of public management (Vince, 2000). In light of such complexity, different aspects will determine the kind of knowledge that will be recognized as important for the performance of public services (Rashman et al., 2009, p. 485). The differences in 'knowing' has problematized the uptake of design practice in policymaking (Bailey & Lloyd, 2016; Kimbell, 2015)[1]. Overall, what can be observed is an invitation for public sector organizations to improve their operating processes to better serve citizens. There is an emerging need for public sector organizations to open up their boundaries to different forms of support and knowledge (Brodtrick, 1998), and develop interactive learning partnerships with other actors in the system to achieve results that are valued by citizens. This will require them to build the capacity to continuously change to survive (Nadler et al., 1995; Pasmore et al., 2019).

In moving forward in the pursuit to understand the contribution of design practice to public sector innovation and change and the role played by government innovation labs, we will pause to define some grounding concepts of organizational change and learning that will underpin the analysis of the empirical research.

[1] This emerged in the empirical research and will be discussed more in Chapter 8. In summary, the need to provide for the general public makes localized knowledge resulting from the design process difficult to be recognized by policymakers and civil servants as valid evidence, as they lack the luster of data on a larger scale. Moreover, the absence of a more targeted and focused conception of the users of public services was also evident in the cases (e.g. Fjord and Policy Lab UK), as seen in the difficulties of participants to individualize particular users in persona work or in customer journeys. See Bailey and Lloyd (2016) for similar conclusions in their study of Policy Lab UK.

2.2 A Brief Note on Organizational Change

2.2.1 Episodic vs. Continuous Change

Literature on organizational change is usually divided between planned and unplanned organizational transformation. Planned organizational change usually comes about in organizations who fail to continuously adapt (Dunphy, 1996). It is often classified according to a dichotomy between episodic, discontinuous, intermittent, radical change and continuous, evolving and incremental change. Episodic change typically follows a version of Lewin's (1951) linear three-stage process of unfreeze-change-refreeze, while continuous change is described as cyclical – and even Confucian (Marshak, 1993, p. 403) – in a repeating process of freeze, rebalance, unfreeze (Weick & Quinn, 1999). Weick and Quinn (1999) provide an excellent analysis of the two types of change, based on the five properties that Dunphy (1996, p. 543) suggests are inherent to any theory of change, as reported in their table reported below.

Episodic change is described to happen in moments of divergence, due to a misalignment between an organization's structure and the external environment. It is episodic in the sense that it captures infrequent moments of divergence from the usual organizational rhythm, for example during a change in leadership or technological change. Tushman and Romanelli (1985) describe this kind of change in organizations as a punctuated equilibrium, in which organizations converge on established procedures and routines at the expense of adapting, until it becomes impossible to ignore the changing environment and a burst of change ensues, thus establishing the new equilibrium. Episodic change is aptly described by Lewin's model in which change is seen as unfreezing the current equilibrium to create a change that will in turn be frozen. He also provides five assumptions that characterize the analytical framework that underpins episodic change (Marshak, 1993, p. 412; Weick & Quinn, 1999), which are as follows: change is (1) linear, moving forward in time; (2) progressive, moving toward a better state; (3) goal-oriented; (4) triggered by disequilibrium; and (5) separate, managed externally. Weick and Quinn (1999, p. 373) also highlight how in reality research suggests that change is not as linear as assumed and the presence of reflection stages allows for "relapses" to former states and also suggest that changes in mental models may also begin before alterations start.

Continuous change is often defined as being emergent, where new patterns of organizing occur without planned intervention or strategy (Orlikowski, 1996, p. 65). Change is viewed as situated in evolving work processes (Brown & Duguid, 1991) and social practices (Tsoukas, 1996). Its distinctive quality, as remarked by Weick and Quinn (1999, p. 375), is the "idea that small continuous adjustments, created simultaneously across units, can cumulate and create substantial change [… and when] confined to smaller units, [still] remain important as pockets of innovation that may prove appropriate in future environments". Organizations engaged in continuous change are often described as improvising, translating and learning. Organizational change built around improvisation regards the continuing modification of work practices and ways of relating in response to new inputs in self-organizing groups (Weick & Quinn, 1999, p. 375). Change, in other words, happens through improvisations in work practices that are ongoing and frequent, and even imperceptible (Orlikowski, 1996, pp. 88–89). Translation instead regards organizations that continuously engage in adopting and editing (Sahlin-Andersson, 1996) new ideas that fit with the purpose at hand, or rather the adaptation of ideas to new localities (Czarniawska & Joerges, 1996). This is an interesting concept for the present research given the introduction of new competences in public sector organizations in their innovation efforts and the need to adapt the tools and methods to the organization's working practices and culture, as seen in Section 3.2.1.

	Episodic Change	Continuous Change
Metaphor of organization	Inertial; infrequent, discontinuous and intentional	Emergent; constant, evolving and cumulative
Analytic Framework	Change is dramatic, externally driven, and an interruption or divergence from equilibrium.	Change is the cumulative effort of small, daily modifications of work and social practices.
Ideal Organization	Capable of continuous change	Capable of continuous change
Intervention Theory	Change is intentional.	Change is a redirection, channeling what's already happening.
Role of Change Agent	Changemaker focused on building inertia and seeking points of central leverage.	Sensemaker focused on recognizing the emergent, re-framing and empowering.

TABLE 1. COMPARISON OF EPISODIC AND CONTINUOUS CHANGE (ADAPTED FROM WEICK & QUINN, 1999, P. 366)

Another interesting approach is the image of organizations built around learning, as seen in the learning organization (Senge, 1990). Here, work and activity are defined by diverse repertoires of actions and knowledge, where learning influences the way organizations respond to situations (Sitkin et al., 1998). Weick and Quinn (1999, p. 377) highlight that this adds to the idea of continuous change by changing the unit of focus from a change in a specific action to the alteration of a range of skills and knowledge and thereby implying that change can also be considered in terms of enhancing or strengthening rather than only substituting. A focus on learning also includes a mechanism of retention of change, as noted in literature (as cited in (Weick & Quinn, 1999, p. 377)) on organizational routines (March, 1994), know-how embedded in communities of practice (Brown & Duguid, 1991), distributed memory (Wegner, 1987), distributed information processing systems (Tsoukas, 1996), structures of collective mind (Weick & Roberts, 1993), and organizational memory (Walsh & Ungson, 1991).

Given the multiplicities of change, culture becomes an important aspect of continuous change, essentially providing the glue that binds them together, legitimizing non-conforming actions that improve adaptation and adaptability (Kotter & Heskett, 1992) and embedding the know-how into norms and values (O'Reilly & Chatman, 1996). Organizational culture can be understood then as "a stock of knowledge that has been codified into a pattern of recipes for handling situations, [which] very often with time and routine […] become tacit and taken for granted and form the schemas which drive action" (Colville et al., 1993, p. 559). It follows then that challenging culture is one of finding organizational legitimacy and building trust in new processes. This aptly describes the challenges facing the integration of design competences and knowledge in the public sector, as will be described in Chapter 3. In this perspective, culture then becomes a dynamic construct that

codifies knowledge, retaining accumulated knowledge, but also contextualizing and embracing variations and modifications. For this reason, the embedding of design culture and its use as a generative tool for organizational change in the public sector stands out as a worthy endeavor of exploration in the pursuit of assisting the public sector create a better world for its citizens.

In conclusion, the process of continuous change can be better described as being one of freeze, rebalance, and unfreeze. In freezing, the organization investigates changes already underway to visualize what is happening. Rebalancing entails re-framing the changes, turning issues into opportunities (Dutton, 1993) and contextualizing the changes into a narrative that revisits the past to align it with the emerging changes (Cooperrider & Srivasta, 1987; Hammond, 1996). The analytical framework therefore is different and is as follows (Marshak, 1993, p. 403): change is (1) cyclical (repetitive patterns); (2) processional (moving in an orderly fashion through the cycle and departures cause disequilibrium); (3) a journey (without an end); (4) harmonious; (5) appropriate (actions maintain balance) and (6) continuous (nothing stays the same forever) (Weick & Quinn, 1999, p. 379). According to Weick and Quinn (1999, p. 381) the role of the change agent in the context of continuous change is therefore one of "managing language, dialogue and identity" and recognizing emergent changes, empowering and re-framing them (Bate, 1990). If designers are to be this agent of change, they will have to confront these very issues. While the latter issue is in the very DNA of design, the former requires new effort and study to effectively practice in these new arenas with meaning. Schein (1993) argues that dialogue is key to re-directing change by creating shared meanings and a common thought process. This offers interesting prospects for the role of design in leading organizational change through co-design[2] (see Table 2 below). The discussion made on continuous change is particularly relevant to our discussion of design's role in organizational transformation by highlighting the roles of translation or adaptation, re-framing and learning to change measures.

	Episodic Change	**Continuous Change**
Opportunities for Design	Building capability for continuous change; transforming change measure into collective envisioning; creating shared meaning and common thought processes through co-design; creating artifacts for continuous interaction and organizational memory	Providing opportunities for shared meaning and common thought processes through co-design; embedding situated design cultures; fostering collective re-framing and envisioning; creating artifacts for continuous interaction and organizational memory

[2] Schein (1996, p. 31) states that "the most basic mechanism of acquiring new information that leads to cognitive restructuring is to discover in a conversational process that the interpretation that someone else puts on a concept is different from one's own". This was in fact one of the leading insights coming from the co-design processes in the empirical research: the importance of the design process in creating a shared mentality and framework to understand the problem.

Challenges for Design	Understanding 'local' working practices and culture; building organizational knowledge; finding organizational legitimacy (to a lesser extent given the centralized push for change); practical knowledge on 'how to get things done'	Finding organizational legitimacy; building organizational knowledge; understanding 'local' working practices, language, identity and culture; practical knowledge on 'how to get things done'

TABLE 2. OPPORTUNITIES AND CHALLENGES FOR DESIGN IN ORGANIZATIONAL CHANGE

2.2.2 Organizational Change in the Public Sector

Despite the large amount of literature on change management in the private sector, it remains under-represented in the public sector (Tsoukas & Papoulias, 2005; Vann, 2004). In a review of literature, Kuiper et al. (2014) researched how change in the public sector has been treated in literature, exploring the contextual challenges associated with implementing change in the public sector. By using the suggestions made by Pettigrew et al. (2001), the authors investigated how the context, content, process and outcomes of change in the public sector have been studied in literature. They found that context was used to frame the change. Some studies looked at overall change in the public sector organization, whereas others focused on the context of specific subsectors. Hartley et al. (2002) defines change in the public sector as taking place at the societal, governmental, organizational, and actor levels contemporarily. The main drivers of change were seen in changing customer expectations (Askim et al., 2009; Christiansen, 2006); new technologies (Dunleavy et al., 2006; Vann, 2004); and financial crises (Hendriks & Tops, 2003). In addition, decisions taken by central government were also strong drivers of change, e.g. policy changes, fiscal regulations, etc. Moreover, the interaction between the organization and its environment also provides context to the change, e.g. complex stakeholder networks public-private partnerships (Kuipers et al., 2014, p. 7).

In terms of the content of change, the authors divided the analysis according to first, second and third order change. First-order changes mainly dealt with the introduction of new processes, systems or procedures. Second-order changes on the level of the organization were less represented but when found dealt with organizational culture, climate and behavioral factors (Kuipers et al., 2014, p. 8). Third-order changes instead mostly meant reforms.

Finally, in terms of process, Kuipers et al. (2014) found three clusters: planned vs emergent change processes (or episodic and continuous change as explored above); resistance to change; and factors defining success and failure. Wollman (2000) presents change in the public sector as alternating between radical changes and intermittent incrementalism. In his study on a bottom-up, NPM reform in Germany, Wollman (2000) found that incremental, bottom-up changes were more lasting than top-down reforms. Likewise, Reichard (2003) in a study on reforms in the Netherlands and Switzerland found that they shared being "bottom-up innovations involving informal and voluntary reform cooperation, their major driving forces were administrations, and they were characterized by passive politicians, municipal think tanks, the late involvement of academics, and the strong influence of consultants" (Kuipers et al., 2014, p. 9).

Instead, in reference to organizations, Rusaw (2007) proposed four approaches to change in public sector organizations:

- A means-end, top-down approach, based on finding the root cause of problems, choosing the best alternative and testing a pilot to expected results. This approach is grounded in methodical thinking, predictable environments and employs tools that will accomplish identified objectives. Total Quality Management and Re-engineering are examples of such an approach.
- An incremental, decentralized approach based on small changes that produce visible results in the short-term, mostly seen in continuous improvement efforts that for example "cut red tape" or provide more customer responsiveness. These changes find their origins in the Human Relations viewpoint, e.g. Simon's (1945) concept of "bounded rationality" and Lindblom's (1959) "muddling through".
- A pluralistic approach gathers actors interested in a particular problem (mostly 'wicked') and facilitating intra-organizational or social change through concerted action. Unlike incremental changes, a pluralist approach involves changing multiple mental models to increase the collective good.
- An individual approach focused on human resource development that is based on different learning models (formal, informal, and organizational) to improve service levels and invent new service systems.

	Means-End	Incremental	Pluralist	Individual-Based
Focus:	Internal systems and processes	Local unit-environmental interface	Social/economic	Organizational via individual
Impetus for Change	Systemic failure/opportunity	Opportunity to create; recurring environmental problem	Crisis or severe social problem	Role/job change; individual growth
Leadership	Strategic; often top-down	Decentralized	Shared	Self
Coordinating Mechanisms	Complex structural and procedural	Simple procedural	Complex; relies on voluntary membership	Complex; use of HRM/organization links
Typical Users	Strategic planning; TQM; re-engineering	"Small wins" reinvention projects	Shared policy making	Training and development; career management
Problems	Long-term commitment	Problems recur; empowerment	Dialog; political agendas	Adequate resources
	Resources inadequacy		Follow-up	Organization commitment; Transfer

FIGURE 2. FOUR MODELS OF PUBLIC SECTOR ORGANIZATIONAL CHANGE (RUSAW, 2007, P. 351)

While the framework is useful, the empirical research conducted in the dissertation, highlights that design experiments in the public sector work transversally through the different models. While the pluralist approach acts as the umbrella category (namely owing to the high use of design to face 'wicked' challenges and the participatory nature of its use in the public sphere), it was found that participants learn through the design process and that training was a key objective of the processes. The need for top-down and bottom-up support to converge for public value creation was also highlighted as an important factor for success. Moreover, even in cases that were top-down and driven by political objectives, incremental improvements were key towards creating legitimacy around the project and the process. As noted by Norman and Stappers (2015), an argument could be made that designing for complex systems is an act of 'muddling through' en route to more transformational changes. In other words, while it is convenient to have such clear definitions of different approaches, what was observed were different hybrid variations of the approaches in the design experiments (as also noted by the authors).

While Kuipers et al. (2014, p. 11) found little literature on public sector leadership that focuses on organizational change, some authors of organizational change focus on leadership in these efforts. Likewise, Rashman et al. (2009, p. 481), in their review of organizational learning in public sector organizations (which will be explored shortly), found little evidence to support the role of leaders in creating environments conducive to learning, despite the important role they could play. This is interesting in light of what emerged in the empirical research and the importance of the engagement of leaders for successful implementation of design outcomes and for their activation. What literature Kuipers et al. (2014) did find support the claim emerging from the research on the key role of effective leadership in change strategies (Christensen, 2005; Ridder et al., 2005). Now that we've looked into how change is treated in public sector literature, we will move on to the role of culture in organizational change and then to learning which is the core of the research interest.

2.2.3 Organizational Culture

Schein (1987, 1988a, 1999) has attributed the failure of planned organizational change programs to the failure of the organization to effectively unfreeze and prepare for the change ahead. In other words, the organization fails to create readiness. Successful change implementation is often shaped by the organization's culture and capabilities as they relate to change (Cummings & Worley, 2001; Detert et al., 2000; R. A. Jones et al., 2005; Paton & McCalman, 2000). Organizational culture is however a complex and contested concept (Jung et al., 2009, p. 1092), and is conceptualized in many different ways (Lurie & Riccucci, 2003; Ott, 1989; Van der Post et al., 1997). As my interest in the concept isn't to explore its many layers but rather to use it as a vehicle for change, I will limit the conceptualization to the model provide for by Schein (1990) and will then use Quinn and Rohrbaugh's (1981) Competing Values Framework as a tool for interpreting an organization's culture based on its values.

Schein (1990, p. 111) specifies that the challenge in defining organizational culture is the concept of organization itself. He goes on to assert that a group of people must have had enough time and stability to develop a shared history for culture to form, meaning some can be without an overarching culture due to frequent turnover or have very strong cultures due to shared intense experiences or a long history of interaction (Schein, 1990, p. 111). Moreover, as organizations have sub-units with their own cultures, these cultures can co-exist in alignment, independently or in conflict with each other and the overall culture. Given these two assertions, Schein (1990, p. 111) defines (organizational) culture as:

> *"(a) a pattern of basic assumptions, (b) invented, discovered, or developed by a given group, (c) as it learns to cope with its problems of external adaptation and internal integration, (d) that has worked well enough to be considered valid and, therefore (e) is to be taught to new members as the (f) correct way to perceive, think, and feel in relation to those problems".*

The culture's strength is then determined by the stability of the group, how long it has existed, how it has learned, the intensity of learning experiences and the influence of the underlying assumptions held by the leaders of the group (Schein, 1990, p. 111). From this definition, Schein develops a model that defines three levels of organizational culture that provides a useful heuristic for understanding how culture manifests itself in an organization, namely through an organization's: observable artifacts, values and basic underlying assumptions.

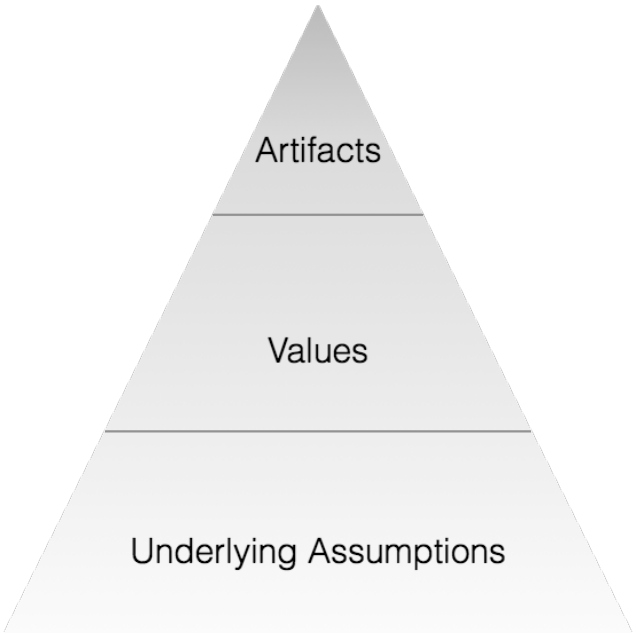

FIGURE 3. SCHEIN'S ORGANIZATIONAL CULTURE MODEL

Assumptions lie deep in the organization and regard the taken-for-granted beliefs about human nature and the organizational environment. Values shape employee behavior and attitudes through shared beliefs and rules. Lastly, artifacts are the visible language, behavior and material symbols of an organization. Thus, understanding how to change organizational culture or rather align it to change strategies is key; this will be further explored in Chapter 3, in reference to the contribution of design culture in change strategies in the public sector, and as will be observed in the design experiments occurring across Europe. Moreover, in the analysis of the empirical research it will be demonstrated how design is working at each of these levels in public sector innovation projects.

In order to better understand an organization's culture, Quinn and Rohrbaugh (1981) created the Competing Values Framework based on an evaluation of its values. They mapped organizational value along two axes representing organizational dilemmas: whether organizations value flexibility or control and whether they focus inward to internal dynamics or outward to the environment. Four culture types (see Figure 4) emerge from the framework: human relations, open systems, internal process and rational goal .

While multiple culture types can exist in an organization (Quinn & Rohrbaugh, 1983), certain values will be more prominent than others. The four culture profiles are as follows (Cameron & Quinn, 2006, p. 66):

- The Hierarchy Culture is a formalized and structured workplace that is governed by procedures to achieve long-term results of stable and smooth operations. Success is defined by parameters such as reliable delivery and low cost.
- The Market Culture is a results-oriented organization whose primary concern is to get the job done to remain competitive in the long-term and achieve measurable results. Success is defined by market share and penetration.
- The Clan Culture is a friendly and close-knit workplace that strongly emphasizes the long-term benefit of human resource development and places value on teamwork and participation. Success is gaged by customer satisfaction and concern for people.

- The Adhocracy Culture is a dynamic, entrepreneurial and creative place to work whose goal is to be on the leading edge and on long-term growth. Success is defined by obtaining unique and innovative products and services.

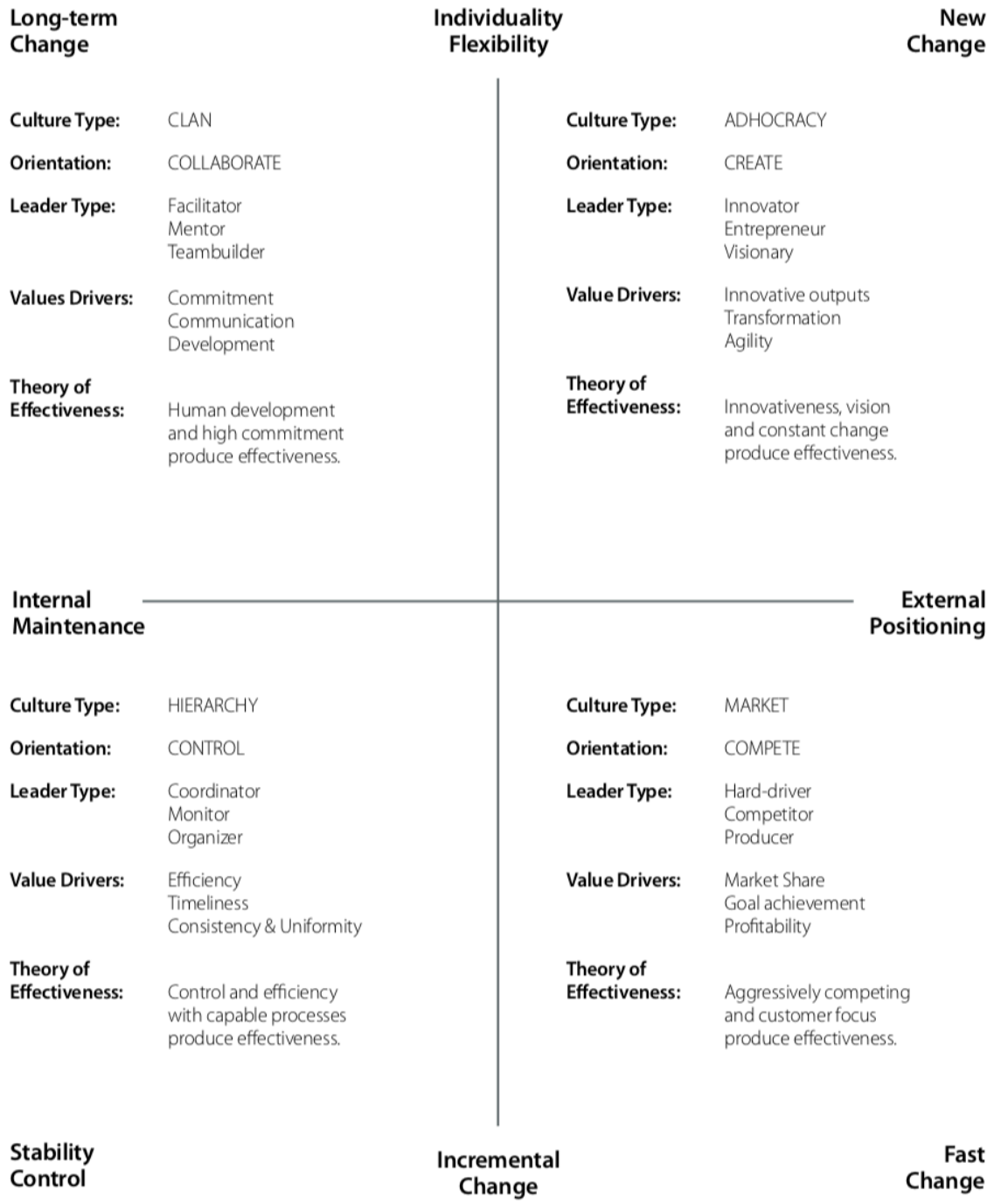

FIGURE 4. COMPETING VALUES FRAMEWORK (CAMERON, 2009)

The framework provides an interesting lens to understand how to contextualize design work in public sector innovation (for a focused discussion, please see Section 4.1.2).

2.3 Organizational Learning

As mentioned in the introduction to the chapter, learning and the sharing of knowledge is important in and between public sector organizations, different levels of government and a wide array of services. The imperative to learn and share knowledge is even more distinct in the public sector, whose goal is ultimately to add value to the public sphere (Benington, 2001; Moore, 1995). In the current section, we will look into foundational work in knowledge management and organizational learning to then focus respectively on the work of Argyris and Schön's (1978) single-loop/double-loop learning model and Brown and Duguid's (1991, 2001) conception of networks of practice and knowledge transfer.

2.3.1 Location of learning and levels of analysis

Individual learning is learning that occurs at the level of the single person that still has to be shared. This happens in two ways as defined by Argyris and Schön (1996): single loop and double loop learning. Daft and Weick (1984, p. 290) define team learning practices as a group of "skilled-individuals, learning through each other's experiences and knowledge". The main purpose of team learning is to facilitate collective learning, knowledge dissemination and interpretation (Fong, 2005; Vera & Crossan, 2005).

Organizational learning, on the other hand, is a systemic learning process, with a strategic emphasis, that requires the involvement of the whole organization (Maier & Hädrich, 2006). Organizational learning can also be defined as a broad concept used to describe how an organization acquires know-how, new techniques and novel practices (Argyris & Schön, 1996). Marsick (1994, p. 28) defined it as a process of "coordinated systems change, with mechanisms built in for individuals and groups to access, build and use organizational memory, structure and culture to develop long-term organizational capacity." Watkins and Marsick (1993) proposed several organizational learning practices including effective knowledge acquisition processes, whereby knowledge is systematically acquired from both individuals and teams. This emphasis on the transfer of knowledge is important in our endeavor to uncover the ways in which design contributes to innovation in the public sector and in the transformation of its organizations. Finally, Crossan et al. (1999) define organizational learning as a dynamic process which occurs over time and across levels, but that also creates tension between assimilating new learning (i.e. feed-forward where new ideas and actions flow from the individual to the group and to the organization) and exploiting or using what has already been learned (feed-back which flows from the organization to the group and to the individual) (March, 1991).

The connection between individual and organizational learning is divided into two streams. Individual learning theory asserts that organizations do not learn; learning occurs in the individual in the context of the organization. Other scholars, however, argue that learning can exist on the cumulative (Cyert & March, 1963), interpretive (Daft & Weick, 1984) and social level of the organization (Brown & Duguid, 1991; Lave & Wenger, 1991). Argyris (1992), on the other hand, retains that knowledge is individual but also suggests that organizations can set up processes and systems that link individual learning to organizational learning (Harrison, 1997). Argyris and Schön (1978) map out four interrelated processes of organizational learning: discovery, invention, production, and generalization. Successful learning occurs when organizations engage in all four processes: they discover errors or dissonance between their desired state and their current state;

diagnose the causes of gaps and invent appropriate solutions to alleviate them; produce the solutions through organizational actions; and draw conclusions about the effects of the solutions as well as generalizing the learning to other relevant situations.

A final level to consider is the network level, which is particularly relevant to public sector organizations that work in networked policy environments (Agranoff, 1991, 2008; Benington, 2001). Moreover, cross-organizational, professional relationships, which provide learning opportunities, are becoming more widespread and complex (Hartley & Allison, 2002; Haynes, 2005). These environments have been described by Knoepfel and Kissling-Naf (1998) as arenas for collective learning, and as such provide an interesting level to explore how (and if) public sector organizations learn from each other, collectively, in their interactions. This is especially relevant when tracing the impact of design outcomes on the organization and its environment.

2.3.2 Knowledge: its forms and dimensions

Knowledge has different forms; understanding this is essential to organizational learning that depends on the interaction of its diverse forms. Firstly, it is useful to distinguish between data, information and knowledge. Tsoukas and Vladimirou (2001, p. 979) define data as an ordered sequence of given items; information as a context-based arrangement of items; and knowledge as dependent on the ability to draw distinctions and exercise judgement, based on an appreciation of context or theory or both (Rashman et al., 2009, p. 471). Weber and Khademian (2008, p. 338), in their discussion on the variance in value assigned by different actors to information, argue that knowledge is socially mediated information (Berger & Luckmann, 1967). From this perspective knowledge cannot be separated from the application, use and development of information (Lave & Wenger, 1991). In the wicked problems that the authors (Weber & Khademian, 2008, p. 338) investigate, as in this research, the experiential dimension of knowledge is particularly relevant and markedly differentiates information from knowledge. In these problems, each participant doesn't contribute information on the issue but ways in which s/he knows the problem and perceives solutions. This explains the added complexity of these problems, given the multiplicity of actors and their interdependency, and highlights the need for a shared language, vision and understanding. The challenge then becomes one of effectively distributing the knowledge among participants, so it can be received and integrated by the network for the future (Feldman & Khademian, 2007). This speaks both to the absorptive capacity (Cohen & Levinthal, 1990) of public sector organizations and the issue of tacit and explicit knowledge. As we will see further down, the role of practice provides interesting avenues for the distribution of knowledge and opens up a possible role for design practice in organizational transformation.

Regarding knowledge, Polanyi (1966) made the distinction between two dimensions: tacit and explicit. Nonaka (1991, 1994) was one of the first scholars to highlight the important interplay between tacit and explicit knowledge for organizational knowledge creation, popularized in his spiral model in which tacit knowledge is brought forth and encoded into explicit knowledge. From this model, the concept of 'knowledge as an object' took form based on the idea that knowledge management systems could externalize tacit knowledge for organizational learning and benefit (Cohendet et al., 1999; Crossan et al., 1999). Walsham (2005), however, notes that these interpretations contradict Polanyi's (1966) definition of tacit and explicit knowledge which are at the base of Nonaka's model. The problem, he states, rests on the fact that "the meaning of any objective 'knowledge' will always remain the subjective product of the person in whose mind this is constituted, always relationally defined, and therefore [not easily transferrable] to others in a form which may be operationalized to the benefit of the organization" (Thompson & Walsham, 2004, p.

726). Knowledge, in other words, is contextualized in experience and practice and is situated in the context that produced it.

Polanyi (1966), as pointed out by Brown and Duguid (2001, p. 204), didn't theorize over two types of knowledge but two dimensions of knowledge: explicit knowledge, in use, also carries a tacit dimension (Brown & Duguid, 2001, p. 204). The utility of explicit knowledge is therefore tied to practice and its transfer to experience. The authors furthermore highlight the similarities between Polanyi's (1966) tacit/explicit distinction and Ryle's (1949) know this and know that, in which know that doesn't imply know how. Know how mobilizes know that, similarly to the tacit dimension of explicit knowledge. Likewise, while know that make take the form of rules and procedures, according to Ryle, "we learn how by practice" (Brown & Duguid, 2001, p. 204). From this perspective, circulating knowledge doesn't depend solely on the extrapolation of explicit knowledge but is rather made tradeable through tacit knowledge. In Brown and Duguid's (2001) opinion this explains the tendency for some knowledge to stick and others to leak; in short, knowledge flows where it finds affinity in practice. Similarly, in a study by Bate and Robert (2002) on NHS cross-agency groups that were brought together to share best practices, the authors found that they were only able to share explicit knowledge, owing to the focus on replication of evidenced-based knowledge rather than on adapting actionable knowledge to local contexts (Rashman et al., 2009, p. 478). Thompson and Walsham (2004, p. 735), furthermore, and as noted above, highlight the importance of context in knowledge processes, or rather "the relationally situated ingredients through which knowing occurs".

Tsoukas (2003, p. 410), additionally, states that: "Tacit knowing cannot be 'captured', 'translated', or 'converted', but only displayed and manifested in what we do. New knowledge comes about not when the tacit becomes explicit, but when our skilled performance is punctuated in new ways through social interaction". This focus on the importance of communication and interaction in learning and the generation of new knowledge is also supported by Kaneko and Imai (1987) who note the special quality of networks to interpret new information, which in turn fuels new linkages. Compared to hierarchical organizational forms, information flowing through a network is freer and more open to interpretation, allowing for new meaning and providing a context for learning by doing (Powell, 1990, p. 325).

2.3.3 Open Innovation and Absorptive Capacity

Following the discussion had until now, the next issue regards how public sector organizations source and integrate external knowledge, or rather their absorptive capacity (Cohen & Levinthal, 1990). Cohen and Levinthal (1990, p. 128) define the concept as "the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends". This is particularly relevant given the networks of actors within which public sector organizations work and the increased use of open innovation in the public sector (as seen in the case collection – e.g. GovTech Catalyst, Experimental Finland's "A Place to Experiment"; Bologna's Participatory Budget). In the open innovation paradigm, external knowledge is seen as an essential element in improving in-house innovation capabilities (Chesbrough, 2006). In these contexts, knowledge and the innovation process itself is distributed across a wide range of actors (Acha & Cusmano, 2005), challenging organizations to identify, manage and coordinate knowledge across organizational boundaries, and to engage in specialized networks (Ritter & Gemünden, 2003; Tidd & Bessant, 2018).

In line with the discussion above on the circulation of knowledge by means of shared practice, Cohen and Levinthal (1990) assert that the firm's ability to evaluate and use external knowledge is a function of its previously accumulated knowledge base; in other words, there must

be a similar knowledge base between the receiving and transferring organizations. Zahra and George (Zahra & George, 2002, p. 185) redefine the concept as a dynamic capability, introducing the paired concepts of potential and realized absorptive capacity, which refer respectively to acquisition and assimilation capabilities and transformation and exploitation capabilities. The authors also account for social integration mechanisms that facilitate formal and informal knowledge assimilation. They (2002, p. 194) state what while informal mechanisms assist in idea sharing, formal mechanisms build connectedness between organizational members, engaging them in problem-solving and creative action through organizational structures that increase interaction (Sheremata, 2000), making members aware of what information is relevant. Todorova and Durisin (2007) criticize their lack of inclusion of the initial steps laid forth by Cohen and Levinthal, emphasizing that the knowledge base of the firm influences how it is able to identify and valuate external knowledge.

In the current research, I will explore if design practice can help contribute to the absorptive capacity of public organizations, as limited to the scope of the design experiments taking place in the public sector.

2.4 Learning Theories

While there are many learning theories (Crossan et al., 1999; Cyert & March, 1963; Marsick, 1994; Nelson & Winter, 1982; Senge, 1990), I will focus my research on two models, namely: Kolb's (1984) experiential learning framework and Argyris and Schön's (1978) learning model. The first, as will be more explored in Chapter 3, has already been linked to the design process in literature (Beckman & Barry, 2007; Elsbach & Stigliani, 2018; Rizzo et al., 2017), as has the latter (Wolff et al., 2016) in the field of design management in companies. The current scope is to investigate how Argyris and Schön's (1978) model contributes from a learning perspective to understanding the relationship between design practice and organizational transformation.

2.4.1 Kolb's Experiential Learning Framework

Kolb (1984, p. 41) defined his experiential learning theory as "the process whereby knowledge is created through the transformation of experience". The learning process is a highly iterative cycle of four steps: experiencing, reflecting, thinking and acting. These are then mapped against two sets of approaches. The first set, concrete experience and abstract conceptualization, regards approaches to understand experience. The latter set, reflective observation and active experimentation, concerns the transformation of experience. A learning style results in each quadrant: diverging, assimilating, converging, and accommodating.

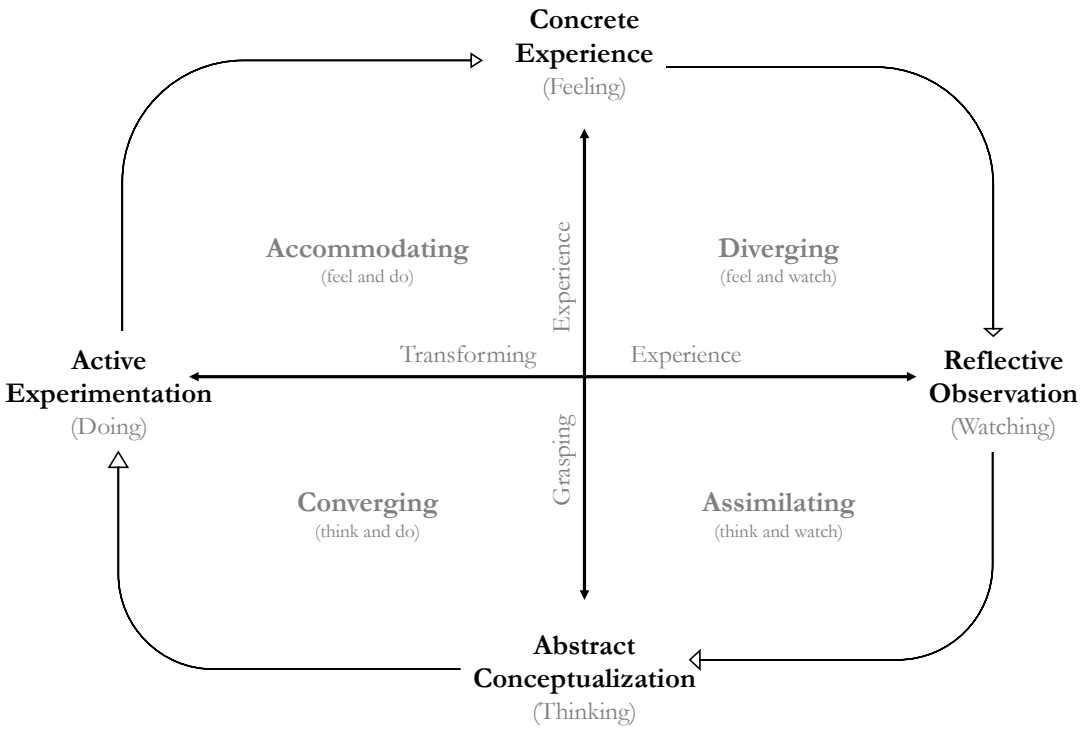

FIGURE 5. KOLB'S EXPERIENTIAL LEARNING THEORY (ADAPTED FROM VAN DER HORST & ALBERTYN, 2018, P. 1688, IN TURN ADAPTED FROM KOLB (1984))

2.4.2 Argyris and Schön's Single-loop/Double-loop Learning Model and Meta-Learning

Argyris and Schön's (1978) learning model is based on two concepts of learning: single loop and double loop learning. In single-loop learning (Argyris & Schön, 1996), individuals measure their performance against a set of pre-approved standards that are fixed and not open to debate. Single-loop learning therefore requires the establishment and acceptance of organizational culture (i.e. norms, procedure, standards etc.) and provides no framework for challenging, rethinking or in any way altering the standards (Dodgson, 1993). In this type of learning, problem-solving revolves around finding ways to fix the existing solution in search of efficiency. In double-loop learning, individuals examine the assumptions made on customers, products, services and/or strategies (Argyris & Schön, 1996), thus challenging the status quo of how things are done in the organization. Individuals engaged in double-loop learning are constantly seeking to generate new and better solutions. In this type of learning, new mental models emerge and the focus shifts from trying to fix the existing to questioning the underlying assumptions and the framing of the problem.

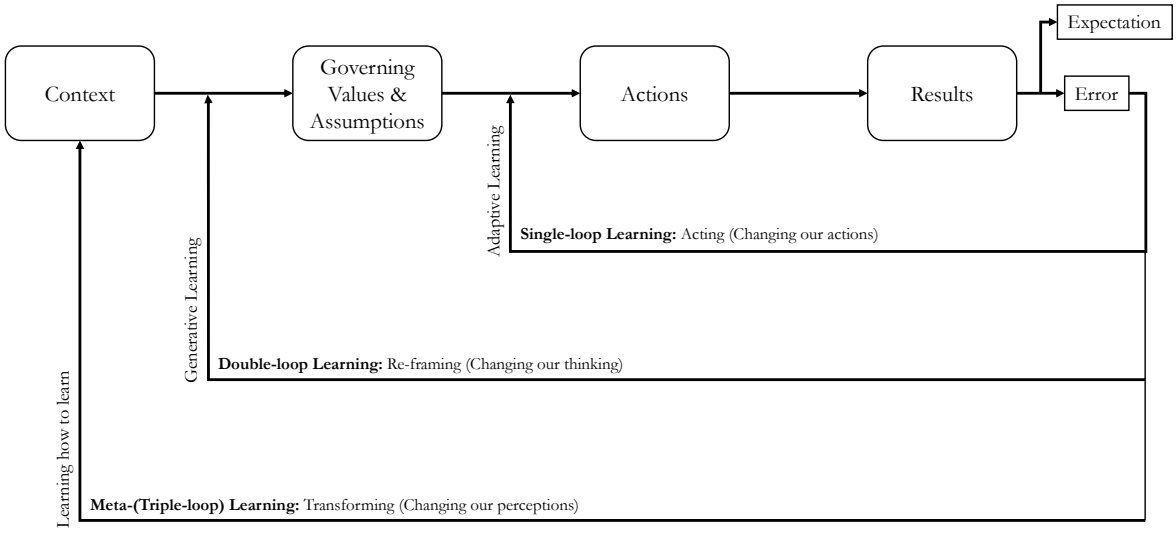

FIGURE 6. ARGYRIS AND SCHÖN'S SINGLE-LOOP, DOUBLE-LOOP AND META-(TRIPLE LOOP) LEARNING (ADAPTED FROM ARGYRIS & SCHÖN, 1996 AND FLOOD & ROMM, 1996)

Moreover, a third level of learning, meta-learning (often referred to as the third loop), builds off of single- and double-loop learning and Bateson's (1972) deutero-learning. In this type of learning, organizations seek to create the enabling conditions for learning by reflecting on how learning occurred or was inhibited in the past. Flood and Romm (1996) defined triple loop learning as addressing the question of whether people really have the opportunity and competence to participate in making well-informed choices in the process of discussing and managing issues that concern them. It is thus about linking all local units of learning into one overall learning infrastructure as well as developing the competences and skills to use this infrastructure. Argyris and Schön refer to this as meta-learning, or second-order learning on single- and double-loop learning (Argyris, 2003).

The research seeks to understand in this framework, the relationship between design practice, as seen in the design experiments in public sector innovation projects, and the transformation of public sector organizations, by investigating the following: (1) how design outcomes are integrated into the organization post-project; and (2) the role of public sector innovation labs in terms of bringing change to the organization.

2.5 A practice perspective of learning

Another perspective to organizational learning is to view the movement in reverse, from the collective level to the individual, giving primacy to the social and interactive processes at work in shaping group and individual behavior and perspectives (Blackler, 1995; Ghosh, 2004; Knoepfel & Kissling-Naf, 1998). Other scholars (Bate & Robert, 2002; Newell et al., 2003) argue that knowledge is created and transferred simultaneously through interaction. The literature here emphasizes the socially constructed and situated nature of knowledge and learning, viewing it as generated through interaction and within practice. The theories regarding the practices of knowing and learning (Blackler, 1995; Blackler et al., 2000) have fueled the emergence of concepts like 'communities of practice' (Brown & Duguid, 1991; Lave & Wenger, 1991; Wenger, 1998), knowledge communities (Barrett et al., 2004) or knowledge collectivities (Lindkvist, 2005) as an effective way (Anand et al.,

2002) to bring people together – across and within organizations, departments and units – to learn and share knowledge.

Communities of practice are built around the idea that knowing and doing come hand-in-hand and occur in situated contexts of practice (Lave & Wenger, 1991). Lave and Wenger (1991, p. 98) define them as "a system of relationships between people, activities, and the world; developing with time, and in relation to other tangential and overlapping communities of practice". In their conception of 'legitimate lateral participation' newcomers in organizations learn to become 'insiders' by acquiring the "embodied ability to behave as community members" (Brown & Duguid, 1991, p. 48). Wenger (1998, 2000) linked situated practice and knowing to three dimensions of community: mutual engagement, joint enterprise and shared resources, listing a set of key characteristics that differentiate communities of practice from other forms of joint work.

Sustained mutual relationships—harmonious or conflictual
Shared ways of engaging in doing things together
The rapid flow of information and propagation of innovation
Absence of introductory preambles, as if conversations and interactions were merely the continuation of an ongoing process
Very quick setup of a problem to be discussed
Substantial overlap in participants' descriptions of who belongs
Knowing what others know, what they can do, and how they can contribute to an enterprise
Mutually defining identities
The ability to assess the appropriateness of actions and products
Specific tools, representations, and other artefacts
Local lore, shared stories, inside jokes, knowing laughter
Jargon and shortcuts to communication as well as the ease of producing new ones
Certain styles recognized as displaying membership
A shared discourse reflecting a certain perspective on the world

TABLE 3. KEY CHARACTERISTICS OF COMMUNITIES OF PRACTICE (WENGER, 1998, PP. 125–126)

Accounting for looser relationships between members, Brown and Duguid (2001, p. 205) introduce networks of practice that connect practitioners from the same discipline across organizations or sub-units, in which knowledge is shared via common practice. They comment that "most of the people within such a network will never know, know of, or come across one another. And yet they are capable of sharing a great deal of knowledge" (Brown & Duguid, 2001, p. 205). Moreover, Cohen and Levinthal (1990, p. 133) highlight the important role of shared language and symbols in facilitating the exploitation of knowledge. Exploitation depends, in other words, on the capacity of gatekeepers to translate information to non-specialist units, which is made easier when the recipients also have a background of relevant knowledge. Organizations should thus structure themselves to support both knowledge overlap and diversity as 'interactions across individuals who each possess diverse and different knowledge structures will augment the organization's capacity for making novel linkages and associations – innovating – beyond what any one individual can achieve' (Cohen & Levinthal, 1990, p. 133).

The practice perspective of learning is an interesting framework for interpreting the role of design in knowledge management and innovation in the public sector, as will be seen in the empirical research and in the next chapter regarding the relationship between design practice, design culture and organizational change. In concluding this chapter, I list, in the table below, the

dimensions coming from literature on organizational change and learning that will be used to analyze the case study collection (for further detail on the methodology, please see Chapter 6).

Dimension	Insight from Literature Review	Quick References
Learning Type	The learning processes triggered by the design process have been discussed in literature, especially in reference to Kolb's (1984) experiential learning cycle. Given the research focus on organizational change and design practice, the learning process is evaluated through Argyris and Schön's (1996) single-loop/double-loop learning theory. Other learning theories, particularly the role of communities-of-practice emerged as an interesting 'tool' for knowledge sharing and transfer within and across organizations. The co-design process was also evaluated against the different learning styles to understand the underlying processes.	Beckman & Barry (2007); Elsbach & Stigliani (2018); Rizzo et al. (2017); Junginger (2007); Brown and Duguid (2001)
Single-loop		
Double-loop		
Meta-learning		
Learning Styles		
Concrete Experience (by-doing)		
Observation (by-reflection)		
Formal Knowledge Transfer (by training)		
Tacit Knowledge Transfer (by proximity)		
Interaction (by collaborating, co-designing and co-creating)		
Imitation (by replication and adaptation)		
Mix		
Organizational Learning	The importance of feedback and feedforward mechanisms that integrate knowledge coming from innovation experiments and routinize behavior emerged as important to organizational learning and change. A specific look at the devices through which knowledge was encoded during and post-project were explored to understand the link between the learning outcomes and the organization.	Crossan et al 1999
Encoding Devices		
Organizational Change	Organizational change was seen to be linked to the organization's capacity to learn. The introduction of new practices was also linked to changes in the organizational culture. The Competing Values Framework was used to understand in which direction the design experiments were working in.	Argyris & Schon 1996; Schein; Quinn
Create		
Collaborate		
Control		
Compete		

TABLE 4. ANALYTICAL DIMENSIONS IDENTIFIED FROM LITERATURE ON ORGANIZATIONAL CHANGE AND LEARNING

Chapter 3: Design and Organizational Transformation

3.1 An Introductory Note on Design and its Evolution

3.1.1 A brief history of design's relationship to innovation[3]

The adjective "complex" is a fitting word to describe a relevant dynamic characterizing today's political, economic, social and cultural challenges and one that design is beginning to face. Designers, nowadays, are being called to operate in diverse work domains and to solve challenges – e.g. in healthcare, migration, food security, environmental sustainability, etc. – that differ from the traditional arenas and problems that have typically characterized design. While designers are accustomed to working with complicated problems that can be solved with refined problem-solving skills, the problems that designers now face are open-ended, 'wicked' and distributed across actors, sectors, space and time. In other words, the problems – particularly public problems – require designers to focus on a multiplicity of user types that extend beyond now to include future generations of users and actors and challenge them to work from a system's perspective. As already well documented by many design scholars – Kimbell (2009b), Julier (2012), and Muratovski (2015) to name just a few – the field of design has been experiencing a shift, or an expansion, from craftsmanship and industrial production towards design thinking (e.g. Brown, 2008; Buchanan, 1992; Martin, 2009), experience and interaction design (e.g. Forlizzi & Battarbee, 2004; Garrett, 2011; Hassenzahl, 2010; Jensen, 2014; Moggridge, 2007; Shedroff, 2001) and design for social and environmental challenges (e.g. Brown & Wyatt, 2010; Manzini, 1998, 2015; Manzini & Meroni, 2014); thus a shift from a focus on well-structured problems that are solved through a rational set of procedures (Simon, 1996) to ill-structured, wicked problems (Buchanan, 1992; Rittel & Webber, 1973) that are indeterminate, fluid, open-ended and which cannot be definitively solved.

The rise in 'popularity' of design as a resource for innovation can be attributed to a push away from material objects to the application of the methods and processes of expert designers to solve just about any problem (Kimbell, 2009b). By diffusing 'designerly ways of thinking and doing' (Archer, 1979; Cross, 1982) through a modelized process and set of tools, design thinking has become a sort of innovation formula that promises creative solutions to a wide range of issues, heralded as the competitive advantage of companies (Martin, 2009) and the strategic ally of business management. This is evident in the wide uptake of design thinking by management consultancies and its widespread use in the intermediary systems of social and public sector innovation. This has in fact given birth to a sort of DIY design culture, as seen in the proliferation of design toolkits, both generic and sector/problem-specific.

The emergence of design thinking can be traced back to Herbert Simon's viewpoint of design as a rational set of procedures used by designers to solve defined problems; a process, he viewed, as intrinsic to human activity, as noted in his highly-quoted statement: "Everyone designs who devises courses of action aimed at changing existing situations into preferred ones" (Simon, 1969, p. 111). In his book, *The Sciences of the Artificial*, Simon argues for a science of design that in contrast with the science of the natural world deals with "the transformation of existing conditions into preferred ones" (Simon, 1969, p. 4). Simon's work is important as it provided a foundation for other theoretical work to develop, by either criticizing or supporting his claim.

[3] Section taken and adapted from the sections I wrote in (Komatsu Cipriani & Rossi, 2018).

Simon's view of a science of design was criticized by Schön for its focus on well-defined problems, arguing that, in reality, designers confront messy and problematic situations. Based on this premise, he developed his concept of 'reflection-in-action' in his seminal book, *The Reflective Practitioner* (Schön, 1983, pp. viii–ix), which unpacks the capacity of practitioners to reflect "on their intuitive knowing in the midst of action and sometimes use this capacity to cope with the unique, uncertain and conflicted situations of practice". He therefore re-focuses attention to the situated nature of knowledge as it is used in practice, a knowing-in-practice that is mostly tacit. As was seen in the previous chapter, his discussion builds off Polanyi's (1966) distinction of the tacit dimension to knowledge, but also highlights the opportunities for sharing that knowledge through the act of reflecting while doing, i.e. practicing.

Building on Schön's work, design scholars have sought to define these ways of knowing-in-practice: Nigel Cross's (1982) designerly ways of knowing and Rowe's (1987) design thinking. The object of design shifted, moving from a cognitive approach to problem-solving to an intellectual approach. Buchanan (1992) classified design problems as 'wicked', and thereby ill-defined, ill-structured and open-ended (Goldschmidt, 1997). As a result, designers have been tasked to organize complexity and find clarity in chaos (Kolko, 2010, p. 15) through a process of abductive reasoning. Becoming a point of interest for other disciplines, particularly management, other scholars started to describe the designer's attitude by observing them in practice (Boland & Collopy, 2004), seeking to codify design knowledge for innovation. This fueled the emergence of design thinking as a unique problem-solving approach for businesses seeking to innovate.

Brown (2008b) describes design thinking as an organizational process with a set of tools that helps firms innovate and solve abstract and multi-faceted problems – a feature that makes it relevant also to social innovation (Brown & Wyatt, 2010). Martin (2009), as already mentioned, celebrates the role of design in increasing the firm's competitive advantage, balancing the exploration of new knowledge and the exploitation of existing knowledge (March, 1991). The impact of their work is evident in the increased uptake of design thinking in management consultancies and in-house design teams (Muratovski, 2015), as well as by the intermediary systems of public sector and social innovation. The diffused accessibility of design is furthermore evidenced by the multitude of design toolkits that claim to guide the non-designer through the 'art' of design (much like painting by numbers). Its relevance for business has also been a focus of academic research, as seen in Elsbach and Stigliani's (2018, p. 2277) literature review, in terms of: growth and profitability (Chiva & Alegre, 2009; Gemser & Meenders, 2001), stock market prices (Hertenstein & Sutton, 2005) and innovation capability (Filippetti, 2011; Menguc et al., 2014) and has been promoted as a necessary skill for managers (Boland et al., 2008; Kelley, 2001, 2005; Liedtka & Ogilvie, 2011; Martin, 2009).

3.1.2 Moving back and beyond Design Thinking: re-rooting design in practice

While design thinking has no doubt helped the field break into new areas of application, legitimizing the value of design, it has also paradoxically limited the potential of design by way of standardizing the process and inhibiting the real craftsmanship that lies behind design. The focus on the process rather than on the outcome, as pointed out by Verganti (2017), often deviates from the production of meaningful design. Deserti and Rizzo (2014, pp. 41–42) point out three faults in how design thinking has been used in management: (1) a lack of contextualization and situatedness; (2) a separation of the ideation and development processes; and (3) the idea of a top-down practice that principally affects management rather than the whole enterprise. They sustain, as will be further explored below, that in order for design to be truly effective in organizations, it must become a part of its culture, situated in its practices, requiring continual negotiation and alignment in its innovation process.

Lucy Kimbell (2009b), also speaks to the need of going beyond design thinking towards an approach that moves the unit of analysis away from the individual designer to a wider frame, grounding the practices and competences of designers in the materials used and the practices of the stakeholders involved (ibidem, p. 11). She proposes pairing the concepts of *design-as-practice*, which acknowledges the role of designers and non-designers – stakeholders, users, managers and employees – taking part in the design process and *design-in-practice*, which "acknowledges the emergent nature of design outcomes as they are enacted in practice" (ibidem, p. 11). In other words, she promotes a more systemic vision to designing, in which the outcomes remain incomplete as their meaning and use are constantly being redefined. In this perspective, both 'expert' and 'diffuse' designers (Manzini, 2015) are included in a conception of design that views it as being a distributed social accomplishment dependent on its material and social circumstances (Kimbell, 2009b; Manzini, 2015; Suchman, 1987).

3.2 Design and organizational change

With the expansion of design in management practices, as discussed in the first section of this chapter, Buchanan (2007) proposes treating the organization as an object of design and for designers to engage in "fourth-order" design: the design of organizations, environments and systems (Buchanan, 2001). As discussed in the special issue by Richard Buchanan (2007), two conferences, namely Weatherhead School of Management's Conference "Managing as Designing" at Case Western Reserve University, in 2002, and the Stern School of Business's small working conference, "Organization Design" at New York University, in 2004, were particularly influential in bringing the topic into the center of academic design research with the objective of understanding how design could potentially lead to organizational change. Building off this, several interesting strands of research have emerged in reference to both public sector organizations and private firms that provide context to the present study. We will begin with a look at foundational work regarding design's role in organizational change in the public sector. We will then look at the contribution of the learning processes inherent to the design process to organizational change and will conclude with a discussion of the role of design culture in transforming organizations.

3.2.1 Design and Change in Public Sector Organizations

As will be covered in more detail in Chapter 5, design is mostly being integrated into public sector organizations to help in innovation and modernization efforts. Given this, understanding design's role in transforming public sector organizations and its impact on public organizational culture is an interesting topic that has been addressed by practitioners and academic scholars alike. From a practitioner's perspective, Body (2007), for instance, focuses on the integration of design in public sector organizations and the challenges there are in the uptake of these new skills and methods. Reflecting on the first three years of his work at the Australian Tax Office, he noted two major intellectual challenges to building up the design capabilities in the office: (1) obtaining enough understanding of design and applying it in the context of the tax system; and (2) building capability in context. In his work, these challenges were met by continuously developing the knowledge base (e.g. updating case studies, methods, skills, techniques, etc.; providing the tools to share information about design; and having a "practice management area" to manage requests and promote services (Body, 2007, p. 60) and establishing design principles to guide their work. The principles were foundational, allowing people to self-organize around identified objectives while also maintaining a standard. To further this mechanism of 'localized' adaptation, a franchising model was chosen that saw the set-up of design areas in the interested parts of the organization rather than a centralized

office. Body (2007) attributes the success of this model to the recognition of the value of design by the business unit. The model gave each unit a creative license in applying the tools provided, adapting them or inventing new methodologies, as long as they aligned with the established design principles. What is interesting to note here is the form-giving nature of the design principles to the change effort that allowed for cohesion in diversity, and for "centralized" knowledge to be translated "locally" within each unit and the specific contextual factors that characterized its working practices. Furthermore, we can see that building up design awareness and design capabilities in the public sector requires adaptation to the practices, routines and ways of learning and knowing that are inherent to the public sector and 'how things get done there'.

In the same issue, Junginger (2007) discusses the product development process as a vehicle of change in organizations, particularly the value of what she calls "human-centered" product development. In this type of product development, other actors – customers, suppliers, employees – are invited into the design process, influencing the process from the outside in. Through the interaction and recognition of their needs and abilities, organizations can become customer (user)-focused and therefore also change from the outside in by aligning internal systems to better suit external needs. According to Junginger (2007), human-centered product development can be a strategy for organizational change because it is a systematic effort that unifies the four elements of the organization – its people, structures, resources, and purpose – in a learning-by-doing pathway towards both creating products that are meaningful for customers and organizing internal systems to produce it. In this process, organizational change is not top-down or even bottom-up but horizontal, working its way into the organization in a "zig-zag" fashion that is bi-directional. Moreover, she points out the opportunities that the participatory nature of the process can provide for learning and presents human-centered product development as a viable pathway for double-loop learning in organizations (Junginger, 2007, p. 35).

In a subsequent paper, Junginger and Sangiorgi (2009) test the assertion made by Junginger (2007) on the relationship between new product development and organizational change to services as a vehicle of organizational change. Through the discussion of two case studies, the authors draw conclusions that found the service design process as transformational in its capacity to engage with the structures and deeper values of the organization through the process. While the process is not intentional, Junginger and Sangiorgi argue that it can still be 'rigourous' in terms of a transformational approach if designers practice 'reflection-in-action" and provide the following framework (see Figure 1) to orient the designer in this reflection. This is interesting for the public sector given that the majority of its agencies are service providers. However, the complexity of service design in the public sector, as will be discussed more below, is seen in the close relationship between public services and public policy, making the act of (re-)designing public services more delicate and dependent on system regulations, processes and ultimately, culture. Moreover, this very relationship is one of the barriers to the effectiveness and impact of design work in the public sector (Junginger, 2013; Mintrom & Luetjens, 2016).

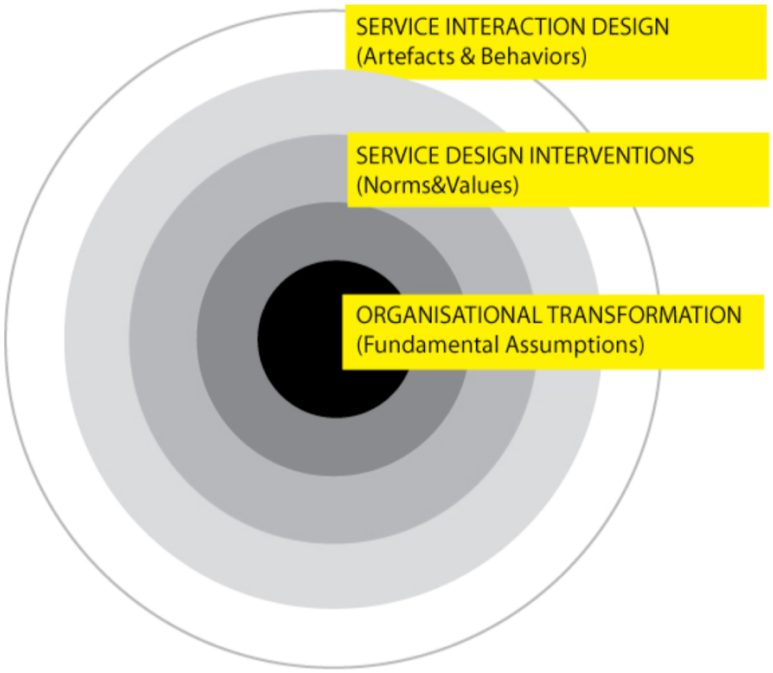

FIGURE 7. LEVELS OF POTENTIAL IMPACT OF SERVICE DESIGN PROJECTS (JUNGINGER & SANGIORGI, 2009, P. 4346).

In yet another paper, Junginger (2014) confronts the idea of legacies in organizations as barriers or conduits for design's transformational capacities. She defines legacy as being one of heritage, being passed down from one generation to the next. Practices can also considered as legacies, in such that they are handed down from management to employees, between employees and different teams and is often shaped by particular management approaches, like Top Quality Management or New Public Management in the public sector. This is particularly relevant for public sector organizations that work in layered paradigms of governance (Benington & Hartley, 2001), each with its own values and practices, providing the context(s) in which designers must work – as will be further discussed in Chapter 4. In her paper, Junginger (2014) asserts that designers fail to embed their practices in organizations by failing to account for already existing design legacies that exist in every organization, which by their very nature plan and design to fulfill their organizational mission – to develop and deliver products and/or services. She therefore takes on Simon's notion that everyone is a designer – see also Manzini (2015) – and applies it to the organization. Junginger (2014, p. 165) argues that by viewing organizations as places of design legacies with embedded design practices, the main barriers to organizational change by design can be overcome by embracing on-going design efforts and building on them. This was clearly seen in the empirical research (see Case Study on Fjord's work with the German Employment Agency 7.2.5) and supports the findings (See sections 8.3, 8.5 and 9.2.1). Taking account of existing legacies works also to support Body's (2007) findings and the need to adapt design practices to the context and its needs. This is true for both the private and public sector, but arguably more so for the latter due to its more complex and interconnected structure and web of motivations that guide decision-making (See Chapter 4). Moreover, acknowledging legacies creates allies in the silent designers (Gorb & Dumas, 1987) already at work in the organization. This helps take away the 'foreignness' of design as something that is "invading" to an agent that is enhancing and re-positioning what already exists

with the future direction of the organization (Junginger, 2014, p. 165). Following the work of Charles Leadbeater (2009), Junginger (2014, p. 170) proposes a matrix of organizational design practices to explain the relationship between how an organization views its own design capabilities with who it sees as capable of design, by exploring the consequences of designing for, designing with and designing by citizens or organizations.

	Designing for Citizens	Designing with Citizens	Designing by Citizens
Designing for Organizations	Design experts design for organizational staff and for citizens	Design experts design with citizens for organizational staff	Citizens design for organizational staff
Designing with Organizations	Design experts design with organizational staff for citizens	Design experts design with organizational staff and with citizens	Citizens design with organizational staff
Designing by Organizations	Organizational staff designs for citizens	Organizational staff co-designs with citizens	Organizational staff and citizens co-create and 'co-produce' (i.e., operate the new)

FIGURE 8. MATRIX OF ORGANIZATIONAL DESIGN PRACTICES (JUNGINGER, 2014, P. 170)

Another factor to consider is the location of design competences (see Section 8.3 for a more focused discussion that integrates empirical findings). This issue has also been addressed by scholars, like Junginger (2009), and also practitioners, e.g. the Danish Design Centre, the UK's Design Council, and Design Management Europe, for both the private and public sector. The main tenet of these models is the direct correlation between the impact of design knowledge and its level of organizational integration; in other words, the more design is taken as a core value and activity in the organization's activities from strategy to implementation, the higher its potential impact becomes. These locational tools – as exhibited in the figures below – show the use of design in different stages of maturity and its range of application and impact. Going from no design use to its use in aesthetic, final touches to service/product design to strategy, the models help organization's understand their use of design and how to better exploit it to reach higher impact by really influencing how the organization thinks, acts and learns, with the final objective of it becoming the basis of its culture. This discussion is useful in understanding the role of design in policy labs and how design knowledge is being used (if at all) by public sector organizations after design experiments. In other words, how the location of design competences affects the transfer of design knowledge and its transformative impact.

In concluding this section, what we can observe is the relationship between design practice and organizational change as seen in literature thus far and summarized in the table below. The

influencing factors are useful to the current research in so far as they provide dimensions through which to study the role of design in advancing the innovation capacity of the public sector and the effective impact of design as it is being used by policy labs across Europe at present. A final factor can be found in an organization's design culture, which will be addressed below in a dedicated section.

Factors that influence the integration and impact of design in public sector organizations	**Key Insight**	**Reference**
Level of design awareness	Obtaining adequate understanding of design and its uses to recognize its value and use in context	Body, 2007
Adaptation to 'local' practices	Building design capability in context by adapting methods and tools to the organization's practices, routines and norms	Body, 2007
Human-centered product/service development	Inclusion of product service system actors in the development of new products/services can lead to organizational change from the outside in and create pathways to change through double-loop learning	Junginger 2007; Junginger & Sangiorgi 2009
Recognition of existing design legacies	Building on existing design legacies allows for 'silent designers' to be engaged and for the transformational capacity of design to be embraced by removing its 'foreigness' and grounding new tools, methods and approaches into something that already exists	Junginger, 2014; Gorb & Dumas, 1987

TABLE 5. FACTORS THAT INFLUENCE THE INTEGRATION AND IMPACT OF DESIGN IN PUBLIC SECTOR ORGANIZATIONS

3.3 Learning through Design

Elsbach and Stigliani (2018, p. 2279), in their review of design thinking research in organizational settings, came to the following three findings: (1) the *effective* use of design thinking tools in organizations had a profound effect on organizational culture; (2) in a reciprocal manner, organizational cultures influenced (both positively and negatively) the use of design thinking tools; and (3) the use of design thinking tools led to the creation of physical artifacts and emotional experiences that upon reflection helped participants understand the value of design thinking tools for the organization.

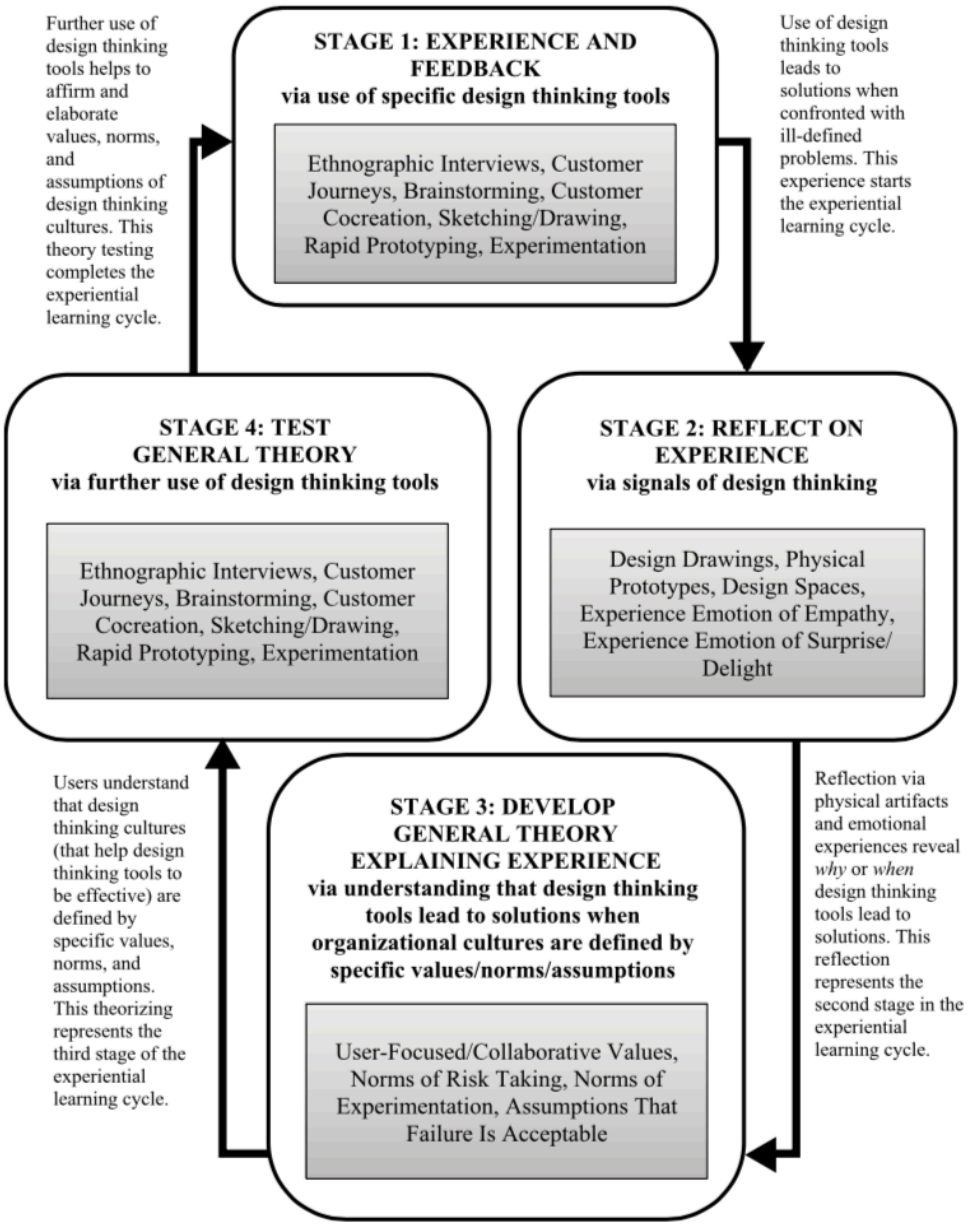

FIGURE 9. AN EXPERIENTIAL LEARNING FRAMEWORK RELATING DESIGN THINKING TOOLS AND CULTURES (TAKEN FROM ELSBACH & STIGLIANI, 2018, P. 2294)

In their review, they link specific categories of design tools: needfinding; idea-generation and idea testing tools – as identified by Seidel and Fixson (2013) – create and support different organizational cultures. In summarizing their findings, they propose a framework to capture the mutual support of design thinking tools and the development of design thinking cultures. The author's chose to base the framework on Kolb's (1984) experiential learning cycle to reflect the experiential nature of design thinking tools and cultures. In the first phase, participants experience the tools through use. They are then led to reflect on their experience. Following this reflection, they form general theories that explain their experience (i.e. that certain tools lead to solutions when organizational cultures are defined by specific values/norms/assumptions) and then finally, test these theories in new applications. Their framework therefore includes second-order learning on the design experiences and provides for the application of the learning outcomes in future projects. In this manner, design contributes to organizational change by influencing and changing its culture in a dialectic and iterative manner over time. Their findings are interesting for the research at hand in its affirmation of the learning component of the design process and the possibilities that the authors find for design thinking to help people "learn how to learn" and contribute to organizational learning (Elsbach & Stigliani, 2018, p. 2299).

Kolb's (1984) model has also been used by other scholars to describe the following: how design teams develop collective understandings in problem framing and solution-building (Stumpf & McDonnell, 2002; Valkenburg & Dorst, 1998); how they can innovate more effectively (Beckman & Barry, 2007) and how small-scale experiments, like those happening in the public sector, can be learning occasions for organizational change (Rizzo et al., 2017).

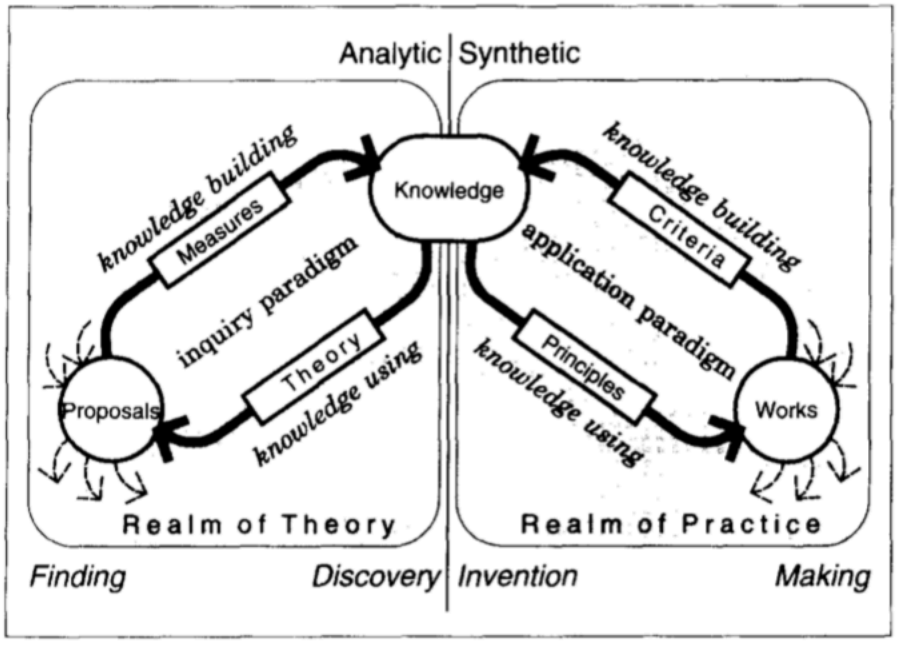

FIGURE 10. BUILDING AND USING KNOWLEDGE (OWEN, 1998, P. 12)

Owen was perhaps the first to explore the knowledge creating properties of the design process in the late 1980s. He (1998) urged for more attention to research on design, owing to the rising recognition of the value of design in business, and more recently its potential value in the decision-making of government and institutional leaders (2006). His model (1998) captures the alternating phases of analysis and synthesis in the design process. These phases correspond

respectively to action in two different realms, that of theory and practice, in which knowledge is generated in both the experience of doing and in reflecting upon the experience. In other words, knowledge is generated and accumulated through action, in the doing and the judging of results (Owen, 1998, p. 2). Owen's model is therefore very similar to Kolb's (1984, p. 41) experiential learning theory, in which learning is defined as "the process whereby knowledge is created through the transformation of experience".

Beckman and Barry (2007, p. 30) combine Owen's (1998) model with Kolb's (1984) to create a model of innovation as a learning process.

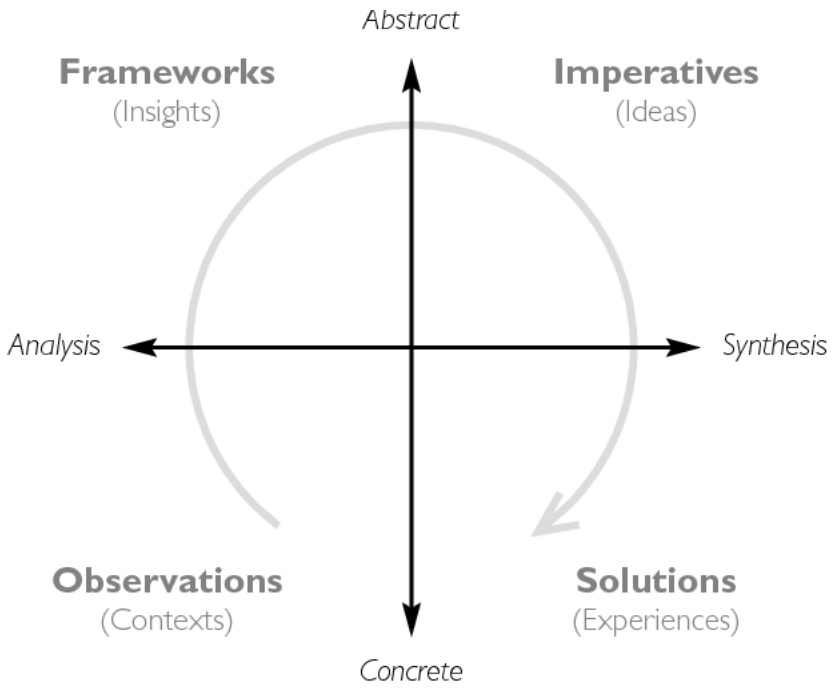

FIGURE 11. INNOVATION AS A LEARNING PROCESS (BECKMAN & BARRY, 2007, P. 30)

Likewise, Rizzo et al. (2017)[4] make use of Kolb's (1984) model to understand the learning process in co-design activities. In their view, co-design activates important learning processes around the innovation project. This mostly happens through the iterative development of prototypes, which can also take the form of small-scale experiments. These learning processes can be defined as experiential learning processes that go beyond improving the service to provide space for reflection (Rizzo et al., 2017). Most innovation projects with and within the public sector can be considered as small-scale experiments. As such, they can be interpreted not only as a means of providing better services but also as vehicles for deeper transformation through the iterative cycles of analysis and synthesis of the design process (Owen, 1998). Overlapping the design process with Kolb's (1984) experiential learning model, the authors create a design-based learning framework for reflective learning based on its four iterative steps: experiencing, reflecting, thinking and acting.

[4] Section taken from a conference paper written for IFKAD 2019 in Matera. Rizzo, F., Deserti, A., & Komatsu, T. (2019). A Service Design Experiment in the Municipality of Turin to Overcome Organisational Silos. *14th International Forum on Knowledge Asset Dynamics Proceedings Knowledge Ecosystems and Growth*, 2262–2272.

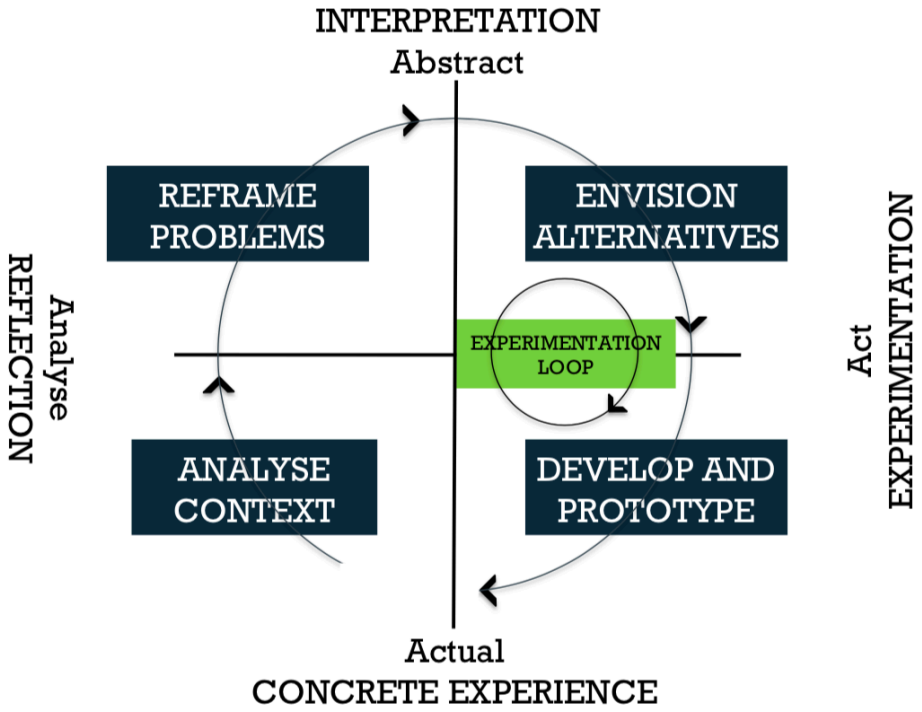

FIGURE 12. THE DESIGN BASED LEARNING FRAMEWORK MAP THE DT CYCLE WITH THE KOLB'S MODEL (1984) OF REFLECTIVE LEARNING (RIZZO ET AL., 2017, P. 7)

In the paper, Rizzo et al. (2017), point out that when design thinking is applied to societal challenges, it takes on the form of complex, participatory processes, engaging a vast number of actors and stakeholders. These processes extend the idea of participation to include: "(1) the [relationship] between the context of the problem to be addressed and the design of the network that will co-produce the solution; and (2) the [experimentation] of different configurations of that network until […] a robust partnership is individualised and established [into an] institutional form" (p. 130). These configurations, if designed well, have the knowledge resources needed to frame the problem, not only from the perspective of the user but also from the perspective of other actors involved in the production of the service (and consumption – e.g. caregivers, family members, etc.). Finding the right configuration and institutionalizing the interaction is essential towards successfully implementing the new service in the long run and is one of the larger challenges of the translation of these experiments from "nice insights" to applicable knowledge.

While these models effectively capture the learning processes occurring during the design process, they fail to capture the transfer of the learning outcomes into the organization (if this happens at all), which is important for understanding any links between design practice and organizational change. What is common to the models is the identification of the experiential nature of learning in design processes through the use of Kolb's (1984) model and the consequent iterative cycle between: 'doing' and 'reflecting', or reflecting-in-action (Schön, 1983); exploring and exploiting (March, 1991); and theory and practice (Owen, 1998). The current research seeks to build off these models and investigate how to transfer the learning outcomes of the design process to the organization. This will be done by investigating the design process as a double-loop learning process, using Argyris and Schön's (Argyris & Schön, 1996) model, specifically focusing on the aspect of meta-learning, as laid out in Chapter 2.

3.4 Design Culture and Organizational Change

Similar to Junginger's (2007) work on the link between design and organizational change (see Section 3.2.1), Deserti and Rizzo (2014, p. 38), also focus on the product development process, but offer a cultural viewpoint to the discussion, seeing the final product not only as an expression of the user's needs but also a synthesis of the organization's own culture. In their discussion of the organizational changes that result from the introduction of new products, they sustain that the culture of the organization is also affected as an expected or unexpected externality of the process, revealing design culture as an implicit agent of change. The authors find the link, between design culture and its practices and the management of change in organizations, in the tension that develops between the dual need to explore new ideas and solutions and exploit existing ones (March, 1991). Deserti and Rizzo (2014) re-formulate these tensions as cultural triggers and constraints that occur in developing innovative products. While acknowledging the importance of designing for the user's life sphere – i.e. the context of destination – they also argue that the context of origin, or rather the culture of the organization delivering the innovation, must also be accounted for in its role in shaping and giving life to new products. Products are therefore both a result of an organization's existing culture, while also a driver of cultural change. In doing so, the authors (2014, p. 44) define design culture (see Figure 13) as:

> *a specific system of knowledge, competences and skills that operates in a specific context to develop new products and services; that mediates between the world of production and consumption; and that coordinates multiple factors related to technology, market and society.*

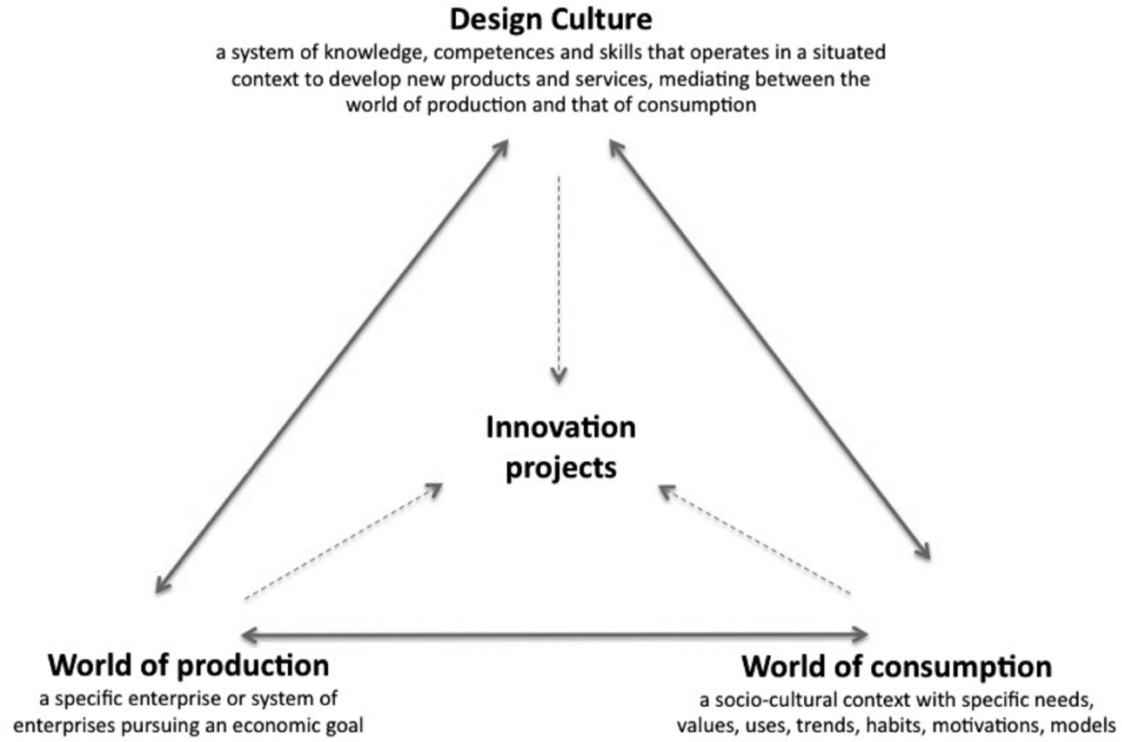

FIGURE 13. DESIGN CULTURE AS A MEDIATOR BETWEEN PRODUCTION AND CONSUMPTION (DESERTI & RIZZO, 2014, P. 44)

What is made clear in their discussion is the situated nature of design practice, and the importance in giving value to the contextual factors that inform the design process as vehicles for creating bi-directional linkages from the inside out and the outside in, thereby building on Junginger's (2007) work. These processes converge to produce specific design cultures unique to the organization. Design culture can then be seen as a construct that shapes exploration, yet at the same time, is constantly in emergence, being shaped by the organization's innovation activities. It is therefore a situated practice that is informed by context and expressed in the action of designing.

Guy Julier (2006, 2008), for instance, was one of the first design scholars to theorize on the concept of design culture in his foundational book, *The Culture of Design* (Julier, 2008). His conceptualization looked at design culture as a process of interrelation between the designers, production and consumption and the design object, image or space. Julier extends the scope of design to the creation of relationships between different systems of production and consumption and its influence on the design process, thereby attributing more to design work than the mere fashioning of discrete objects (Julier, 2012, p. 115). Design culture can thus take form on various scales, from the single organization to the city, where several factors – e.g. urban architecture, culture, political arenas, education, infrastructures of social and mutual support, etc. – influence the ways of working and being of a particular place in a particular time (Julier, 2012, p. 115).

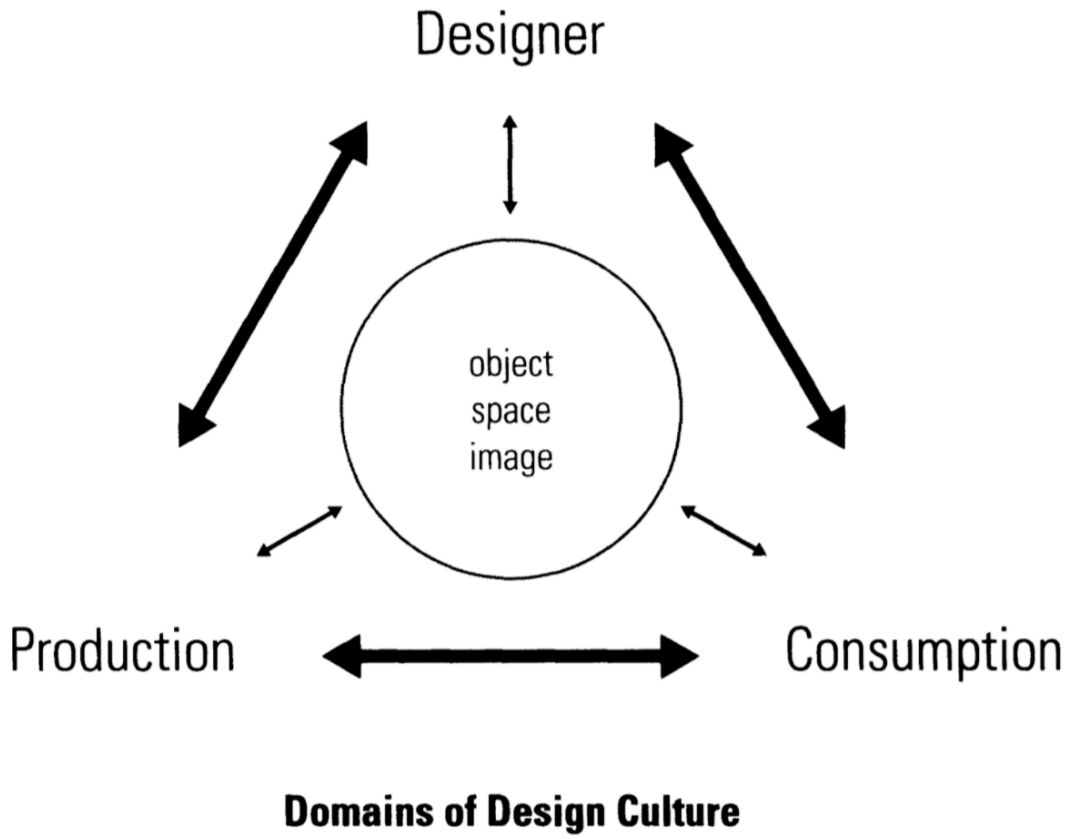

FIGURE 14. DESIGN CULTURE DIAGRAM (JULIER, 2006, P. 73)

In a paper updating his original conception, Julier (2006, pp. 70–72) goes through five positions that have emerged around design culture, viewing it as: (1) a process; (2) a context-informed practice; (3) organizational or attitudinal; (4) agency and (5) pervasive but differentiated value. The most common of which is design culture as a process, which he (Julier, 2006, p. 70) describes as follows:

> *In particular, it describes the immediate contextual influences and contextually informed actions within the development of a design. A close term that throws light on this is the Italian usage of "cultura di progetto." The word "progetto" implies something broader than simply the form-giving within design, but extends to the totality of carrying out design; for example, from conceiving and negotiating artifacts with clients, to studio organization, to the output of the design and to its realization. Within all these there is an implied interest in the systems of negotiation—often verbal—that conspire to define and frame design artifacts. […] Thus, the project process is understood to be produced within and by a network of everyday knowledge and practices that surround the designer.*

Of interest in this viewpoint, is the totality that it brings: it accounts not only for designing for the user and the negotiation that is involved but also the environmental conditions that enable its production and delivery. The position also acknowledges the ability of designers to recognize, assimilate and apply knowledge coming from a variety of sources in the act of designing. This 'absorptive capacity' (Cohen & Levinthal, 1990) could perhaps be a characteristic that defines the innovative quality afforded to design and explain or motivate its use in organizations in today's knowledge economy.

In moving his conception of design culture towards a more "knowing practice" of design, Julier (2006, p. 74) revises his framework around three domains of design culture: value (the designer's role in value production), circulation (the material and immaterial elements that underpin and shape the productive processes of design) and practice (the act of producing and consuming design products). He concludes by suggesting the possible mobilization of Design Culture as "a generative [tool] that produces new sensibilities, attitudes, approaches, and intellectual processes in design practice" (Julier, 2006, p. 76). This presents an interesting viewpoint on the role of design culture for the current research and the investigation of design's role in public sector innovation.

Design-based pathways for organizational change	**Key Insight**	**Reference**
Change through development	The use of design in new product or service development processes leads to changes in the organization through its inclusion of system actors in the process, inviting change from the outside in (in which the organization's internal processes are re-organized to meet external needs).	Junginger, 2007; Junginger & Sangiorgi, 2009

Change through learning	The design process's iterative cycles of diverging and converging between knowledge building and knowledge using through human centered tools (design thinking, service design, user research, etc.) and approaches generates knowledge through experiential learning, carrying the potential of contributing to organizational change through shared experiences and reflection.	Elsbach & Stigliani, 2018; Beckman & Barry, 2007; Owen, 1998; Rizzo et al., 2017
Change through culture formation	The culture of the organization influences the process of developing a new product/service, while it is also being transformed in the process. Design culture therefore mediates between production and consumption and can be a generative tool for change in organizations.	Deserti & Rizzo, 2014; Julier, 2006

TABLE 6. DESIGN-BASED PATHWAYS FOR ORGANIZATIONAL CHANGE

So far, we have seen several ways in which design contributes to organizational change (see Table 2). In going forward, the present research takes on the view of design as rooted in practice and will explore these domains in the context of design experiments in the public sector, exploring the role of design practice in public value creation, the development of design practice in these contexts and the role of practice in circulating knowledge within and between organizations. This discussion builds on Deserti and Rizzo's (2014) conception of design practice as an implicit agent of organizational change, by exploring the link between design practice and organizational change. In conclusion, my first research question emerges from this discussion:

RQ1: What is the relationship between design practice and organizational change in public sector organizations?

In the discussion so far, we can see the value of design practices, rooted in the "doing" of design, take on a primary role in the 'art' of design. As remarked by Buchanan (2007, p. 9) in the introduction of his special issue on design and organizational change:

the new, expanded forms of design practice do not abandon the traditional concerns of form-giving and making that have defined design in the past. It is the concept of form that has grown more supple and complex, embracing the social and environmental context of design. Without the integrity of form-giving and making that lies at the core of design, what can the designer do that is not already within the sphere of other disciplines"?

In agreement, the present research, also seeks to emphasize the 'return' to craftsmanship in the design community through the development of situated design cultures, albeit it be perhaps more subtle and distributed than in the past by means of the networked society we live in today. In concluding this chapter, I list, in the table below, the dimensions coming from literature on design and organizational change that will be used to analyze the case study collection (for further detail on the methodology, please see Chapter 6).

Dimension	Insight from Literature Review	Quick References
Implicit vs. Explicit Use of Design *Presence of expert designer* *Declared use of design tools and methodologies*	Given the broader access to design tools and methods, as seen in the plethora of design toolkits and the separation of design thinking from design doing, it is interesting to understand how design tools and methods are used in terms of practice, based on whether there was an expert designer present or not.	Deserti & Rizzo (2014); Bailey & Lloyd (2014); Kimbell (2009)
Internal or External Placement of Design Competences *Location of design: inside or outside organization*	Design's relationship with organizational change has been connected to different levels of design maturity within the organization that determine its range of activities. More specifically, it has been seen as an implicit agent of change; change, in other words is a an 'unexpected' result of the design process. In public sector innovation processes, design has entered in various ways: ad hoc projects, external design support and internal design support. Exploring how location influences the impact of design experiments in terms of organizational change is a useful pursuit in gaging the utility of design experiments in the public sector in terms of lasting impact.	Junginger (2007); Deserti & Rizzo (2014); Buchanan (2007); McGann et al. (2018); Schuurman & Tõnurist (2017)

TABLE 7. ANALYTICAL DIMENSIONS IDENTIFIED FROM LITERATURE ON DESIGN AND ORGANIZATIONAL CHANGE

Chapter 4: Public Sector Innovation

4.1 Innovation in the Public Sector

4.1.1 Context for change: problems, institutional form, technology and expectations

There is a growing and acknowledged need for innovation in the public sector (Borins, 2008; Osborne & Brown, 2011). This is observed in the rising attention of literature on the topic (Bekkers & Tummers, 2018; De Vries et al., 2016) as well as campaigns from international agencies, like the OECD's OPSI. The OPSI Conference on *Innovation in Government: The New Normal*, in November 2017, is illustrative of this. Thanks to the momentum gained there, in 2019, the OECD launched a "Declare to Innovate" campaign based on a co-created Declaration on Public Sector Innovation (OECD, 2019a). In literature, Sørensen and Torfing (2011, pp. 847–848) see the demand for innovation in the public sector to derive from three mounting pressures. The first pressure comes from the rising expectations of citizens and private firms for better quality, tailor-made, accessible and effective public services, which is exacerbated by fiscal austerity and budget cuts. As a result, solutions cannot be found by increasing the funding of existing solutions but rather in finding new and creative ways to provide more individualized solutions at a lower cost. Secondly, professionals, public managers and politicians are more eager to solve the problems that they are being asked to solve in ways that are more flexible, effective, targeted and holistic. This ambition is however augmented by an increasingly complex and globalized population of citizens to govern due to the mounting fragmentation of social, political and economic processes. As a result, there is a gap between the ambitions of government agents and the performance of policy programs in reality. Finally, while governments have always managed difficult and complicated problems, today they face complex problems that are 'wicked' and emergent in nature (Bourgon, 2011; Weber & Khademian, 2008). As such, these problems are unstructured, cross-cutting and relentless (Rittel & Webber, 1973). Often, more knowledge will not contribute to a solution, but require instead a holistic and participative approach that relies on the contribution of multiple actors (Bourgon, 2011, p. 39).

The environmental turbulence surrounding innovation in public sector organizations has not only been stimulated by emerging social and environmental concerns but also by advances in technology (e.g. e-government, blockchain technology, social media, etc.) that have changed the paradigm of government-citizen interaction, in terms of: governance (West, 2004), service delivery and policymaking. The task to keep up with the pace of change is furthermore burdened by the complex organizational settings in which these problems are nested. Public sector organizations are hierarchical, vertically integrated, and run on high levels of bureaucracy in which tasks are organized into silos for efficiency (Borins, 2008; Hartley, 2005; Moore, 2009). They are rule-driven and held accountable for their actions in different ways than the private sector. The implications of this on public sector innovation efforts can be seen in fears of 'gambling' with public money (Schorr, 1988). These organizational aspects negatively impact the innovation cycle (Bommert, 2010); as a result, the participation in the innovation cycle is often limited to government officials only. In a study done by NAO "Innovation Across Central Government" (2008), it was found that internal senior management dominated the innovation process, with little or no integration of other actors (e.g.: private sector, frontline staff, citizens and the third sector). Moreover, in a systematic literature review of innovation in the public sector, De Vries et al. (2016) found that environmental antecedents were often related to the context in which the organization worked– e.g. media attention; political and public demands; participation in networks and inter-organizational relationships; regulatory aspects; compatible organizations adopting the same innovation; and

competition with other organizations –, highlighting the importance of contextual factors on the innovation process. This moreover supports literature on innovations being locally embedded and resulting from the co-evolution between different demands and pressures that stem from different but closely related (public, political and media) environments (Bekkers et al., 2011 as cited in De Vries et al. 2016, p. 156).

Public sector organizations are, moreover, characterized by a culture that is averse to risk (Albury, 2005; Mulgan, 2007; Mulgan & Albury, 2003; National Audit Office, 2008) and tied to a "business as usual" philosophy. The role that the media plays in increasing aversion is relevant, with public managers scared of failing for the intense coverage that might ruin their careers (Borins, 2001; Mulgan & Albury, 2003)[5]. This issue exemplifies the complex environment of drivers and constraints that frame the innovation quest in the public sector and in which designers must act.

However, despite the barriers to change, the public sector is actually one of the biggest promoters of innovation in the private sector and in possession of important drivers that could lead to larger transformations. These include but are not limited to: large public budgets which can potentially absorb costs of failure; high levels of sector specific expertise; and a lack of competition between public agencies, providing the possibility of interagency learning, policy transfer and innovation diffusion (Halvorsen et al., 2005; Rashman & Hartley, 2002; Sørensen & Torfing, 2015).

4.1.2 Governing Paradigms and Innovation

While innovation in government is often seen as an oxymoron, innovation in the public sector has a substantial track record and can be better understood in the context of the paradigms of governance and public management (Benington & Hartley, 2001) that characterize its generation and adoption (Hartley, 2005).

	'Traditional' public administration	*'New' Public Management*	*Networked governance*
Context	Stable	Competitive	Continuously changing
Population	Homogeneous	Atomized	Diverse
Needs/problems	Straightforward, defined by professionals	Wants, expressed through the market	Complex, volatile and prone to risk
Strategy	State and producer centred	Market and customer centred	Shaped by civil society
Governance through actors	Hierarchies Public servants	Markets Purchasers and providers Clients and contractors	Networks and partnerships Civic leadership
Key concepts	Public goods	Public choice	Public value

FIGURE 15. COMPETING PARADIGMS OF GOVERNANCE AND PUBLIC MANAGEMENT (BENINGTON & HARTLEY, 2001)

[5] This point was also a source of debate in a discussion on the "State of continuous learning – How governments can utilize experimentation" at the recent 2019 Creative Bureaucracy Festival in Berlin, in which Sirpa Kekkonen (2019), Head of Government Strategy Secretariat at the Prime Minister's Office in Finland, asked provocatively if politicians were allowed to learn, providing the example of the media slaughter of the Finnish Prime Minister after implementing corrective changes to their basic income experiment policy. From personal notes taken at the session. Kekkonen, S. (2019, September 20). *State of continuous learning – How governments can utilize experimentation*. Creative Bureaucracy Festival, Berlin. https://www.creativebureaucracy.net

While the three paradigms presented in the figure above – 'Traditional' Public Administration, 'New' Public Management and Networked Governance – are linked to specific historical time periods and ideologies, "they can also be seen as competing, in that they co-exist as layered realities for politicians and managers, with particular circumstances or contexts calling forth behaviours and decisions related to one or the other conception of governance and service delivery" (Hartley, 2005, p. 29; Bourgon, 2011). The public administration approach is rule-based and bureaucratic and view users as a homogenous population and serves them through standardized services. Power is hierarchical and innovations mainly take the form of large policy endeavors or new infrastructure. It is usually national and universal in scale. In these forms of top-down innovation, public managers are passive implementers and citizens, likewise, are mere clients.

New Public Management, on the other hand, saw the introduction of private sector logics, approaches and tools, like performance targets, to bring efficiency to the sector. This paradigm brought on a more entrepreneurial public sector and the introduction of market competition in the delivery of public services (Hood, 1991). Public services were broken down to their most basic unit and a rigid cost-benefit analysis was made to ensure performance to budget. With the "need" to understand how to be competitive (Saint-Martin, 2001), consultants took on an increasingly important role as knowledge producers and suppliers in the public sector, leading to the development of a 'knowledge-for-policy' market (Hart & Vromen, 2008, p. 143). New Public Management innovations are mostly about organizational form and business processes (Hartley, 2005, p. 30). While the executive offices remain in command, other government agents become commissioners or announcers of change coming from the top (Pollitt and Bouckaert, 2004), and citizens were viewed as customers. With New Public Management came also the distancing of policy implementation from the policymakers (Osborne, 2006, p. 379), which we'll see has become problematic for design work in public sector innovation.

In the emerging paradigm, networked governance, the hierarchical organization of public sector organizations is replaced by differentiated polycentric configurations that cut across sector divides and levels of government (Benington, 2001). As observed by Newman (2001), there has been a shift to more networked forms of governance, seeing different actors assume different roles than in the past in the shared enterprise of creating public value. In this paradigm, policymakers return to a more active position, translating ideas into action, by for example creating the enabling pathways for larger policy measures to be implemented and encouraging innovation in a search for public value (Moore, 1995). Simultaneously, citizens are given a more decisive role as co-producers of services and innovation (Hartley, 2005, p. 30). The focus on governance highlights the increasing role of 'other' actors in the act of governing and providing public value. Kooiman (2003, p. 4), has defined governing as "the totality of interactions, in which public as well as private actors participate, [to solve] societal problems or [create] societal opportunities; attending to the institutions as contexts for these governing interactions; and establishing a normative foundation for all these activities". In Moore's (2009, p. 191) view, "the concept of networked government includes not only effective coordination across government organizations but also the possible integration of both for-profit and non-profit sector organizations into production systems designed to achieve public purposes". Agranoff (2007, p. 221), on the other hand, focuses on the potential of human capital in networked policy environments, highlighting the role of "informational networks" in the production and selection of ideas. He demonstrates that the value of having "multiple parties [is having] multiple alternatives to suggest and consider, more information available for all to use, and a decision system that is less bound by frailties of individual thinking". This is particularly relevant to our study on the value of design in public sector innovation.

Hartley (2005, p. 29) summarized the different forms that innovation takes on under the different paradigms in the figure below.

	'Traditional' public administration	*'New' Public Management*	*Networked governance*
Innovation	Some large-scale, national and universal innovations	Innovations in organizational form more than content	Innovation at both central and local levels
Improvement	Large step-change improvements initially, but less capability for continuous improvement	Improvements in managerial processes and systems. Customer focus produces quality improvements in some services	Aiming for both transformational and continuous improvement in front-line services
Role of policy-makers	Commanders	Announcers/commissioners	Leaders and interpreters
Role of public managers	'Clerks and martyrs'	Efficiency and market maximizers	'Explorers'
Role of the population	Clients	Customers	Co-producers

FIGURE 16. INNOVATION AND IMPROVEMENT IN DIFFERENT CONCEPTIONS OF GOVERNANCE AND PUBLIC MANAGEMENT HARTLEY (2005, P. 29)

In addition, De Vries et al. (2016, p. 153) in a review of literature summarize the categories of public sector innovation that emerged, which are useful to locate what kind of innovation is taking place and ultimately for this research where design can and is being used. The categories identified were the following: process innovations (divided into administrative and technological); product or service innovations; governance innovations; and conceptual innovation. While the categories serve as a useful analytical tool, the authors note that in practice, the types are often intertwined in hybrid forms This was also observed in the empirical research (see Section 6.2.2 for a concise overview of the cases and the typologies of innovation that were represented in the collection). Based on an analysis of 181 studies, the authors found that the majority of the cases were administrative process innovations, followed in order by product or service, governance and conceptual innovations (De Vries et al., 2016, p. 154).

Innovation type	Focus	References	Examples
Process innovation	Improvement of quality and efficiency of internal and external processes	Walker (2014)	
Administrative process innovation	Creation of new organizational forms, the introduction of new management methods and techniques and new working methods	Meeus and Edquist (2006)	Creation of a 'one-stop shop' by a municipality, where citizens can access various services at a single location
Technological process innovation	Creation or use of new technologies, introduced in an organization to render services to users and citizens	Edquist *et al.* (2001)	Digital assessment of taxes
Product or service innovation	Creation of new public services or products	Damanpour and Schneider (2009)	Creation of youth work disability benefits
Governance innovation	Development of new forms and processes to address specific societal problems	Moore and Hartley (2008)	Governance practice that attempts to enhance the self-regulating and self-organizing capacities of policy networks
Conceptual innovation	Introduction of new concepts, frames of reference or new paradigms that help to reframe the nature of specific problems as well as their possible solutions	Bekkers *et al.* (2011)	The introduction of the paradigm that, when assessing a person's work disability, insurance physicians no longer analyse what people cannot do, but instead analyse what they can still do, hence focusing on potential work ability

FIGURE 17. PUBLIC SECTOR INNOVATION TYPES APPLIED (DE VRIES ET AL., 2016, P. 153)

Hartley (2005, p. 31), furthermore, points out four public sector specific reasons for which ideas could fail implementation: (1) the caution of policymakers; (2) the exaggeration of failure in the media; (3) traditional public administration theory which separates policymaking from implementation and (4) challenges to achieve unambiguous success (p. 31). As will be explored more in the next chapter, the third reason has been observed to be problematic in design efforts and a reason motivating the lack in a systematic uptake of the outcomes of design experimentation (S. Junginger, 2013; Rizzo et al., 2017; see also Section 5.3 and Section 8.3).

Moreover, Sørensen and Torfing (2011, p. 847) highlight that one of the problems of innovation in the public sector is its episodic nature, that is "driven by *accidental events* that do not leave public organizations with a lasting capacity to innovate (Eggers & Singh, 2009)". As discussed in Chapter 2 (see Section 2.2.1), the ideal organization seeks to be capable of continuous change, in which translation, adaptation and learning champion daily practices and make room for re-framing into a higher order and lasting change (Weick & Quinn, 1999). Public innovation is usually a response to new, national legislation, viewed as 'heroic' efforts of new leaders, triggered by crises or scandals, budget cuts or spurred on by advances in technology (Sørensen & Torfing, 2011, p. 847; Borins, 2001); all of which calls for a new innovation agenda in the public sector that makes it a permanent and systematic activity. This was evident in the empirical research as well, which evidenced the fleeting nature of design activities and the political motivations that spurred their activation (see Section 8.3).

In conclusion, what has been seen is the complexity of the contexts of innovation in the public sector and the challenges that surround design work in these environments. Reflecting on the transformative role that design could play in these contexts, given their layered realities, understanding how innovation is accomplished in the public sector and how design contributes to this is a relevant task. From this discussion emerges the second research question, which is as follows:

RQ2: How can design advance the innovation capacity of public sector organizations?

Visualizing where design experiments are occurring and in which directions they are going in terms of change management could provide a useful framework to interpret the phenomenon as it is emerging. If we take into consideration the competing paradigms of governance and re-take the Competing Values Framework (Quinn & Rohrbaugh, 1981) presented in Chapter 2 (see Section 2.2.3), we can observe the following (see Figure below): the hierarchy culture strongly reflects the Traditional Public Administration paradigm, while the market culture can be seen in New Public Management efforts to bring in private sector models and tools to increase efficiency. The 'emerging' Networked Governance paradigm instead can be seen in the upper two quadrants of the CVF. This is particularly evident in its focus on public managers as public value entrepreneurs (Bryson et al., 2017) who deal with complex needs that are prone to risk (belonging to the adhocracy culture), and the focus on the citizen (as evidenced in the use of design to bring in a human-centered approach) and the emphasis of capacity-building in innovation efforts that are in line with the clan culture. As will be more detailed following the presentation of the cases (see Chapter 7), the empirical findings (see Chapter 8 and 9) found design experiments to contribute to clan and adhocracy cultures in public sector organizations in a variety of ways, namely the following: imparting a human-centered approach; emphasizing collaboration as a means of creating; focusing on empowerment through inclusion, participation and learning; and the promotion of values such as user-centricity, experimentation, empathy, learning-by-doing and reflection. In addition, the findings also go into barriers and challenges that design faces in these paradigms, as will be also investigated in the next chapter. The figure below seeks to help the reader get a quick bearing of where design work in public sector innovation fits and the transformative directions it is promoting. It, moreover, clearly shows the cultural contexts that inform innovation in the public sector – i.e. the co-existing normative and social rules, routines and behaviors belonging to all three paradigms of governance – of which design must take account. The figure thus seeks to provide a visualization to help tie together the conceptual frameworks upon which the research is conducted based on the author's perspective and interpretation. It, in effect, places the literature presented in Chapter 2 on organizational change within the public sector discourse, while also positioning design experimentation as will be further developed in Chapters 8 and 9.

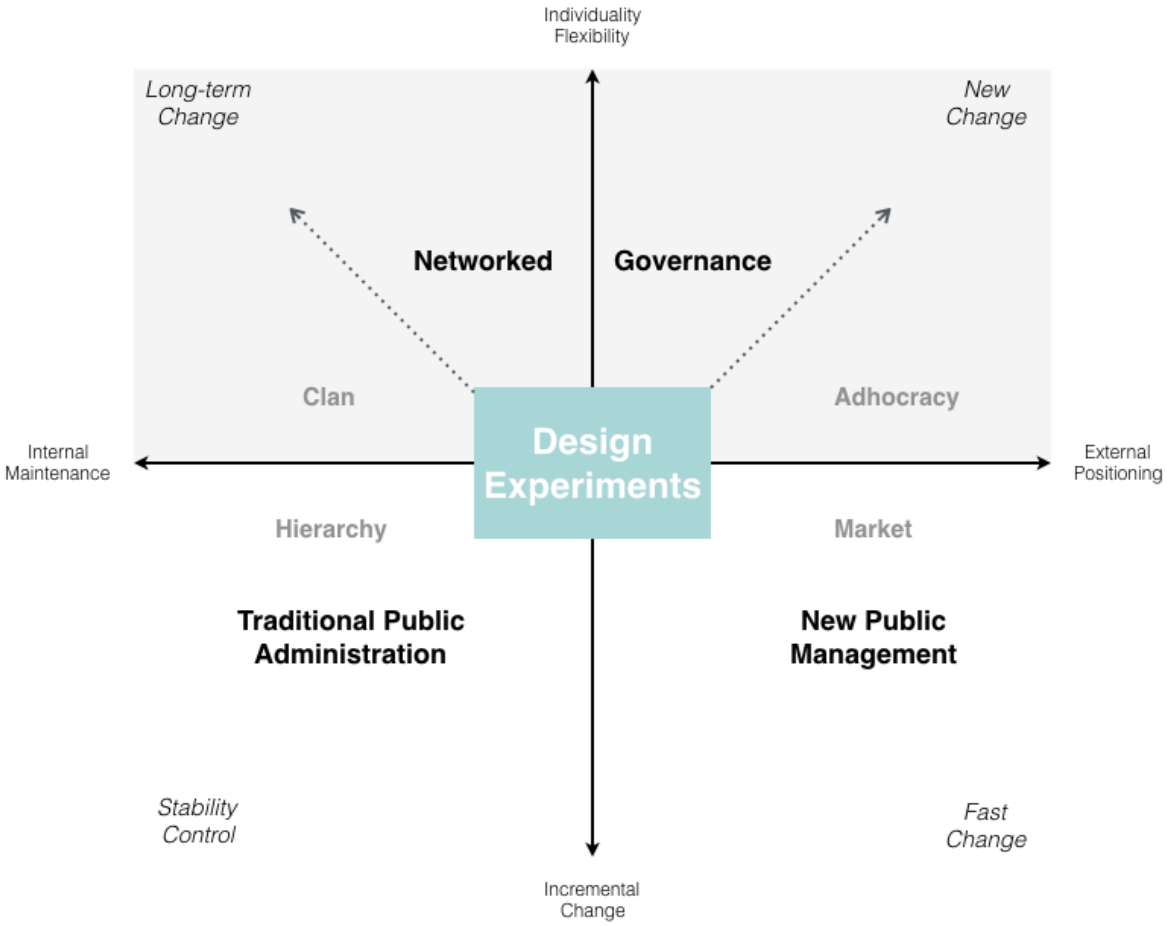

FIGURE 18. COMPETING VALUES IN COMPETING PARADIGMS: THE ROLE OF DESIGN (AS EMERGING FROM THE EMPIRICAL RESULTS PRESENTED IN CHAPTER 8 AND 9) (ADAPTED FROM CAMERON, 2009)

4.1.3 Collaborative Innovation

The argument for collaboration in the public sector has been made by several scholars. As developed by Bommert (2010, p. 16), collaborative innovation draws from the networked governance tradition and the concept of open innovation (Chesbrough, 2006) developed in the private sector. In Chesbrough's (2006) open innovation concept, companies open up their innovation processes to systematically source and coordinate ideas and knowledge from outside organizational boundaries and from within, while also leveraging internal knowledge outward. In much the same way, Eggers and Singh (2009, p. 98) see collaborative innovation as a way for governments to exploit the innovation assets of different organizations and individuals in the generation, development and implementation of ideas, spanning organizational boundaries. In much the same way, Nambisan (2008, p. 11) defines collaborative innovation as an approach to innovation that takes advantage of the resources and creativity of external networks and communities to accelerate or improve the quality of innovation in the public sector.

Sørensen and Torfing (2011, 2015) promote the value of collaborative innovation in the public sector, particularly for the creation of joint ownership of new, promising and co-created ideas, encouraging successful implementation. Moreover, according to Roberts (2000), the

engagement of relevant and affected actors in the exchanges of knowledge, competences and ideas triggers processes of mutual (or transformative (Torfing, 2018)) learning that affords participants the possibility of understanding the problem and amplifies the range of solutions proposed. While the actors should be involved according to challenge needs, in reality, "motivational problems and political power struggles tend to determine the inclusion and exclusion of actors" (Torfing, 2018, p. 4). While there are clear similarities with private sector ideas, like open innovation (Chesbrough, 2006) or crowd-sourcing (Surowiecki, 2004), collaborative innovation offers an alternative pathway for public value creation –the ultimate goal of innovation in the public sector – by inviting the collaboration of all concerned actors (Hartley et al., 2013).

4.2 Public Value Creation

To fully understand the potential of design for public services requires a reflection on what differentiates public services from private ones and ultimately what is meant by public value. To oversimplify, value in the private sector is measured by consumer choice and the price placed on the exchange of goods and/or services; in other words, it is measured by how much the customer is willing to pay for the service. In the public sector, value from services can take on a multiplier effect and go beyond the beneficiary to extend to third parties (e.g. caregivers, families, employers, colleagues, etc.) or even be collective. Moreover, access to public services does not necessarily require an exchange in the form of payment for benefit, making service cost a less relevant measure of the service's worth. Furthermore, public services may be regulatory – e.g. police, primary education, public health enforcement – in which civil servants interact with users in an "obligation encounter" (Benington, 2009) to encourage compliance rather than satisfy the user's need/desire. Other definitional nuances also come into play as to the precise meaning of "value", "public" and its combined use in "public value" (Meynhardt, 2009).

The term "public value" was first used by Mark Moore in his seminal book*, Creating Public Value* (1995), in which he outlines a normative framework that seeks to transpose the objective of private firms to maximize shareholder value to the public sector, calling on public managers to maximize value for citizens. Moore provides a management tool, the strategic triangle (seen in the figure below), to assist public managers in this pursuit, anchored in three inter-dependent processes: (1) defining public value; (2) creating the authorizing environment; and (3) building operational capacity. Moore places the role of public managers in the center of the triangle. These managers are charged with strategically coordinating the different actors and resources that gather around the creation of public value. In the 'first' corner of the triangle, actors clarify and define the public value to be created, along with strategic goals. The second corner is dedicated towards finding and establishing the authorizing environment for the achievement of the public value outcomes – building a coalition of supporters from all the sectors who can sustain the initiative. Finally, the last corner is concerned with harnessing and mobilizing the operational resources, from both inside and outside the organization, to implement the 'solution' (which finds affinity to the discussion above regarding collaborative innovation in the public sector and open innovation in the private sector).

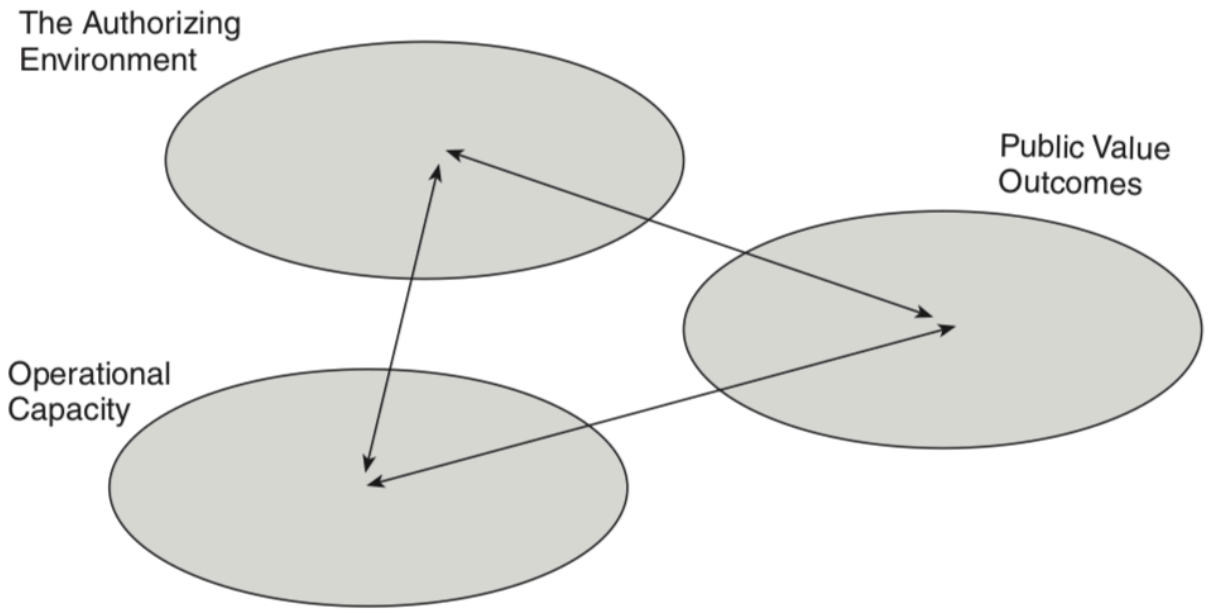

FIGURE 19. THE STRATEGIC TRIANGLE OF PUBLIC VALUE (BENINGTON & MOORE, 2011, P. 5)

Recently, Bryson et al. (2017, p. 641) have updated the strategic triangle to accommodate for the multi-actor, multi-logic, multi-practice, polycentric and complex place in which public value creation takes place today. The authors, among other adaptations, account for multiple actors leading the process, rather than focusing solely on public managers as public value entrepreneurs. Inherent to this amplification, warn the authors, is the acknowledgement that the actors are also simultaneously working in their own triangles, activating different operational capabilities, relating to different authorizing environments and prioritizing different values for the diverse audiences and publics (Bryson et al., 2017, p. 642). A weakness of Moore's triangle, as identified by the authors, is the lack of identification of the practices necessary to produce public value, as he limits it to strategic management (Bryson et al., 2017, p. 642). The authors propose a guiding framework that adapts the triangle to the current, multi-actor and shared power world. The new representation of the triangle opens up who or what could be placed in the center of the triangle to five different elements (Bryson et al., 2017, pp. 643–644): actors, practices, arenas and spheres of (in)action, public problems or challenges and function. In this adaptation, actors from all sectors may be placed in the center as public value entrepreneurs. Placing practices in the center, displaces the role of the public manager as 'hero' and puts into perspective other actors and other ways of generating public value. Focusing on arenas, on the other hand, places a stronger focus on politics, coalition-building and even political manipulation. Putting public problems at the center, focuses on re-framing the issue and exploring the different access points to the problem on all sides of the triangle. The advantage found by the authors to placing the challenge at the center is the thorough exploration of the problems and possible solutions, prompting actors to question their understandings, appreciations, values and commitments. Finally, functions, such as organizing effective actor engagement, defining public value, effectively implementing value-creating strategies and building an ongoing capacity for learning, strategic change and increasing democracy, can be central to creating public value.

It then contextualizes the triangle in two nested circles: the first represents democracy and democratic practices (which can also be inside the triangle) to understand if they are being

strengthened. This circle is then situated in the larger public sphere and public values context as defined by Benington (2011). The representation also maps the process according to two dimensions: the analytical dimension to include the many levels and categories of analysis that influence public value creation and the action dimension to account for the multiple strategic triangles at play in the process. Bryson et al. (2017, pp. 646–647) define their adapted triangle to be a framework to guide developing models to be tested. The adapted strategic triangle will in fact serve as a basis for analysis of the cases to understand how public sector value was shaped during and as a result of the design process (see Section 9.1 for a detailed discussion).

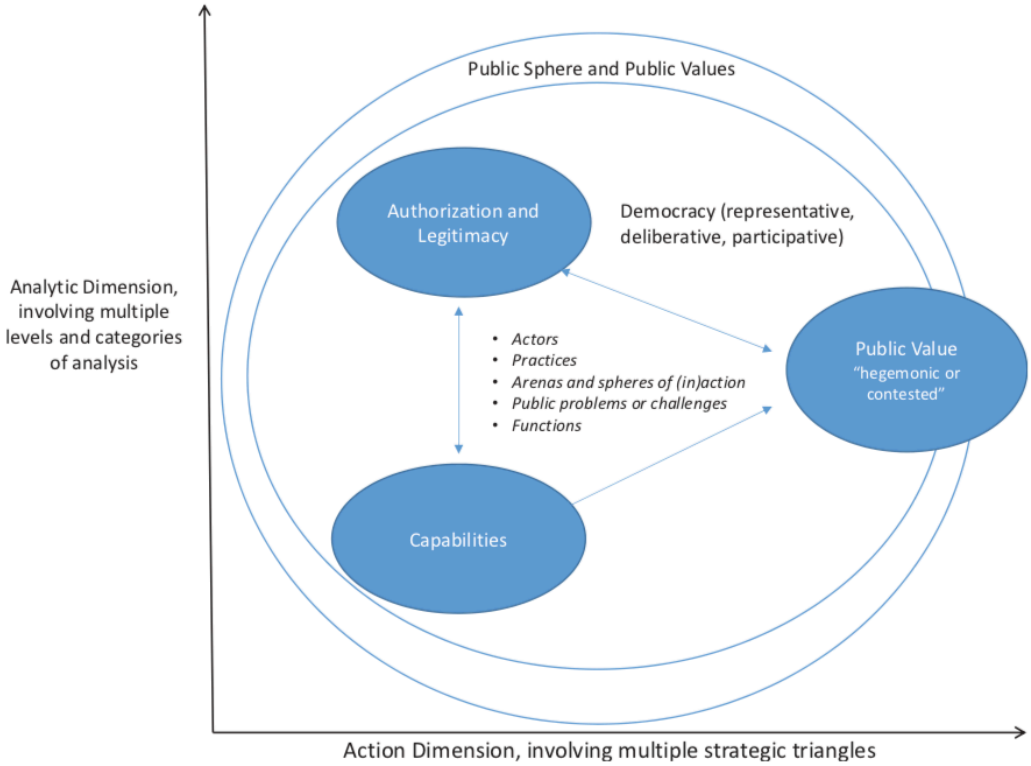

FIGURE 20. ADAPTED STRATEGIC TRIANGLE FOR A MULTI-ACTOR AND SHARED POWER WORLD (BRYSON ET AL., 2017, P. 647)

To return to a more basic understanding of the definition of public value, Moore focused more on a practical theory for public managers to mobilize different actors around complex problems that require collaboration rather than providing definitions to the concept of value. Benington (2009), however, adds to Moore's concept of public value by going beyond asking "what does the public value most?" to asking also "what adds value to the public sphere?". In doing so, he lends an eye to the long-term public interest and those of future generations of unborn citizens. Meynhardt (2009, p. 199), on the other hand, employing a psychological perspective, defines value to be subjective and relational. He goes on to propose that the public is an "operational fiction" that is defined by what individuals perceive as "public" (Meynhardt, 2009, p. 205). Building on this, Meynhardt (2009, p. 212) offers an interesting definition that will serve as the reference point for the present research; as such, it will be given in its entirety:

> *"Public value is value for the public. Value for the public is a result of evaluations about how basic needs of individuals, groups and the society as a whole are influenced in*

relationships involving the public. Public value then is also value from the public, i.e., "drawn" from the experience of the public. The public is an indispensable operational fiction of society. Any impact on shared experience about the quality of the relationship between the individual and society can be described as public value creation. Public value creation is situated in relationships between the individual and society, founded in individuals, constituted by subjective evaluations against basic needs, activated by and realized in emotional-motivational states, and produced and reproduced in experience-intense practices."

According to his definition, public value is therefore subjective, experiential, relational and possibly repetitive over time and rooted in the evaluation of the satisfaction of basic needs. This definition is interesting for the present research for a number of reasons, namely: (1) it focuses on the meeting of basic needs, which is in alignment with the objective of tackling 'wicked' problems; (2) it goes beyond 'measuring' value based on performance measures but sees value as being derived from the experience of the solution; and (3) it hones in on its iterative enactment through practice. As such, the definition highlights many ways in which design could contribute towards its creation. In fact, one of the outcomes of the empirical research sees design being used to bring in a human-centered approach to public service delivery and management that focuses on the experience of both producing and consuming public value.

Another aspect of public value, that is also highly debated in social innovation literature (e.g. Rawhouser et al., 2017; Kroeger & Weber, 2014; Mulgan, 2010; Nicholls, 2008, 2009; Salazar et al., 2012)[6], regards the issue of how to measure public and social value. While the issue of measuring public value is a secondary aspect to the research's core focus, it is worthwhile to provide a brief nod to the problematics that surround quantifying the outcomes and impacts of innovations aiming to provide social/public value (as in the Case Study Collection). Mulgan (2010, pp. 40–41) identifies three reasons that render the intent of measuring social value complex: (1) the lack of rules that dictate human action, making it unpredictable[7]; (2) disagreement on desired outcomes, stemming from differences in social *values*; and (3) the test of time – i.e. understanding the return on investment. In a similar fashion to Moore (1995), Mulgan (2010, p. 42) proposes taking a simple, economic approach to social value, i.e. to see it as a construct that emerges from the interplay of effective demand and effective supply. Earlier we discussed the complexity of wicked problems (see Section 2.3.2). Weber and Khademian (2008) pointed out that this in part owes to the fact that interdependent, system actors each carry a particular knowledge of the problem and corresponding perspective of the value to be delivered and the solution of the problem. In the public sector, as will be seen in several of the cases, one of the main innovation demands calls for holistic solutions. Mulgan (2010, p. 42), states that in light of fragmented supply, social value can only be conceived collectively through iterative processes that unite supply and demand in problem-solving activities. Co-design therefore offers interesting opportunities to this end as will be discussed in Chapter 8 and 9.

[6] Several EU projects have also worked on the problematic issue of measuring social impact/social value. Please see the following: TEPSIE project (https://cordis.europa.eu/project/id/290771/reporting), SIMPACT (https://cordis.europa.eu/project/id/613411/reporting) , TRANSIT (https://cordis.europa.eu/project/id/613169/reporting) and SI-DRIVE (https://cordis.europa.eu/docs/results/612/612870/final1-si-drive-final-report-2018.pdf).

[7] Please see SIMPACT D3.2, pgs. 154-159 for a more detailed discussion on the failure of logic models and if-then causal relationships in social innovation.

Based on this discussion, the following question arises in support of RQ 2:

SQ 4: IF PUBLIC VALUE IS THE END GOAL OF INNOVATION IN THE PUBLIC SECTOR, HOW IS DESIGN CONTRIBUTING TO ITS CREATION?

In concluding this chapter, I list again, in the table below, the dimensions coming from literature on public administration and public sector innovation that will be used to analyze the case study collection (for further detail on the methodology, please see Chapter 6).

Dimension	Insight from Literature Review	Quick References
Open vs Closed	Public Sector Organizations operate in networked policy environments with mutliple actors and in layered realities of competing governance paradigms. In relation to the emerging 'networked governance' paradigm, it is interesting to understand the role design plays in fostering more open and collaborative innovation pathways and investigate how knowledge is managed particularly in terms of design outcomes.	Agranoff (2007, 2008); Benington & Hartley (2001); Sørensen & Torfing (2011); Moore (2009)
Cross agency collaboration		
Engaged different levels of government (local, regional, national)		
Involved users and system actors		

TABLE 8. ANALYTICAL DIMENSIONS IDENTIFIED FROM LITERATURE ON PUBLIC ADMINISTRATION AND PUBLIC SECTOR INNOVATION

Chapter 5: Design in Public Sector Innovation

As already discussed in previous chapters, the call for innovation in the public sector is arising from a stark need to respond to the emerging 'wicked' problems, changing citizen expectations and advances in technology, among others, that have come with the 21st century (Hartley et al., 2013; Sørensen & Torfing, 2011). Public sector organizations have also been discussed as operating in networked policy environments (Agranoff, 2007) involving multiple actors and in competing paradigms of governance (Benington & Hartley, 2001) that differently influence innovation. We have also reviewed the opportunities that collaborative innovation holds for the public sector within a networked governance paradigm, drawing on the knowledge bases and resources from a wide variety of actors interested in and/or affected by the public challenge. In these contexts, design has been recognized as a useful tool, particularly for its focus on the end user (i.e. the citizen) and its engagement of diverse actors in co-design processes. Since public sector innovations are mostly concerned with the design, delivery or implementation of public services, we'll start by looking briefly at service design and then go into co-design and the role of design in public sector innovation, as it is emerging in the various experiments taking place across Europe.

5.1 Service Design, Service-Dominant and Customer-Dominant Logic

Service Design has been defined by Mager (2008, p. 355) as a user-centered approach to address the form and functionality of services in a way that makes them both useful, usable and desirable for users, while also effective, efficient and distinctive for suppliers. It has also been defined as "a creative, human-centered and iterative approach to service innovation" (Katarina Wetter-Edman et al., 2014, p. 109), rooted in the assumption that it is the lived experience of customers that gives it meaning (Krippendorff, 2006), rendering pre-defined service offerings impossible. Service Design can be seen to complement the Service Dominant Logic (SDL) (Vargo & Lusch, 2004) that places primacy on services rather than goods as the main unit of economic exchange. According to this logic, goods are re-positioned as the medium through which services are provided. The most interesting, and perhaps relevant novelty, of this change in paradigm was the change it had on the position and role of the consumer, who went from passive recipient to an active co-creator of service value. The intrinsic value of services is no longer provided or pre-defined but rather co-created by service providers and consumers *in-use* (Vargo & Lusch, 2004) and *in-context* (Vargo, 2008; Vargo & Lusch, 2016). Following this line of logic, the object of service design is the creation of a value proposition, and the supporting system of resources (e.g. human resources, infrastructure, policy, knowledge, etc.) from which customers can create value (Gupta & Vajic, 2000; Patrício et al., 2011; Trischler et al., 2017). In fact, as concluded by Foglieni et al. (2018, p. 29) in a review of literature, service design, overall, can be considered as "an approach endowed with the capability to build a relation between a context, an organization, and people through the realization of a service performance".

The focus on value co-creation is pushed even further by Grönroos and Voima (2013, p. 138) who place the customer in control of value creation in an "experiential process of usage", in which customers have the faculty of inviting the service provider to co-create value. In this framework, it is the customer who creates value and the service provider who is asked to co-create the customer identified value. In yet an even further progression away from a provider-centric provision of value, a third logic, the customer-dominant logic (CDL), is offered by Heinonen & Strandvik (2009, 2015) and Heinonen et al. (2010) in which value is not produced but rather emerges

in the contexts, activities, experiences and practices of people's lives, thereby bringing service providers even more into the realm of the user's lifeworld. It focuses managerial efforts on answering the question of what they can offer customers that they are willing to purchase and pay for rather than how to sell more of their existing offer (Heinonen & Strandvik, 2015, p. 9) and places the way managers think as a strategic competitive advantage. Along this reasoning, CDL is not focused on provider-customer interactions but on how customers use different constellations of services to accomplish tasks (Heinonen & Strandvik, 2015, p. 9). This provides an interesting perspective for innovation in the public sector, given the fragmented nature of its supply – i.e. the numerous agencies that are involved in satisfying public needs (e.g. a homeless person might be in need of more than just a house, but of a job, health assistance, skill training, etc. that engage a wide variety of institutional actors; or citizen who is dealing with the death of a loved one, as seen in one of the cases, Section 7.1.4) – as it encourages to look at how citizens use public services in response to life events.

In the CDL perspective, value is experiential and not limited to the interaction space with the service provider but formed in "multiple visible and invisible experiential spaces (e.g. biological, physical, mental, social, geographical and virtual), which reflect the customer's often uncontrollable ecosystem and life sphere" (Heinonen et al., 2013, p. 6). It is moreover longitudinal, covering the multi-framed realities of the customer that occur before, during and after the service experience (ibidem, p. 7) and is relational. In this perspective it thereby includes repeat experiences that occur throughout the user's lifetime and the perceived value coming from interactions with other customers or factors that frame the specific moment and influence experience. The CDL logic is particularly interesting for what it can offer public value creation, as defined by Meynhardt (2009), operationalized by Moore (1995) and later adapted by Bryson et al. (2017). In fact there are several aspects in which they converge: the focus on the experiential and relational nature of value, the inclusion of practices as a key insight into value creation and the influence of lived experiences across time and space on its creation.

The influence of the SDL on Service Design has been widely discussed in literature (Hatami, 2013; Kimbell, 2011; Segelström, 2010; K. Wetter-Edman, 2011a) and more recently the CDL on Service Design (Jordan, 2019). Particularly interesting for the current research interests is the concept of *design for service* that focuses on the context behind service innovation (Kimbell, 2009a; Meroni & Sangiorgi, 2011; Katarina Wetter-Edman et al., 2014). Design for service acknowledges "the fundamental inability of design to completely plan and regulate services, while instead considering its capacity to potentially create the right conditions for certain forms of interactions and relationships to happen" (Meroni & Sangiorgi, 2011, p. 10). Kimbell (2011, p. 49) argues that from the standpoint of design as enquiry applied to the SDL, *design for service* seeks to "create and develop proposals for new kinds of value relation within a socio-material world". In other words, designers are interested not only in producing a final output but in creating materials and activities that invite organizational actors (intended as all actors involved in the service system: employees, users, suppliers, etc.) into the design enquiry (Foglieni et al., 2018, p. 19). Design for service therefore focuses on the conditions that allow the multiple actors in the service ecosystem to create value. From this perspective, designers are invited to prepare the context for 'user'-led value creation.

In this context, a focus on the design culture of public sector organizations could emerge as a generative tool for co-designing public value, and in an age of ever more networked organizations, this could extend to the entire service system. As seen in Chapter 3, a design culture approach unites perspectives into a single frame by mediating between both the provider's and the citizen's worlds, assuming a joint-perspective on the contexts that inform its design, from the "outside-in" and "the inside-out". It is embodied in the knowledge, skills, competences and practices of an organization

that shape its "way of doing things" in a context-dependent manner (Deserti & Rizzo, 2014; Bertola & Teixeira, 2003; Buchanan & Margolin, 1995; Pizzocaro, 2000). In short, the process of co-designing services through a human-centered design process could allow for a new or more evolved design culture to emerge and take shape and eventually influence a change in the culture of public sector organizations and the surrounding ecosystem.

Building on these constructs, the following question emerges in support of RQ1:

SQ 1: IS DESIGN PROVIDING THE CONDITIONS FOR PUBLIC SECTOR ORGANIZATIONS TO LEARN AND RECEIVE THE OUTCOMES OF THE DESIGN PROCESS?

SQ 2: ARE DESIGN CULTURES EMERGING AS A RESULT OF THE DESIGN EXPERIMENTS AND TO WHAT END?

5.2 A Short Look at Co-Design in the Public Sector[8]

Given the importance of the user's experience, co-design has been identified as an effective exploratory practice in service design. Rooted in the tradition of participatory design (Holmlid, 2009), co-design brings users into the design team (Visser et al., 2005) as experts of their experiences (Sanders & Stappers, 2008) in a joint enquiry of the problem/needs and the possible solutions. While co-design and co-creation are terms often used as synonyms for the same notion, we will use the definition provided by Sanders & Stappers (2008, p. 6, italics added for emphasis), who limit co-design to "collective creativity as it is applied across the whole span of a *design process*", and therefore as a distinct moment of co-creation.

Co-design can be defined as "designers and people not trained in design working together in the design development process" (Sanders & Stappers, 2008, p. 9). As such, it threatens existing power structures by dismissing and going beyond the 'expert' mindset. In fact, while user-centered design was widespread in the 1990s in consumer product development, it fails to address the complexity of 21st century problems which requires a shift towards a more egalitarian viewpoint on idea sharing and knowledge holding, regarding future users as experts and active co-designers rather than passive participants. The shift in designing *with* people rather than *for* people has led to the increased use of design for social good (Brown & Wyatt, 2010; Manzini, 2015; Margolin, 2002) and design in the public interest (Fisher, 2009). While co-design promises a more democratic participation in public value creation processes, Mintrom and Luetjens (2016, p. 393) point out that the issue of representation in *who* is actually participating in these processes and the knowledge they bring with them is not clear. They state that if design thinking is going to be adopted in policymaking then issues regarding trust, efficiency, democratic representativeness, and effectiveness must be addressed. Resolving this is particularly important for the future of design in public sector innovation, especially as it is being evaluated against other strategies, namely evidence-based policymaking (McGann et al., 2018). An emerging problem regarding the uptake of design can be seen in the 'legitimacy' of decisions based on the 'depth and breadth of involvement' (O'Rafferty et al., 2016, p. 3586) of citizens and other end users in the design process rather than the rigor of more analytical techniques (McGann et al., 2018, p. 6).

[8] Parts of this chapter are taken from pieces I wrote for SISCODE, Deliverable 4.2: Transformations in STI policy making: trends, opportunities and barriers, funded by the European Union's Horizon 2020 Research and Innovation programme under grant agreement No. 788217.

Moreover, while literature (e.g. Muratovski, 2015; Norman & Stappers, 2015; Tan, 2012; Kolko, 2015) has focused on the changing role of the designer and the qualities and competences required of the professional designer, co-design acknowledges the role played by the silent designer (Gorb & Dumas, 1987), or rather the actors engaged in what could be defined as design-led activities who may not be actively designing. In fact, the notion goes back to Herbert Simon's inclusive definition that "everyone designs who devises courses of action aimed at changing existing situations into preferred ones" (Simon, 1969, p. 111), as discussed in Chapter 3. As alluded to above, when designing for wicked problems in complex systems, the need to work with different actors and across disciplines is imperative. The inclusion of non-designers, or diffuse designers (Manzini, 2015) in design processes and activities and how these interactions can serve as material for creating change is a relevant issue as design seeks to respond to complex, wicked problems nested in complex, sociotechnical systems (Norman & Stappers, 2015).

Based on its inclusion of multiple actors in the process, co-design has been celebrated as a democratic process, demanding constant negotiation between actors. Learning in co-design is thus a social process in which knowledge is socially constructed (Latour, 1999). Co-design uses and produces different forms of knowledge through enacting and making rather than relying solely on rational and cognitive discussions(Gottweis, 2007; McLaverty & Halpin, 2008). 'Lay' knowledge and lived experience are therefore treated as types of expertise (Blomkamp, 2018; Maiello et al., 2013). Problems arise when trying to implement and make use of the knowledge coming from these experiences, especially in light of evidence-based policymaking practices that stress scientific results coming from more controlled experiments (e.g. large, randomized control trials). Kimbell (2016) asserts that design methods open up policymaking to new forms of expertise and a wider range of inputs, predominantly by engaging the users directly affected. Maiello et al. (2013) stress the importance of knowledge co-production, arguing for the role of public managers in integrating 'lay' knowledge and non-technical knowledge in decision-making. Rebolledo (2016) argues that design has the opportunity of pushing policymaking past positivist attachments to the scientific method towards a model that is based on a diversified range of values, norms and sources of evidence (Wagle, 2000). Tenbensel (2006) and Head (2008) encourage policymakers to acknowledge and embrace the diversity of 'evidence' found in networked policy environments and through community engagement (McGann et al., 2018, p. 15). While co-design offers, as proposed by literature, new forms of knowledge, its efficacy and ultimately its impact rests on the absorption and application of this knowledge. To this end, and as stated already, it is crucial that designers find ways for the resulting knowledge to be accepted by policymakers and public managers.

5.3 Design's role in Public Sector Innovation

With growing clarity surrounding the need for innovation in government, design methods and approaches have emerged as a means to generate policies and services that are 'better' and more citizen-centered. Policymaking models, like that of Howlett & Ramesh(2003), have traditionally depicted a linear path from problem definition to policy solution and evaluation. As seen in the previous chapter, the distancing between different government functions during New Public Management reforms, has resulted in the separation between where policy is designed and where it is implemented (Junginger, 2013; Mintrom & Thomas, 2018). This gap, Junginger (2013) highlights, problematizes the role and value of design in the public sector, limiting it often to only one 'world', most often to policy implementation (i.e. the design of services), and the impact this has on the outcomes of policies (e.g. designing great services that implement poor policy). She emphasizes the interconnectedness of policymaking and policy implementation as paired design activities. Moreover,

the failure to account for the context of destination can lead to dramatic differences in the outcomes of policies across localities (Howlett & Rayner, 2007; Mintrom & Thomas, 2018).

As a result we can see, for better or worse, two areas of design in the public sector: policy design and design for public services. According to Mintrom and Thomas (2018, p. 313), design thinking, through its use of iterative ethnographic methods, can help close the gap between policies and how they are experienced by citizens as they interact with public services. Bason (2014), too, sees design practice as offering a different way to understand policy problems through a focus on multi-actor collaboration and a multi-disciplinary approach that makes policy tangible. In a study of Policy Lab UK, Kimbell (2015) found that applying design to policymaking had the following effects, among others: (1) through ethnographic research, it shifts the focus to people and how they experience things, which introduces new ways of doing things and re-orders evidence in policymaking based on the lived experience of those affected by the policy issue (but runs the risk of being seen as not representative in contrast to more data-driven approaches); (2) co-design works to temporarily 'flatten' hierarchies by evening the playing field as the tools are new to most of the participants and provides space for collective exploration and idea generation, through which problems and solutions co-evolve in iterative learning cycles; and (3) enables people inside and outside government to collaborate on issues by establishing a shared language, equal participation and acknowledging differences constructively. Moreover, in her discussion, Kimbell (2015, pp. 73–76) argues that the Policy Lab's projects afford civil servants the space to explore new ways of doing things, introducing new capabilities that can later be routinized and thereby foster organizational learning.

She, however, also, warns that "tools and skills do not exist in a vacuum ready to be ported from one context (such as business innovation) into another (such as policy). They bring with them assumptions and norms, the hidden aspects of ways of doing and knowing things that are shared among participants in a culture. So what's as interesting in Policy Lab's work is the subtle interventions it has made into policy making culture alongside its enabling of it" (Kimbell, 2015, p. 76). Kimbell therefore highlights the importance of practice and its situated nature. In addition, Bailey and Lloyd (2016), in their review of 15 interviews with different participants of Policy Lab's activities, found that design was mainly discussed in terms of tools, methods and techniques. While this is partly owing to the way the lab has presented itself to encourage the adoption of its practices, it also "reinforces the perception that all that needs to happen is for civil servants to pick up some new policymaking tools as they might a hammer or a screwdriver […] rather than a shift in how government thinks about problems and its capacities to 'solve' them" (Bailey & Lloyd, 2016, pp. 5–6). This discussion ties into the one had in Chapter 3 on the way design thinking is being used today in a context-independent manner, effectively removing the tacit dimension of design practice.

Moreover, given the context of the networked policy environments that characterize the operative space of public sector organizations, the inclusion of different actors, situated in their specific contexts, emphasizes the multi-level, or to follow 'flatter' ontologies, multi-locational feature that makes up policy environments in which networks of actors and organizations, along with current beliefs and paradigms, influence policymaking (Cairney, 2017, p. 5). Innovating policymaking thus involves updating beliefs, changing and aligning frames around problems and successfully persuading the validity of different types of evidence (Cairney, 2017, p. 5). Co-design projects and their outputs will likely have to compete with other sources of evidence and other governance philosophies for validity and uptake, depending on the context and paradigm in which it is situated.

Furthermore, as co-design involves a large number of actors, some of whom may even have competing interests, the process is complex and requires the loss of control by public officials (Steen et al., 2011, p. 59) of how the issue is framed and consequently what the solution should look like. This often runs counter to the risk-averse culture and structure of government, as discussed in the

previous chapter, which often hinders experimentation and innovation. Moreover, politicians and civil servants often view themselves as 'sovereign decision-makers' , charged to rule for the people rather than with them, which could make a collaborative approach to policymaking unappetizing (Ansell et al., 2017, p. 479). Another aspect that is important for co-design is trust, both in the method and in the other collaborators (Durose & Richardson, 2016, p. 35). This could be problematic in a time where public trust in government is at a low and declining (Foa & Mounk, 2016). If done well, co-design, however, also offers the opportunity to build trust between participants – civil servants, citizens and policy makers – through the process and thus offers a tool for enhancing trust and positive engagement in public life (Bradwell & Marr, 2008, pp. 10, 14; Durose & Richardson, 2016).

5.4 Public Sector Innovation Labs

The current response to innovating government through design has mainly been directed in three directions: ad hoc projects, innovation labs and internal teams. The most popular of the three can be seen in the spread of Public Sector Innovation (PSI) labs. With over 60 Public Sector Innovation (PSI) labs in the EU member states (Fuller & Lochard, 2016), these "islands of experimentation" (Tõnurist et al., 2017, p. 8) can be considered the recent evolution of New Public Management's (NPM) 'hidden public service' (Craft & Howlett, 2013, p. 188). PSI labs can be categorized according to several characteristics: (1) the method they use; (2) the field in which they work; (3) where they focus their efforts in the innovation process; (4) how they work, directly or indirectly; and (5) the extent they are involved in government (Puttick, 2014, pp. 6–7). In a study of 20 PSI labs conducted by McGann et al. (2018, p. 13), about half of the labs were classified as design-led, with design thinking prevalent in labs inside public administrations or those funded by government, with co-design being a widely used tool to engage users in design processes.

The same study (McGann et al., 2018, p. 14) mapped the activities of the labs against the policy cycle (Howlett et al., 2009) and found that the majority of the labs engaged in generating and testing solutions (16 and 17 out of 19 labs, respectively). The authors found a degree of correspondence between these results and the previous, given their activities were found to be closer to service design than to policy design. Concluding their research on PSI labs, McGann et al. (2018) point out the lack in PSI literature of a reflection on how the 'designerly ways of knowing' (Cross, 1982) fit within evidence-based policymaking, stating that design thinking challenges conventional conceptions of expertise and evidence. Similarly, Bailey and Lloyd (2016), in their reflection on the introduction of design in policymaking, as seen in Policy Lab, found that while design ethnography was acknowledged as a helpful research method for informing policy, it was problematic in that its results lacked the representative, quantifiable or reliable qualities that other policy tools presented. "The challenge for design in this context, then, is epistemological: of conflicting beliefs about how one might come to know things about the world, about what is considered a valid way of knowing" (Bailey & Lloyd, 2016, p. 8). McGann et al. (2018, p. 15)propose that perhaps the greatest impact that PSI labs could have might be in "harvesting the array of knowledge(s) found in diverse places and packaging these into usable forms of policy knowledge". This proposal is quite interesting given the scope of the current research questions.

Issues arise over how these labs are organized in terms of: (1) location respective of government; (2) their permanence; and (3) their agency and autonomy.

5.4.1. Location and Ownership of PSI Lab

PSI labs' proximity to government can range from being found within the executive branches of government, spanning across multiple agencies and departments, or as contracted, non-profit organizations. The labs can be identified on a spectrum of how they are run from independent to government-led, -enabled, or -controlled or on how they are funded from none to partially to wholly funded by government (Bason & Schneider, 2014; McGann et al., 2018). In a study conducted by Tõnurist et al. (2017) of eleven such labs across Europe, North America and Australia, PSI labs were found to be structurally separated from the rest of the public sector. From this viewpoint, PSI labs run in line with transition literature on the role of niches as protective spaces (Kemp et al., 1998; Schot et al., 1994; as cited in Smith & Raven, 2012) that are completely removed from the selection pressures of the environment and organizational cultures that may work against the innovations. They are thus seen as 'shielded' units tasked to experiment new services and processes, free from the rules and regulations of the larger, parent organizations. Schuurman & Tõnurist (2017) regard them in fact as "change agents" and Tõnurist et al. . (2017) as "change champions", who work in autonomy in 'safe spaces' (Carstensen & Bason, 2012, p. 5) granting them the freedom to bring about more radical, disruptive change.

While providing protection and relative freedom to act, the structural separation of PSI labs from the formal public sector infrastructure, also creates problems in terms of implementing the innovations and integrating the knowledge coming out of the experimentations. While internal PSI labs, situated within government, are usually tasked to create organizational change (Tõnurist et al., 2017, p. 1467) by disrupting the organization's routines, norms and culture, it remains unclear to what extent (if any) this occurs. PSI labs located external to the organization have even dimmer chances of accomplishing this. Smith & Raven (2012), in fact, point out the risk of niches to be 'inward looking' (Markard & Truffer, 2008, p. 610) ignoring the system's environment. The authors (2012, p. 1030) emphasize the need to understand how path-breaking innovations cultivated in niches are able to transform their selection environments (i.e. the regime level) and propose two ways to empower these innovations to either be competitive in unchanged environments (fit and conform empowerment) or to restructure mainstream environments in ways amenable to the innovation (stretch and transform empowerment). This could be particularly relevant for PSI labs as time goes on and the need to evaluate their impact becomes more relevant. Timeus and Gascó (2018), in their study of Barcelona's innovation labs, found that while the labs' work increased the innovation capacity of PSOs, their isolation from the parent organization limited their overall impact. Similarly, according to Lykketoft (2014), the implication of creating an innovation lab within an existing organization is that the organization itself is not capable of the desired transformation. The need to understand the dynamics between PSI labs and the wider public sector context was also identified by Tõnurist et al.'s (2017, p. 1474) study. More empirically-grounded studies need to be made to understand if the innovations developed in the labs are able to be implemented at the systems level and create tangible, long-lasting change in the public sector. The present research seeks to take a step in this direction.

5.4.2. Permanence of PSI Labs

Beyond the issue of where the lab is situated, questions also arise as to the permanence of the structures. As already highlighted in the previous section and as will be evidenced below, time is a crucial element in co-design initiatives as it allows for trust to build up between actors and in the co-design process itself and the outcomes produced. Time also affords the lab the possibility of gaining organizational legitimacy and the opportunity to approach more strategic level activities. PSI labs however have been found to have rather short lifespans, typically ranging from three to five

years (Bason, 2010, p. 104). Furthermore, in the same study by Tõnurist et al. (2017), the duration and survival of these labs were found to be highly dependent on the sponsorship of chief executives. If this was lost due to the political process or a change in leadership, the same characteristics that benefitted the lab's activities started to work against the lab: i.e. being small and nimble and detached from the organization made it easy for them to be shut down (Tõnurist et al., 2017, p. 1470). This highlights the important role of leadership in design efforts in public sector innovation, as was also evidenced in the empirical research.

5.4.3 Agency and autonomy

The autonomy of PSI labs has been highlighted as an important aspect of their efficacy, granting them the capacity to experiment and challenge the status quo (Mulgan, 2014), unburdened by the rules and regulations of the parent organization (Tõnurist et al., 2017, p. 1465). Carstensen and Bason (2012) argue that the role of PSI labs is to develop radical solutions that public sector organizations are incapable of producing due to their bureaucratic structures, which foster and reinforce a culture averse to risk and resistant to experimentation (Schuurman & Tõnurist, 2017, p. 7). Furthermore, Smith and Raven (2012) point to the political nature of protecting niches and ensuring continued support of niche enabling conditions. Particularly, they recognize the sense-making efforts of actors in advocating frame adaptation and indicate the power of narratives in reshaping perspectives and patterns of social action and enabling institutional reforms (Smith & Raven, 2012, p. 1032). PSI labs in fact invest significant time and effort in documenting and sharing their activities in the media – both traditional and new – in an effort to legitimize their existence, and create buy-in (Tõnurist et al., 2017, p. 1470). As can be seen, the tension between maintaining autonomy, while at the same time becoming a stable component of the policymaking infrastructure is discursive in nature as PSI labs strategically negotiate and re-frame policy problems through new tools, often more visual and immediate, and integrate new (and more varied) input.

Based on the discussion, the following questions emerge in support, respectively, of RQ1 and RQ2:

SQ 3: WHAT IMPACT DO DESIGN EXPERIMENTS HAVE ON THE ORGANIZATION?

SQ 5: WHAT IS THE ROLE OF DESIGN IN POLICY LABS, INTERNAL DESIGN UNITS AND EXTERNAL DESIGN CONSULTANCIES?

Finally, to conclude the chapter and the literature review, I present, in the table below, the last dimensions coming from literature that will be used to analyze the case study collection (for further detail on the methodology, please see Chapter 6).

Dimension	Insight from Literature Review	Quick References
Temporality of Design Competences	The integration of design in the public sector has mostly happened either in policy design or in the design of public services. This has presented a gap between the strategic stage and implementation, which has led to the risk of designing great services that implement poor policy.	Junginger (2013); Bason (2017)
Used in Strategic Planning		
Used in Solution-building		
Used in implementation		

TABLE 9. ANALYTICAL DIMENSIONS IDENTIFIED FROM LITERATURE ON DESIGN IN THE PUBLIC SECTOR

Chapter 6: Research Design & Empirical Research Methodology

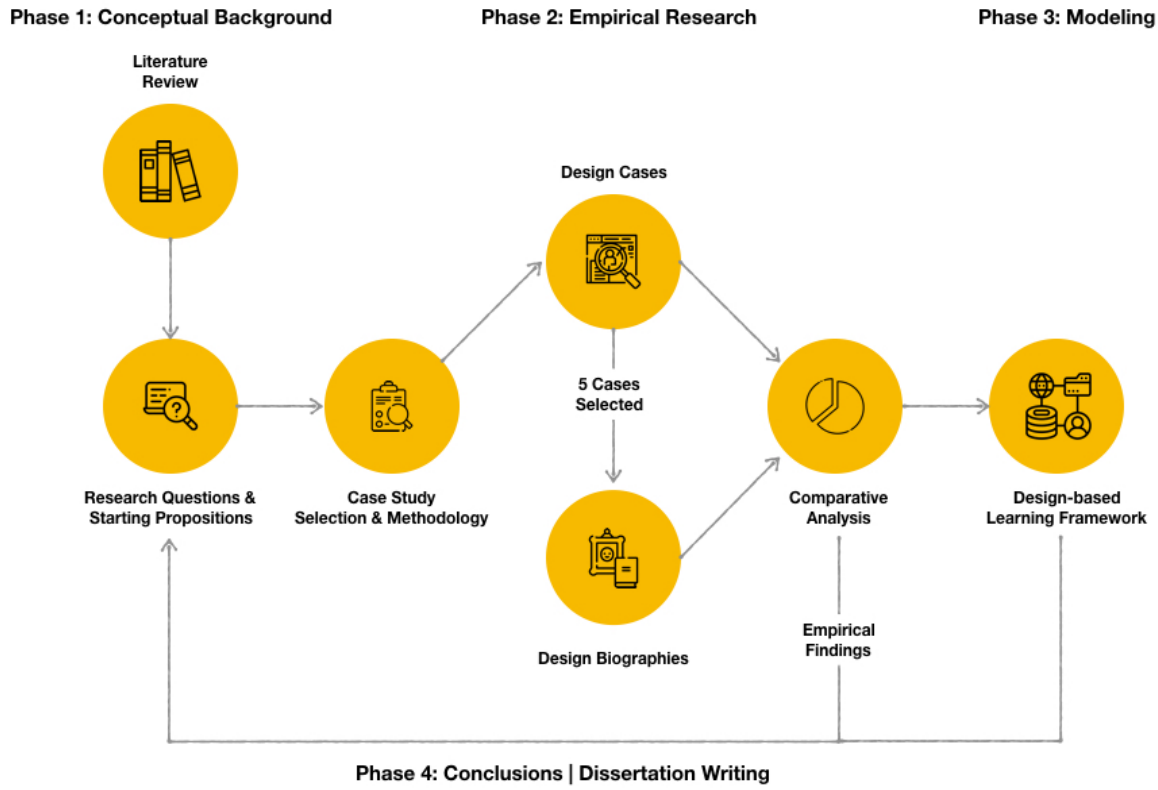

FIGURE 21. METHODOLOGICAL PROCESS

As already stated in the first chapter, the research was conducted in four phases, namely: (1) mapping the boundaries of the conceptual background; (2) empirical research on the research questions emerging from the literature review through the analysis and comparison of design case studies and biographies; (3) modeling a learning framework based on the empirical findings and (4) building a set of conclusions and future recommendations, along with writing up the final dissertation. The methodology for the conceptual background has already been explained in Chapter 1. While the Modeling methodology for phase 3 will be explained in Chapter 9 when presenting the final frameworks. The present chapter is dedicated to the methodology used for the empirical research in phase 2.

The research followed a structured, qualitative research process: (1) identification of key topics to be explored as resulting from the literature review; (2) an initial meta-analysis of twelve cases of design experiments in public sector innovation; (3) the adoption of a set of criteria leading to the selection of relevant cases for deeper analysis; (4) the integrated analysis and discussion of a set of design case studies (desk research) and design biographies (field research); and (5) the triangulation of results to draw evidence-based findings and conclusions. In order to guarantee a high level of quality in the development of the cases, a joint analysis framework and a minimum standard for documentation to be retrieved were adopted. Innovation biographies (Butzin, 2013)

complemented the desk research ensuring direct contact with designers that led the innovation processes from idea to implementation, combining interviewing techniques and triangulation.

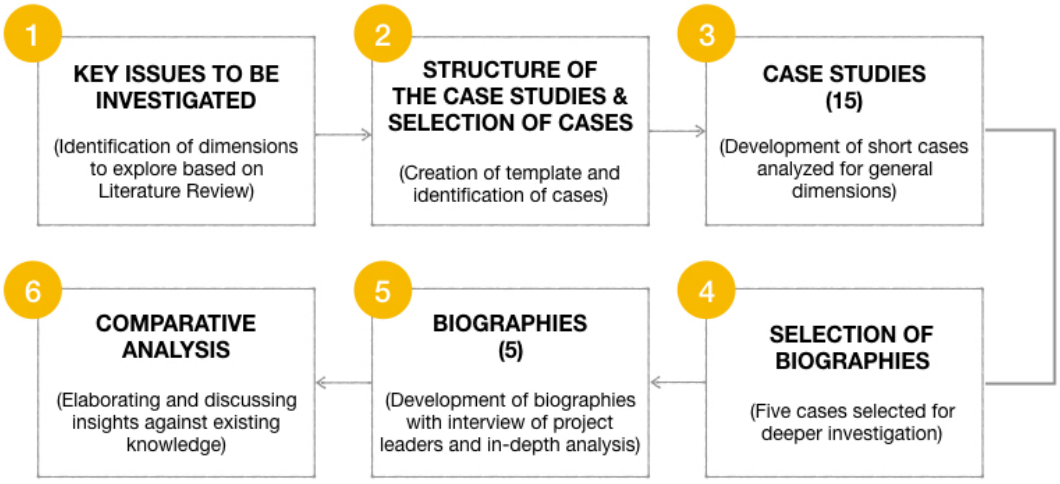

FIGURE 22. EMPIRICAL RESEARCH PROCESS

6.1 Key Issues to be Investigated

The literature review was guided by the two starting Research Questions (re-stated below for clarity), which were at the same time products of the review, as they evolved through the exploration of existing knowledge. The review led to the identification of several sub-questions and key dimensions to be explored to answer the research pursuits.

RQ1: What is the relationship between design practice and organizational change in public sector organizations?

Proposition 1: The integration of design practices in organizations is directly linked to transformations in organizational culture, or more specifically, to changes in the norms, values and behaviours that make up the environment of the organization. Design practices can foster organizational change by: (1) building up the innovation capacities of the actors in the policy ecosystem through experiential learning processes in the form of design projects and (2) opening up and connecting the organization to external resources and actors.

SQ 1: IS DESIGN PROVIDING THE CONDITIONS FOR ORGANIZATIONS TO LEARN AND RECEIVE THE OUTCOMES OF THE DESIGN PROCESS?

SQ 2: ARE DESIGN CULTURES EMERGING AS A RESULT OF THE DESIGN EXPERIMENTS AND TO WHAT END?

SQ 3: WHAT IMPACT DO DESIGN EXPERIMENTS HAVE ON THE ORGANIZATION?

RQ2: How can design advance the innovation capacity of public sector organizations?

Proposition 2: Design can help public sector organizations increase their innovation capacity by fostering "learning by doing" practices that enhance their ability to recognize, give value and apply different forms of information and knowledge.

SQ 4: IF PUBLIC VALUE IS THE END GOAL OF INNOVATION IN THE PUBLIC SECTOR, HOW IS DESIGN CONTRIBUTING TO ITS CREATION?

SQ 5: WHAT IS THE ROLE OF DESIGN IN POLICY LABS, INTERNAL DESIGN UNITS AND EXTERNAL DESIGN CONSULTANCIES?

Based on insights coming from the literature review, specific dimension were identified – as presented at the end of each chapter – to investigate the research questions and their sub-questions. As will be further explored below, the case analysis was divided between shorter cases for a meta-analysis and five longer biographies that zoomed in on more specific details for an in-depth analysis. The dimensions in Table 10 were explored across all cases, while the dimensions in Table 11 were explored only in the Biographies.

Dimensions explored in Design Case Studies:

Dimension	**Insight from Literature Review**	**References**
Open vs Closed	Public Sector Organizations operate in networked policy environments with multiple actors and in layered realities of competing governance paradigms. In relation to the emerging 'networked governance' paradigm, it is interesting to understand the role design plays in fostering more open and collaborative innovation pathways and investigate how knowledge is managed particularly in terms of design outcomes.	(Agranoff, 2007, 2008; Benington & Hartley, 2001; Moore, 2009; Sørensen & Torfing, 2011)
Cross agency collaboration		
Engaged different levels of government (local, regional, national)		
Involved users and system actors		
Implicit vs. Explicit Use of Design	Given the broader access to design tools and methods, as seen in the plethora of design toolkits and the separation of design thinking from design	(Bailey & Lloyd, 2016; Deserti & Rizzo,
Presence of expert designer		

Declared use of design tools and methodologies	doing, it is interesting to understand how design tools and methods are used in terms of practice based on whether there was an expert designer present or not.	2014; Kimbell, 2009b)
Internal or External Placement of Design Competences *Location of design: inside or outside organization*	Design's relationship with organizational change has been connected to different levels of design maturity within the organization that determine its range of activities. More specifically, it has been seen as an implicit agent of change; change, in other words as an 'unexpected' result of the design process. In public sector innovation processes, design has entered in various ways: ad hoc projects, external design support and internal design support. Exploring how location influences the impact of design experiments in terms of organizational change is a useful pursuit in gaging the utility of design experiments in the public sector in terms of lasting impact.	(Buchanan, 2007; Deserti & Rizzo, 2014; Junginger, 2007; McGann et al., 2018; Schuurman & Tõnurist, 2017)
Temporality of Design Competences *Used in Strategic Planning* *Used in Solution-building* *Used in implementation*	The integration of design in the public sector has mostly happened either in policy design or in the design of public services. This has presented a gap between the strategic stage and implementation, which has led to the risk of designing great services that implement poor policy.	(Bason, 2017; S. Junginger, 2013)

TABLE 10. DIMENSIONS EXPLORED ACROSS ALL CASES

Dimensions explored in Design Biographies:

Dimension	Insight from Literature Review	References
Learning Type	The learning processes triggered by the design process have been discussed in literature, especially in reference to Kolb's (1984) experiential learning cycle. Given the research focus on organizational change and design practice, the learning process is evaluated through Argyris and Schön's (1996) single-loop/double-loop learning theory. Other learning theories, particularly the role of communities-of-practice emerged as an interesting 'tool' for knowledge sharing and transfer within and across organizations. The co-design process was also evaluated against the different learning styles to understand the underlying processes.	(Beckman & Barry, 2007; J. S. Brown & Duguid, 2001; Elsbach & Stigliani, 2018; Junginger, 2007; Rizzo et al., 2017)
Single-loop		
Double-loop		
Meta-learning		
Learning Styles		
Concrete Experience (by-doing)		
Observation (by-reflection)		
Formal Knowledge Transfer (by training)		
Tacit Knowledge Transfer (by proximity)		
Interaction (by collaborating, co-designing and co-creating)		
Imitation (by replication and adaptation)		
Mix		
Organizational Learning	The importance of feedback and feedforward mechanisms that integrate knowledge coming from innovation experiments and routinized behavior emerged as important to organizational learning and change. A specific look at the devices through which knowledge was encoded during and post-project was made to understand the link between the learning outcomes and the organization.	(Argyris & Schön, 1978; Crossan et al., 1999)
Encoding Devices		

Organizational Change	Organizational change was seen to be linked to the organization's capacity to learn. The introduction of new practices was also linked to changes in the organizational culture. The Competing Values Framework was used to understand in which direction the design experiments were working in.	(Argyris & Schön, 1996; Quinn & Rohrbaugh, 1981; Schein, 2004)
Create		
Collaborate		
Control		
Compete		

TABLE 11. DIMENSIONS EXPLORED IN DESIGN BIOGRAPHIES ONLY

6.2 Structure of the Case Studies and Selection of Cases

The study focused on evidence-based cases that investigate the role of design in public sector innovation and its connection to organizational transformation. It was found that design is entering the public sector in three principle ways: ad hoc projects, innovation labs and internal teams, the most 'popular' of which are through innovation labs. Cases were selected to represent these different ways to ensure a good sampling, respectively the majority of the cases are on innovation labs.

To render the diversity of cultural and regulatory backgrounds, the cases to be analyzed were chosen in different places across Europe. Moreover, considering the varying definitions of PSI lab (McGann, Blomkamp, & Lewis, 2018a) and the diverse typologies of structures, the selection was primarily made within the domain of the "recognized" PSI or policy labs, but also extended to those actors (and projects) that operate like PSI or policy labs without calling themselves so.

The difference between PSI labs and policy labs was also considered when performing the selection of the labs to be analyzed, but the decision was made, supported by recent literature, that the distinction between PSI labs and policy labs is primarily a matter of nomenclature, self-representation and communication that does not correspond to real differences and well-traced borders: " (...) what distinguishes a 'public policy' from a 'public sector innovation' team is not at all clear. It is possible to imagine examples of public sector innovation that are not specifically about policy, but in practice the two terms seem to be used interchangeably. Several of the labs identified by Fuller and Lochard (2016) as 'public policy labs' also feature in Nesta's report on public sector i-teams (Puttick et al. 2014) and in an earlier map of government innovation labs." (McGann et al., 2018a, p. 253)

The selection of the case studies was not only meant to represent different places and cultural backgrounds, but also different levels of governance, from local administrations to national entities. Finally, cases were also meant to represent different types of public sector innovation as identified by De Vries et al. (De Vries et al., 2016, p. 153) and approaches as categorized by the Design Commission's locational model (2013, p. 31). Cases were found by consulting literature; grey literature coming from think tanks, research centers and other intermediary organizations; by attending workshops and conferences; and by word-of-mouth in various networking events.

In the following, I report a list of the main criteria used to select the cases and the final list of the analyzed cases (Table 12).

Criteria for the selection of cases

- Quantity: 15 (of which 5 were selected as biographies)

- Geographical coverage (good representation of regions with diverse cultural, regulatory and political backgrounds across Europe[9])
- Different levels of governance (local, regional, national)
- Sectorial diversity (diversity of societal and innovation challenges)
- Diversity of approaches (but all bound to co-design)
- Diversity of innovation types – For a better understanding see Table 13
- Availability and accessibility of information (preliminary check to verify if information about the case/initiative is available, possibly from different sources, and if it would be possible to interview key actors, considering time constraints)

Cases:	Geographical location:	Level of governance:	Sector of Innovation Challenge:	Design Approach:	Innovation Type:
Brescia: Zero Tender	Brescia, Italy	Municipal	Social Services	No-designer design work	Governance Innovation; Administrative Process Innovation
Bologna: Participatory Budget	Bologna, Italy	Municipal	Urban Planning	No-designer design work	Governance Innovation
Migri's Inland Design	Helsinki, Finland	National	Immigration	Embedded Designer	Technological Process Innovation
La 27e Région's "La Transfo"	Paris, France	Municipal	Civil Service	External Agency	Administrative Process Innovation
Fjord's Bundesagentur für Arbeit	Berlin, Germany	National	Digitalization	External Agency	Technological Process Innovation; Administrative Process Innovation
Experimental Finland's "A place to experiment"	Finland	National	Collaborative Innovation	Internal Agency	Governance Innovation
UK Policy Lab	London, UK	National	Policy	Internal Agency	Conceptual Innovation
GovTech Catalyst	London, UK	National	Technology	Internal Agency	Governance Innovation

[9] Eastern European cases are not represented in the case collection for lack of documentation and/or linguistic issues that hindered the research.

LabX	Lisbon, Portugal	National	Social Services	Internal Agency	Administrative Process Innovation
Turin's TO-HOME	Turin, Italy	Municipal	Social Services	Brokered Intervention	Administrative Process Innovation
GovLab Arnsberg	Arnsberg, Germany	Regional	Digitalization	Internal Agency	Technological Process Innovation
Danish Design Center	Copenhagen, Denmark	National	Policy	External Agency	Governance Innovation; Conceptual Innovation
Helsinki's CDO	Helsinki, Finland	Municipal	Policy	Embedded Designer	Conceptual Innovation
Servizz Design	Valletta, Malta	National	Social Services	No-designer design work	Administrative Process Innovation
Muzus' User Research for Rotterdam's Transport Tender	Rotterdam, The Netherlands	Municipal	Transportation Procurement	External Agency	Conceptual Innovation; Product or Service Innovation;

TABLE 12. CASE STUDY SELECTION

The table below further explains the innovation types analyzed as categorized by De Vries et al. (2016, p. 153) and presents a useful way to view the different innovation areas design is contributing to. The variety of the case collection however differs from the finding by De Vries et al. (2016), in that product or service innovations was the least represented innovation. This, however, is likely due to the vastly reduced quantitative data set and also due to the selection criteria that focused on organizational change. Moreover, in several cases, design can be seen contributing to different types of innovation in the same project (e.g. Brescia's Zero Tender project, which was both a governance innovation and an administrative process innovation).

Innovation Type	Focus	References	Examples
Process Innovation	Improvement of quality and efficiency of internal and external processes	(Walker, 2014)	
Administrative Process Innovation	Creation of new organizational forms, the introduction of new management methods and techniques and new working methods	(Meeus & Edquist, 2006)	La 27e Région's "La Transfo"; LabX; Turin's TO-HOME; Servizz Design; Brescia's Zero Tender; Fjord
Technological process innovation	Creation or use of new technologies, introduced in an organization to render services to users and citizens	(Edquist et al., 2001)	Migri's Inland Design; GovLab Arnsberg; Fjord
Product or service innovation	Creation of new public services or products	(Damanpour & Schneider, 2009)	Muzus
Governance Innovation	Development of new forms and processes to address specific societal problems	(Moore & Hartley, 2008)	Bologna's PB; Experimental Finland; GovTech Catalyst; Brescia's Zero Tender; DDC
Conceptual Innovation	Introduction of new concepts, frames of reference or new paradigms that help to reframe the nature of specific problems as well as their possible solutions	(Bekkers et al., 2011)	Helsinki's CDO, Policy Lab UK; DDC; Muzus

TABLE 13. PUBLIC SECTOR INNOVATION TYPES APPLIED (ADAPTED FROM (DE VRIES ET AL., 2016, P. 153))

6.3 Design Case Studies

The research adopted a descriptive case study approach, supported by a review of literature, to analyze how design is supporting innovation processes in the Public Sector and its relationship to organizational change. The case study method was chosen as a research frame particularly appropriate for examining a contemporary phenomenon within its real-life context during its evolution, when boundaries are blurred and not so clearly defined (Yin, 2014, p. 13). A qualitative approach was adopted with the aim of exploring a real-life, contemporary bounded system (a case) over time, through a detailed and in-depth data collection involving several sources of information (Creswell, 2013, p. 97). The first phase involved deep qualitative desk research (Strauss & Corbin, 1990; Denzin & Lincoln, 1994), during which I collected and compared information coming from different sources: scientific publications, non-scientific publications, interviews or presentations of the initiators, websites of the enterprises or initiatives among others. The use of multiple sources enabled the exploration of complex situations, allowing for the gathering of multiple perspectives.

The Design Case Studies explored a design experiment in the public sector . They were elaborated based on a fixed set of 22 questions that guided the case development to ensure for consistency across cases (See Annex 1 for full template). The template was divided into two parts: Organization and the Organization's Design Culture. The latter was divided into two sub-sections: the role of design in the organization and a project that exemplified the organization's design process. The framework along with a minimum standard for the documentation to be retrieved, is meant to guarantee both a high level of quality in the development of the cases and the possibility to perform comparisons among them. The use of multiple sources of data (triangulation) about the single cases has been adopted as a distinguishing characteristic of the case study methodology (Stake, 1994), with the aim of introducing multiple perspectives and points of view and obtaining a holistic understanding of the characteristics of the designers/design teams/ or innovation labs and the ways in which they operate.

The development of the case studies followed a sound methodological process, adopting clear guidelines and a standardized structure that facilitates their comparative analysis. According to the case study methodology, as it was developed and adopted in the field of the social sciences (Stake, 1978, 1994, 2006; Yin, 2014), the discussion of the case studies was primarily based on the generalization of the characteristics and processes of the described labs. Generalization from the cases was not concerned with enumerating frequencies as required for statistical generalization, but rather with verifying, expanding and challenging initial propositions and assumptions.

6.4 Design Biographies

The Design Biographies were selected from the initial meta-analysis of Design Case Studies to explore deeper aspects regarding the learning and organizational change processes. The five cases were selected based on the following criteria:

- Sectorial diversity (diversity of societal and innovation challenges)
- Diversity of approaches (but all bound to co-design)
- Diversity of innovation types – For a better understanding see Table 13
- High levels of Collaboration between Actors
- Availability and accessibility of information (if it would be possible to interview key actors)

Five cases were selected as reported in the table below:

Cases:	Geographical location:	Level of governance:	Sector of Innovation Challenge:	Design Approach:	Innovation Type:
Brescia: Zero Tender	Brescia, Italy	Municipal	Social Services	No-designer design work	Governance Innovation; Administrative Process Innovation
Bologna: Participatory Budget	Bologna, Italy	Municipal	Urban Planning	No-designer design work	Governance Innovation
Migri's Inland Design	Helsinki, Finland	National	Immigration	Embedded Designer	Technological Process Innovation
La 27e Région's "La Transfo"	Paris, France	Municipal	Civil Service	External Agency	Administrative Process Innovation
Fjord's Bundesagentur für Arbeit	Berlin, Germany	National	Digitalization	External Agency	Technological Process Innovation; Administrative Process Innovation

TABLE 14. DESIGN BIOGRAPHIES

The Design Biographies followed the same Case Study methodology. However, in the development of the cases a mixed approach was adopted, by first starting to draft the case on the basis of literature and other sources of information about the designers/design teams or labs and their projects or initiatives (websites, presentations, reports and other documents) and then using structured interviews with key figures in the labs to confirm facts and findings and to deepen some aspects. The Design Biographies were structured on the same template as the Design Case Studies but included two additional sections and had 51 questions in total. The two additional sections were: the design process as a learning process and design learning outcomes as a source of organizational change (See Annex 1 for full template).

Cases:	Interviewee	Position
Brescia: Zero Tender	Felice Scalvini Elisa Chiaf	Deputy Director of Welfare Socialis Managing Director of Research
Bologna: Participatory Budget	Michele D'Alena Teresa Carlone	Director of The Office of Civic Imagination Senior Community Manager, Urban Innovation Foundation

Migri's Inland Design	Mariana Salgado	Director
La 27e Région's "La Transfo"	Laura Pandelle Anna Lochard	Service Designer Research Lead
Fjord's Bundesagentur für Arbeit	Jennifer Dettmering	Senior Service Designer

TABLE 15. INTERVIEWS FOR DESIGN BIOGRAPHIES

6.5 Comparative Analysis

By developing a comparative framework to assess the multiple factors that affect the design process in public sector innovation, case studies purport to broaden and deepen our understanding of the design experiments, their origin and process as well outcomes and impacts. In particular the construction of a meta-analysis sheds light on a wide array of social, political, spatial, organizational and technological factors that characterize the emergence of new ideas and the construction of structures that support change in the public sector at the micro, meso and macro levels. Each case, Design Case Studies and Design Biographies, was analyzed against the identified dimensions in a comparative grid. While the cases remained objective, the discussion in the grid was a subjective evaluation based on my own observations in relation to the specific dimension.

A final characteristic of the applied methodology is that, albeit with a different emphasis, the cases have been analyzed and interpreted along three directions: 1) horizontally, where the case is analyzed and discussed in all its aspects; 2) vertically, where specific aspects or mechanisms of design's contribution to public sector innovation, particularly evident in the case, are focused on and deepened; and 3) comparatively, by combining findings along the two previous directions and discussing them across different cases. To perform this, I extracted insights vertically for each dimension and clustered them into macro-categories. I then gave titles to each category which became the key insights that were explained based on a vertical, horizontal and comparative analysis of the cases. Each dimension was also supported by a discussion of literature.

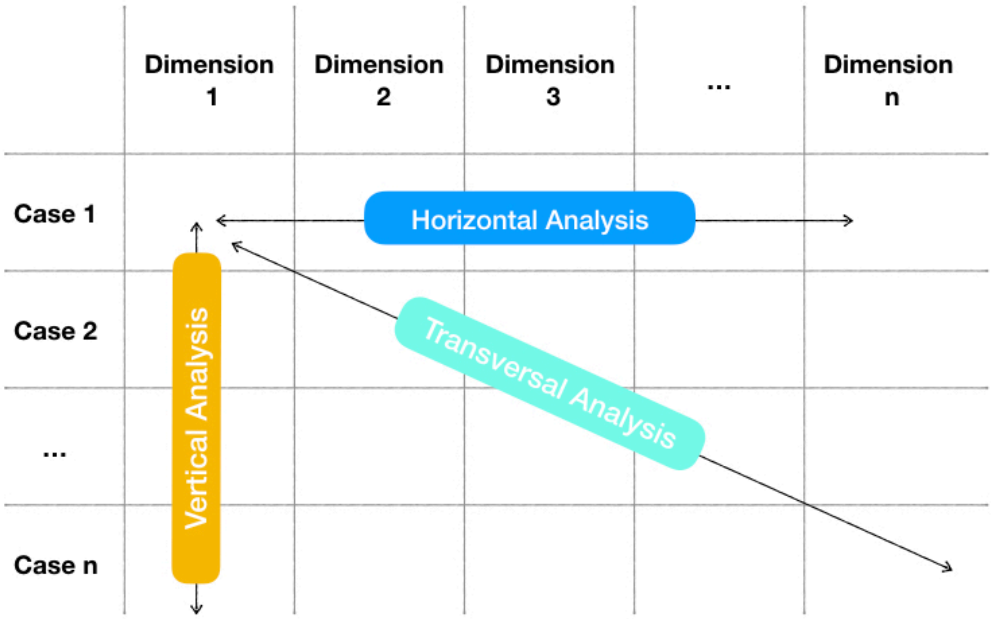

FIGURE 23. LEVELS OF ANALYSIS OF THE CASE STUDIES AND BIOGRAPHIES

The development of cases also adopted different research methods, so that the same phenomena could be observed through multiple perspectives. Triangulation was applied to confirm and to increase the validity of research results (Yin, 2014; Stake 2006). According to this methodology, "*By combining multiple observers, theories, methods, and empirical materials, researchers can hope to overcome the weakness or intrinsic biases and the problems that come from single-method, single-observer, single-theory studies*" (Jakob, 2001). In accordance with Stake (2006) a case study has an *«intrinsic»* meaning, when the case itself is of primary interest for exploration; such understanding corresponds to Yin's (2014) *«descriptive» case study*». A case study has an *«instrumental»* meaning when the case is secondary to the exploration of a specific issue (i.e. drawing generalizations and building a middle-range theory).
In particular, qualitative empirical research was subject both to ***internal triangulation***, meaning that the same research result was verified by use of different sources, and ***external triangulation***, meaning that results and insights primarily gathered with *desk research methods* (Design Case Studies) have been verified and confronted with results gathered with *field research methods* (Design Biographies).

Overall, the discussion of the comparative analysis provides answers to the initial research questions, complements the initial conceptual background and formulates new hypotheses to be studied in future research.

Chapter 7: Developing Design Culture in the Public Sector: Case Studies and Discussion

7.1 Design Case Studies

In this section, I will present the Design Case Studies. There are ten of them, since five were selected as Design Biographies and are included only in the Biography form.

7.1.1 Experimental Finland's "A Place to Experiment"

Experimental Finland's "Place to Experiment" Platform
Helsinki, Finland
Design Location (Design Commission's locational model): Internal Agency

Abstract
Kokeilun Paikka, the Place to Experiment, is the Finnish Government's digital platform for experimentation. It is based on collaborative principles that seek to promote an experimental culture in government linking top-down and bottom-up strategies in one place. There are three levels of experiments found on the platform: large strategic policy trials, pooled pilots and grassroot experimentation. Users can participate and engage in public life through the platform in various ways, namely by: launching an idea challenge/call, starting an experiment, contributing and joining an experiment and responding to an idea challenge/call. Each experiment goes through a standard process which finishes with a report on lessons learned. The final objective of the platform is to allow for evidence-based policymaking based on the outcomes of the experiments and to bridge the gap between policy design and policy implementation. The platform is one of the results of the Experimental Finland government program led by the former Prime Minister Juha Sipilä and the underlying framework was informed by the human-centered model of experimentation in government done by Demos Helsinki. Co-design was a guiding approach used for both the development of the operating model and the construction of the platform itself, which is in turn based on mechanisms of co-creation and participation.

I. Experimental Finland Team

The Experimental Finland Team is the internal innovation team of the former Prime Minister's Office of Finland charged with implementing the Experimental Finland program. The program provided a strong impetus for experimentation in government in the country, issuing a "license to experiment" aimed at reducing fear of failure. The PMO set up the team, in 2016, which was given two years to complete its task. It worked with three levels of experiments as delineated by the program, taking a top-down and bottom-up approach: strategic experiments (which supported the key objectives of the political agenda), pooled pilots and partnerships, and grassroots level experiments (which were citizen-led initiatives and more intuitive in nature). The three levels merge top-down, large policy trials rooted in behavioural economics (e.g. Randomized control trials) with bottom-up, grassroots experimentation based in lean start-up thinking.

FIGURE 24. TOP-DOWN, BOTTOM UP APPROACH OF EXPERIMENTAL CULTURE IN THE FINNISH GOVERNMENT (EXPERIMENTAL FINLAND, 2019A).

The team's main tasks can be divided into three categories: (1) knowledge diffusion; (2) network building and management; and (3) experimentation support (Hokkanen & Kotipelto, 2018).

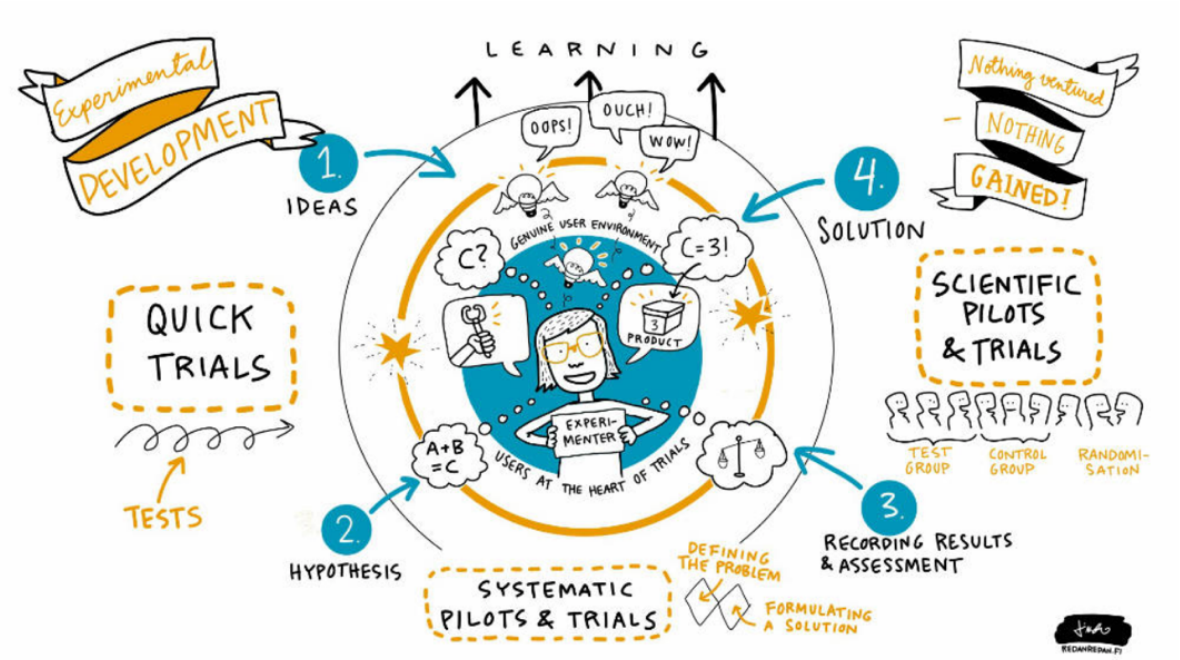

FIGURE 25. EXPERIMENTAL FINLAND TEAM'S WORK (HOKKANEN & KOTIPELTO, 2018)

Regarding the first area, the Experimental Finland Team produces, compiles and distributes information to provide a knowledge base to inspire a cultural change and support experimentation. The team has produced several documents and reports to this end, including a report on the ethics

of social experiments and a guide for experiment mentors, done together with the Association of Finnish Local and Regional Authorities (Experimental Finland, 2019b). Beyond this, best practices and other hands-on material can be found on their website. The team also conducts, workshops and trainings to support experimentation.

I. Experimental Finland's Design Culture

a. Object of Design: role of design in the organization

The Experimental Finland Team was mainly tasked to help manage large, strategic experiments, but was also in charge of building a platform for grassroot experimentation. The operating model behind the large strategic work was designed by the think tank Demos Helsinki and is rooted in a human-centered design approach. The framework's principle aim was to provide a process for steering efforts to be more effective through the use of behavioural insight and the co-creation of solutions with citizens. The approach included six, iterative stages: individualizing the problem; an open call for experts and best practices; a review by experts through stocktaking; defining the experiment; qualitative research; validating the experiment; and finally, evaluating it (OECD, 2017, p. 83).

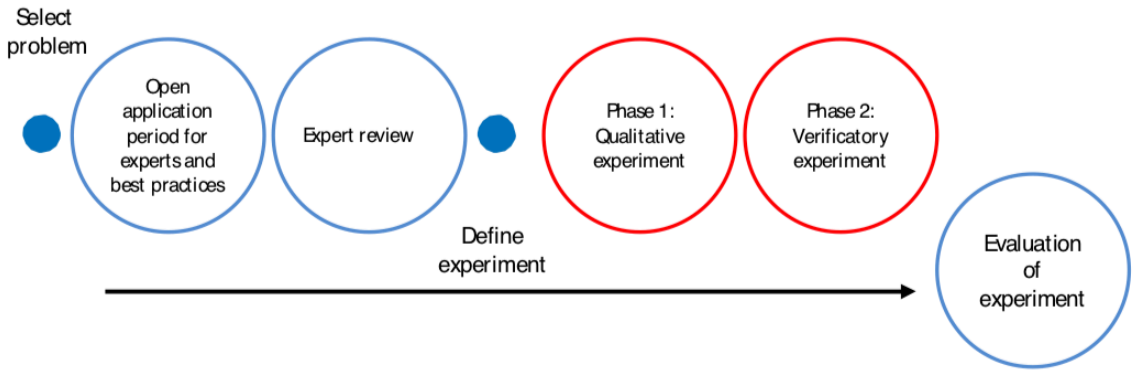

FIGURE 26. FINLAND'S HUMAN-CENTERED MODEL OF EXPERIMENTATION IN GOVERNMENT BY DEMOS HELSINKI (GOVERNMENT OF FINLAND, 2015, P. 17)

The original model was based on a double diamond process of design, however, it proved to be confusing and too complex for civil servants to work with and thus the process was simplified into a more traditional table (as seen below).

0.1. The development of experimental activities as a key project of the Government Programme
0.2. Selection of the objectives to which the model is applied forms part of the Government Programme Action Plan.
0.3. The selected objective is examined: is there a behavioural element and is the ministry (or ministries) responsible willing to adopt new approaches. If these terms are met, proceed to point 1.
1. Launch the open application period for best practices for municipalities, organisations and businesses. The aim is to gain a better understanding of problems and to seek out existing best practices and solutions. At the same time, an opportunity is created to appoint experts who understand how to attain the objective. This phase in particular will involve making use of the expertise of the Government's working group coordinating research, foresight, assessment and analysis activities, and the Council for Strategic Research.
1.1. Organise an expert review of scientific data related to the objective. The review will be conducted in a 3–5 day workshop in which theoretical data and evidence related to practices and solutions discovered during the earlier phase are sought.
1.2. Organise a status review workshop (no. 1), in which researchers, public servants, implementers and other key parties familiarise themselves with each others' perspectives on the experiment and form a common overall view of the situation.
2. The facilitator of the experiment reviews the best practices identified and the results of the expert review. If there is sufficient review data, it can be used in the policy process without experimentation. The expert review includes an assessment of whether direct use can be made of the data. If experimentation is necessary, together with the responsible ministry the facilitator of the experiment prepares a two-phase invitation to tender on the basis of the information generated by the expert review, using the Government's appropriations for analysis and research activities.
2.1. The tenders are assessed on the basis of the following a) methodological skills of the consortium, b) innovativeness in the selected approaches and c) the ability to understand the problem's systemic nature and human activities in relation to the problem. Based on this assessment, the provider is selected and lean funding is provided for the implementation of a qualitative experiment. The need for a verificatory experiment is evaluated after the first phase of tenders.
2.1.1. In a status review workshop for researchers, public servants, implementers and other key parties, the participants review the experiment from each others' perspectives and form an overall common view of the situation.
2.1.2. Place an order for a verificatory experiment. The tender requires an assessment of the experiment's effectiveness and suitability for implementation, including a cost estimate and the charting of its acceptability and adverse impacts. If an external evaluator considers the experiment to have sufficient impact, capable of wider application and feasible on the basis of moderate resources, the next stage is a verificatory experiment. The facilitator of the experiment is responsible for such an evaluation, using the experts involved in the first phase.
2.2. Implement the verificatory experiment. The purpose of this experiment is to compile the behaviour-based data required in order to attain the selected objective. The experiment is designed on the basis of existing data on the various factors influencing behaviour. Before the experiment, criteria are identified which, if they are met, indicate that the results can exploited. Impact assessment should developed by taking into account people's wellbeing and behavior. The experiment is implemented together with an external implementer, the ministry and the facilitator of the experiment.
3. The methods, successes and results of the experiment are evaluated by the facilitator and implementer of the experiment and the first-phase experts, and perhaps by an external evaluation team.
3.1. An interactive consultation event is organised under the leadership of the facilitator of the experiment. In such an event, the service providers related to the objective, members of the target group, public servants, decision-makers and other key parties jointly develop proposals for measures to be taken on the basis of information gained from the experiment
4. The responsible ministry prepares steering. If necessary, the ministry may request support from the facilitator of the experiment on how to apply the information in its the planning of steering activities.
5. Finally, the experiment and the experiment programme are evaluated based on two perspectives: whether behaviour-based information was utilised in steering and whether the operating model was useful in attaining the objective

FIGURE 27. THE OPERATING MODEL AS A PROCESS (GOVERNMENT OF FINLAND, 2015, P. 9)

The team works with actors coming from all sectors: public ministries, municipalities, academia, the third sector and civil society.

b. Place to Experiment: an Example of Experimental Finland's Design Process

Place to Experiment is the Finnish Government's digital development platform for experimentation, developed by the Experimental Finland team, with initial support from Demos Helsinki and the Finnish Environment Institute. The motivations leading to the platform came from

the insight that a lack of flexible financing and connection among innovators, as well as difficulty in finding information about viable solutions and innovative approaches were key obstacles towards the spread of innovation and the improvement of government-citizen relations (OECD, 2017). It was identified that while experimentation on the local and grassroots level is common in Finland, there is a lack of a common overview of the projects being conducted, thereby isolating learning outcomes. The digital platform was thus created with the intent of overcoming these gaps, working to re-define citizen-government boundaries and shift service development from a top-down approach to a co-created – and even crowdsourced or crowdfunded– process (OECD, 2017). The platform is owned by government and managed by the Experimental Finland Team. It is an open platform that connects innovators with sources of capacity building and funding, while providing government with information on the outcomes of small-scale experiments to fuel evidence-based policymaking.

As an open platform, it depends on the engagement of users in order to be a useful place of exchange: of information, advice, capacity building, funding, etc. The primary users are: citizen innovators, private and third sector leaders, local and regional public authorities and government ministries. In addition to digital users, the platform also requires the planning of face-to-face interaction through capacity building activities and support. Flexible funding for small-scale experiments is also provided through a dedicated government budget.

Below is a list of what the different user categories are looking for in the platform:

- Entrepreneurs, innovators and project leaders: can access information and resources to support their project and/or find inspiration on how to best shape their idea. Citizens can also find capacity building if selected and also funding for initial costs of implementation.
- Government ministries and pubic authorities can find insight on experimentation results to garner evidence for designing new policies.
- PMO: offers top-down support of the platform along with funding from a dedicated budget.

The Experimental Finland Team monitors and manages the platform, ensuring that content is highlighted, information is shared and that site activity is maintained.

Place to Experiment's Design Process

Problem Framing and Ideation

The PMO wanted to understand how experiments, tests and policy trials were funded in Finland. They commissioned Demos Helsinki and the Finnish Environment Institute to help them in this task. As already mentioned above, they found that experimentation at the local, community level was very common but that a central location for knowledge and experience sharing was missing. This meant that learning was fragmented and knowledge left unexploited. The PMO thus decided on a digital platform to amend the situation and create a community around experimentation. The PMO charged the Experimental Finland Team with the task of developing it.

Design

The design of the platform undertook a lean start-up approach with rapid development (OECD, 2017, p. 88). The team had only 6 months to finish the development. They adopted an innovation funnel approach, organizing 4 workshops to co-create the platform together with stakeholders. In the first workshop, the "godparents" – the network of initial supporters and advisors for the operating model by Demos Helsinki – were invited to discuss what the platform

should look like and define the scope of the project (OECD, 2017, p. 88). In the second workshop, the team presented the platform idea to ICT companies to understand the feasibility of the project in technical terms and with the given timeframe (OECD, 2017, p. 88). The wireframe of the platform was built in the third workshop and the financing of the experiments in the last one. Experiments are funded to varying degrees: €500-€20,000 for grassroot and pilot level experiments and €50,000+ for strategic level experiments.

A hackathon was also organized as part of the procurement process to understand the technological options for the platform (OECD, 2017, p. 88). While the hackathon was useful, public procurement rules hindered the adoption of certain solutions.

Implementation and Evaluation, Monitoring and Measurement

The platform was launched in its beta version and tested at each phase during the beginning months of 2017. It was launched publicly in May 2017.

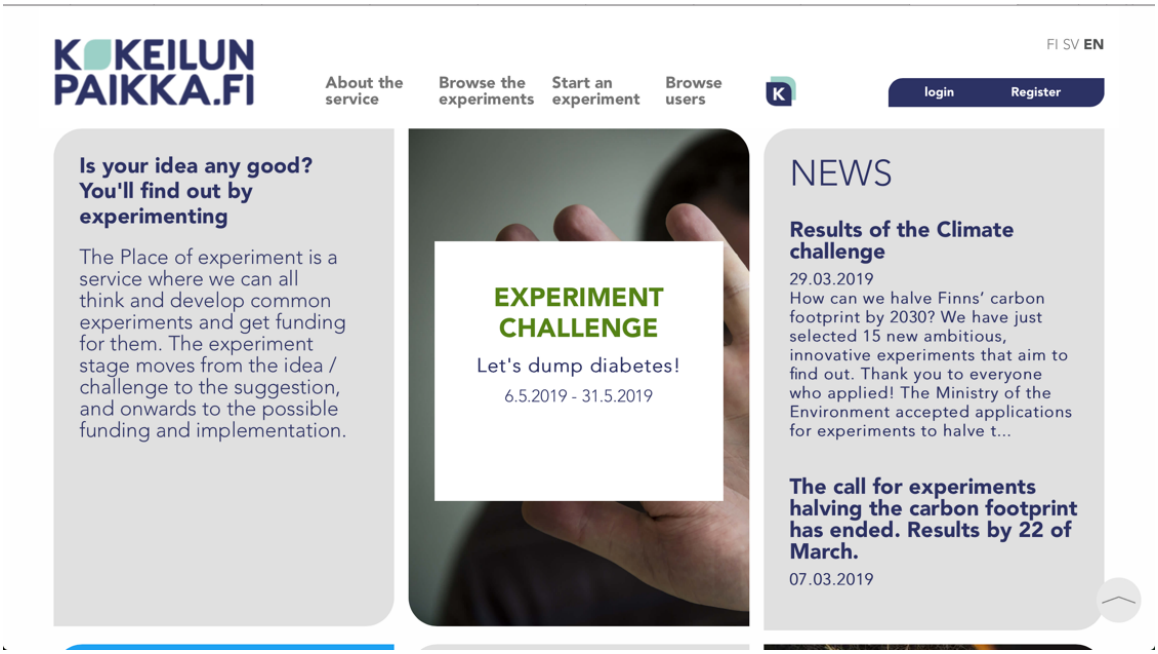

FIGURE 28. PLACE TO EXPERIMENT LANDING PAGE. (KOKEILUNPAIKKA.FI, 2019)

An overview of the process can be seen below:

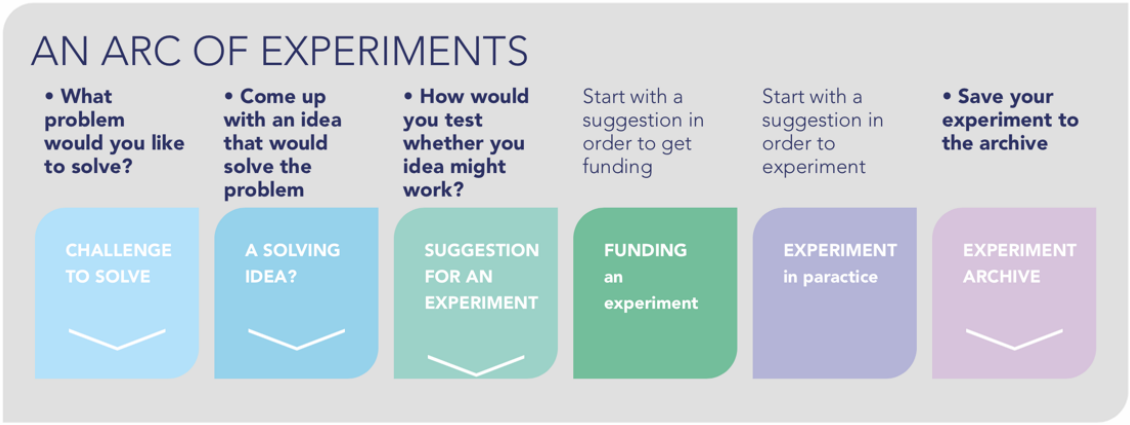

FIGURE 29. PLACE TO EXPERIMENT PROCESS KOKEILUNPAIKKA.FI)

7.1.2 UK Policy Lab

Policy Lab
London, UK
Design Location (Design Commission's locational model): Internal Agency

Abstract
Policy Lab is an internal innovation team in UK's Cabinet Office. Its main goal is to provide policymakers with new tools, methods and knowledge to support and inform policymaking practices that are more open, data-driven, digital and user-centered. It works in the initial, exploratory stage of the policy cycle, seeking to bring change into how policy is made through the introduction of techniques that bring into light the way policy is experienced in the lives of citizens.

I. Policy Lab UK

Policy Lab was established in 2014 as part of the Civil Service Reform plan to transform policymaking practices in the UK through the introduction of new tools and methods and the generation of new knowledge and skills so policymakers can develop policy in more open, data-driven, digital and user-centered ways (Policy Lab, 2017). The team is based in the Cabinet Office and works, on a consultation basis, with different policy teams across the UK Government. Since starting, they have worked with over 5,500 civil servants on over 20 major policies. They have four main areas of work: (1) Lab Light, which is a short introductory workshop to the Lab's tools and approach; (2) Lab Sprints, which are short, intensive and collaborative workshops to accelerate a project; (3) Lab Demonstrators, which can run upward of three months to a year and support policy teams develop new ways of working and engage a team of service designers, ethnographers, data scientists and subject specialists in a double diamond process; and finally, (4) Lab Experiments, which are trials of new and emergent techniques to develop policy "firsts" for government (Policy Lab, 2019). They work at three levels: (1) practical projects to deliver new policy solutions; (2) skill and knowledge building in policymaking and the civil service; and (3) inspiring new thinking through reflection of their work in the form of blogging and through the outputs of their experiments. The team is made up of nine people with different backgrounds: designers, researchers and policymakers.

II. Policy Lab's Design Culture

a. Object of Design: role of design in the organization

Policy Lab defines itself working on the edge of government, experimenting with new approaches that if found valuable are then diffused into departments. Their approach revolves around setting up collaborative projects that explore problems and generate solutions through iterative learning cycles (Kimbell, 2015, p. 1). The lab's activities are in the "fuzzy front end" of policymaking and have the following intents: (1) to support organizational learning; (2) to generate and build confidence in new forms of knowledge; (3) to provide insight on how people experience policies and their worlds; and (4) to challenge policymakers and stakeholder to collaborate through participatory processes (Kimbell, 2015, p. 1).

The lab follows a typical double diamond process (Diagnose, Discover, Develop, Deliver), the extent to which the process is completed depends on the project. The Lab Light activities are mostly concerned with providing introductory tools and with problem framing and mostly stay in the diagnosing part of the process, using tools like: the 5 whys, Data discovery cards, personas, user journeys, evidence safaris and hopes and fears cards. Lab Sprints on the other hand can go on to arrive at developing ideas, while the Lab Experiments can follow the entire process to delivery and

prototyping. While rooted in a people-centered design approach, the team employs multi-disciplinary tools and expertise in their work, e.g. ethnography, data science, and policy tools. As the lab is future focused, a lot of the Lab Experiments, run together with the Government of Science (GOS) and their Futures, Foresight and Horizon Scanning department, see the use of tools coming from speculative design to help create concrete dialogue on issues on the near and not so near future. Similarly, video ethnographic tools help bring people's lived experience into the initial discovery phase helping spark dialogue at the core of the issue and from the perspective of citizens.

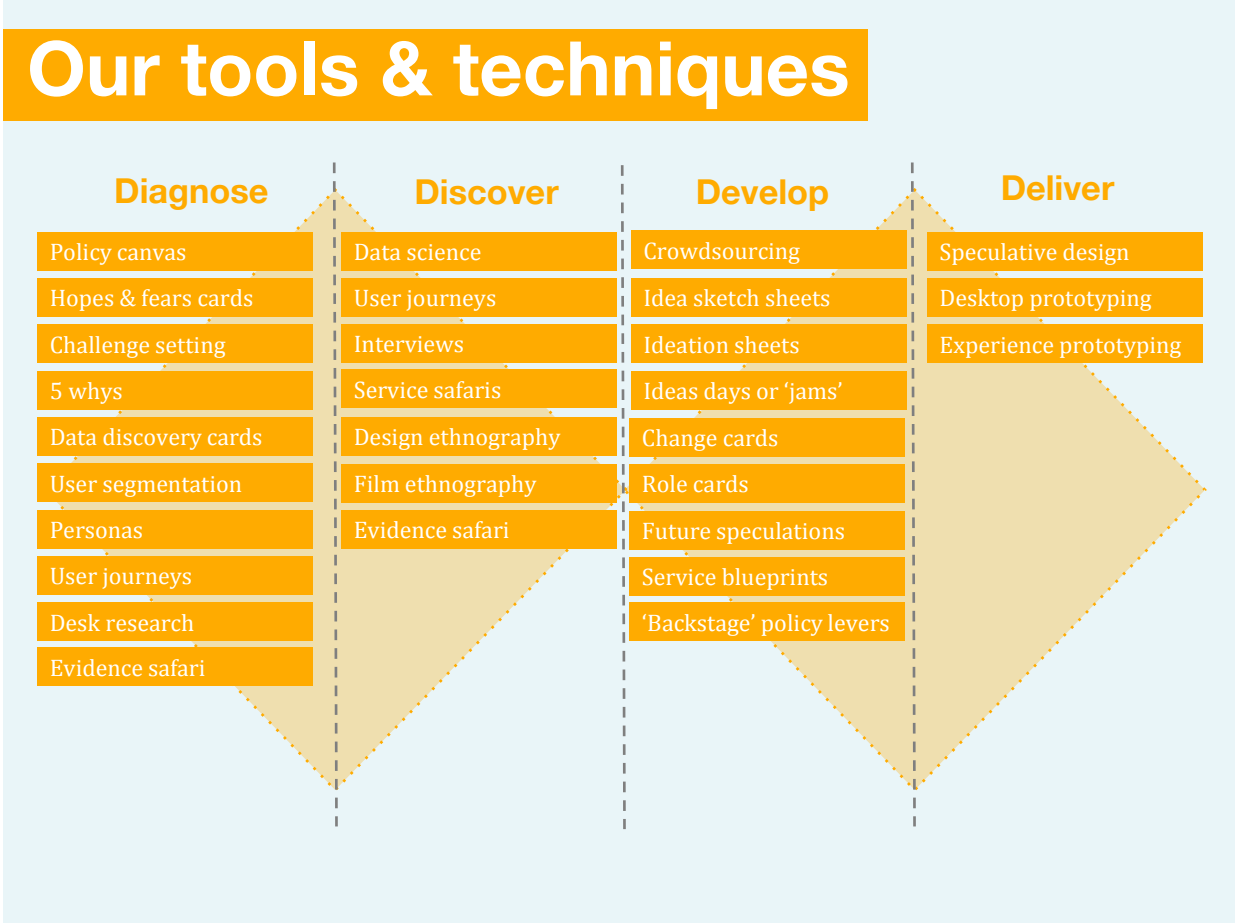

FIGURE 30. POLICY LAB'S TOOLS AND TECHNIQUES MAPPED AGAINST THE DOUBLE DIAMOND PROCESS (POLICY LAB, 2017, P. 34).

b. Foresight Future of an Ageing Population: an Example of Policy Lab's Design Process

In 2015, Policy Lab was asked by the Foresight Team of the GOS to help them run two series of workshops in their "Future of an Ageing Population" project. The main objective of Policy Lab's involvement was to help policymakers reflect how an ageing population would affect their policy area. In the first series, Policy Lab worked with Strange Telemetry, a research company and consultancy specialized in Speculative and Critical Design, to generate evidence for the project regarding how an ageing population could impact employment, mobility and key services (Strange Telemetry, 2017). Each workshop was run on a slightly different agenda but with similar structures,

presenting to groups bespoke, visual artifacts depicting alternative futures over a 25-year timespan reflecting possible developments in each of the areas.

FIGURE 31. VISUAL ARTIFACT OF A FAMILY-OWNED ROBOT REPAIR SHOP USED IN THE WORKSHOP ON AGEING AND EMPLOYMENT (STRANGE TELEMETRY, 2017)

A set of five cards, structured off of de Bono's (1985) "Six Thinking Hats" approach were used to facilitate conversation and discuss their reactions to the images (Voss et al., 2015, p. 7).

Card	Questions
Yes (Green)	What do you like about the image? Are there things that resonate or are familiar?
No (Red)	What do you dislike about the image? Are there things that you disagree with or find unlikely?
Feelings (Blue)	Put yourself into this scenario: what are your gut feelings about it? Do you feel uncomfortable, sad, happy, relaxed, anxious?
Personal change (Yellow)	What changes would you make to your own life now if this scenario might be in your future, or part of it?
Outside change (Purple)	What changes would you want others (policymakers, local government, companies) to make if this scenario might be in your future, or part of it?

FIGURE 32. CUSTOM CARD DECK USED TO STRUCTURE RESPONSES TO THE SCENARIOS (VOSS ET AL., 2015, P. 7)

The three workshops were successful in creating qualitative evidence on how each policy area will be influenced by the ageing population, with some overarching trends emerging, namely: fear of isolation and need for community; greater comfort in state power rather than corporate control; and a desire for culture, arts and green spaces (Voss et al., 2015, p. 9-10). The workshops were moreover interesting for their experimentation with the use of speculative design methods, representing the first time it had been used in government.

The second series of workshops, also, focused on gathering evidence around what the challenges and opportunities of an ageing population represents on different policy areas. The four areas of policy addressed were: employment, health, housing and technology. The method here used was an "Evidence Safari" in which participants were presented with evidence cards setting out the latest evidence on ageing and were asked to select the ones which helped them understand the scope of the potential changes in their area of policy (Griffin, 2017). In groups, the participants were then asked to use the evidence cards and this understanding to discuss how an individual could experience those changes in 2040 from both a positive and negative perspective (Griffin, 2017). This was accomplished through the use of defined personas.

FIGURE 33. EVIDENCE CARD FROM WORKING LIVES SERIES (R. JONES, 2017)

FIGURE 34. PERSONA, "LAURA", USED DURING THE WORKSHOP WITH SURROUNDING EVIDENCE CARDS (POLICY LAB, 2017).

7.1.3 GovTech Catalyst

GovTech Catalyst UK
London, UK
Design Location (Design Commission's locational model): Internal Agency

Abstract
The GovTech Catalyst Team is in charge of the successful running and operation of the £20 million fund allocated by the UK government to connect tech firms with public sector organizations to help them solve their most pressing issues in a process of Pre-Commercial Procurement. The team works with challenge and competition owners prepare their challenge or solutions bids and to facilitate dialogue between the parties. Their work can be seen to evolve through the procurement process following the established SBRI (Small Business Research Initiative) practice.

I. GovTech Catalyst

The GovTech Catalyst team was formed in November 2017 to oversee a new £20 million fund to connect private sector tech firms with public sector organizations to solve the government's most challenging problems (Tester, 2019). The team is hosted inside the Government Digital Service and is composed of seven people, including a product lead, two engagement leads, a content designer, a service designer, a technical architect and an operations manager (Tester, 2019).. The team works with the challenge owners – public sector organizations – and the competition owners – bidding tech firms – on many different fronts to assist them in the process. This ranges from: (1) providing technical support to assist the challenge owner in integrating the new technology, i.e. finding the right digital, data and technology standards for the specific problem, building on the organization's existing infrastructure and legacy; (2) enhancing and building up digital capacities in the sponsoring organization; (3) preparing suppliers to work with government by providing insight on government processes and standards; and (4) providing the competition owners with service design support to better understand the scope of the problem (Tester, 2019). The GovTech Catalyst is a program run with the support of Government Digital Service, the Department for Business, Energy and Industrial Strategy, HM Treasury, Innovate UK and SBRI (Small Business Research Initiative). The team has a "sunset clause" of three years closing in 2021, at which time the fund will close and can therefore in itself be seen as a government experiment of innovative Pre-Commercial Procurement (PCP). The team's approach can be seen to be based in a design approach that is highly adaptive to the needs that emerge from the structure of the GovTech Catalyst process, which is based on the SBRI format (see below), and can be described as constantly evolving to meet the needs of the actors, both challenge and competition owner, to deliver the best solutions for the challenge owner and ultimately its final users and the public sector at large who can purchase the solutions.

II. GovTech Catalyst's Design Culture

a. Object of Design: role of design in the organization

As a support team, the group serves the program's needs as it evolves through the different phases of the process. The team designs informative content to help smooth the process for both parties. One example of this is the process map that has been iterated several times based on feedback. The map guides competition owners through the process (Tester, 2019). The team's

service designer works with the competition owners to develop their solutions by helping them properly frame the problem. This is done through the use of user journeys that are done in co-design sessions that involve everyone partaking in the service provision from front-line staff to back-end techs. User groups are identified in the sessions, along with clearer research questions. The co-design sessions also help create buy-in from the different stakeholders around the project (Tester, 2019)`. Being located in the Government Digital Office also provides the team with the resources needed to support the public organizations build up their digital capacity through workshops and show and tells, and grants them access to built-up knowledge and expertise held within the office regarding the digitalization of public sector organizations.

b. Monmouthshire Council's Loneliness and Rural Isolation Challenge: an Example of GovTech Catalyst's Design Process

The GovTech Catalyst program is an example of a PCP process done under Innovate UK's SBRI program, which seeks to bring together government challenges and ideas from business to create innovative solutions (Innovate UK & UK Research and Innovation, 2015). PCP has been identified by the UK but also Europe as a way to drive innovation by allowing public procurers to act as customers that buy the research and development of new solutions (European Commision, 2019). It can be seen as complementary to the Public Procurement of Innovative Solutions (PPI) as seen in the figure below.

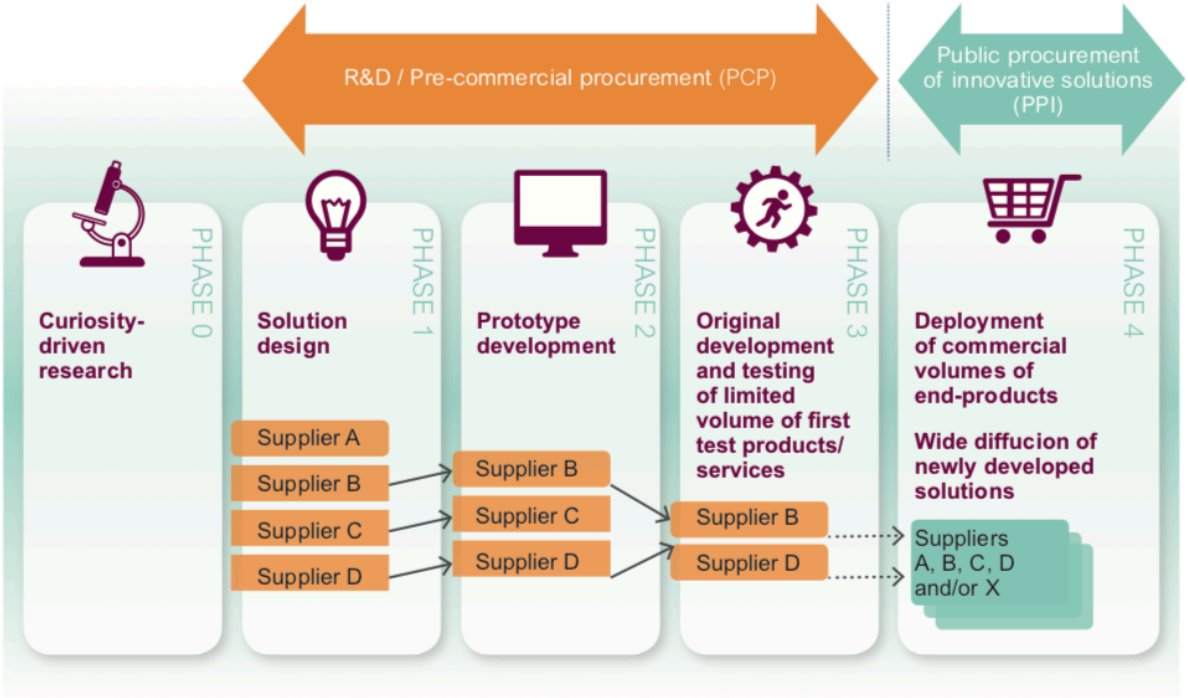

FIGURE 35. PCP PROCESS LEADING TO PPI (LOCAL GOVERNMENT ASSOCIATION, 2017, P. 17)

Before the launch of the competition, the GovTech process has two preliminary phases dedicated to selecting the challenges pitched by public sector bodies (UK central government organizations, devolved administrations, or local public sector organizations). To submit a challenge,

the proposal must describe a current public service or policy delivery problem that: (1) requires a digital solution and (2) improves service quality or reduces costs, and (3) the public body must be willing to purchase the solution. Challenges are then selected based on challenge selection criteria and are shortlisted by the GTC team and a cross-government assessment panel of senior officials (Government Digital Service, 2018). The final selection is made by the GovTech Catalyst steering committee and ministers by the assessment panel. Five challenges are chosen for each round, for a total of 15 challenges. The submission and selection of the challenge make up the first two phases of the process.

The following five phases proceed along the SBRI process. Supported by Innovate UK, the GovTech catalyst opens the challenge competition to service providers to pitch their solution for six weeks. The challenge owners pick 5 solutions from a shortlist made by Innovate UK and reviewed by the GovTech Catalyst team and the challenge owners (Government Digital Service, 2018). Each selected solution is given £50,000 to develop a prototype in a 12-week timeframe. This first phase focuses on exploring the technical and commercial feasibility of the project. The five prototypes are then evaluated and the best two are given £500,000 to develop, over the course of 12 months, the product or service and test them in an operational environment. The final products from this second phase are then offered up to the entire public sector to buy, e.g. through PPI processes. Challenge owners must intend to buy any successful phase 2 solutions.

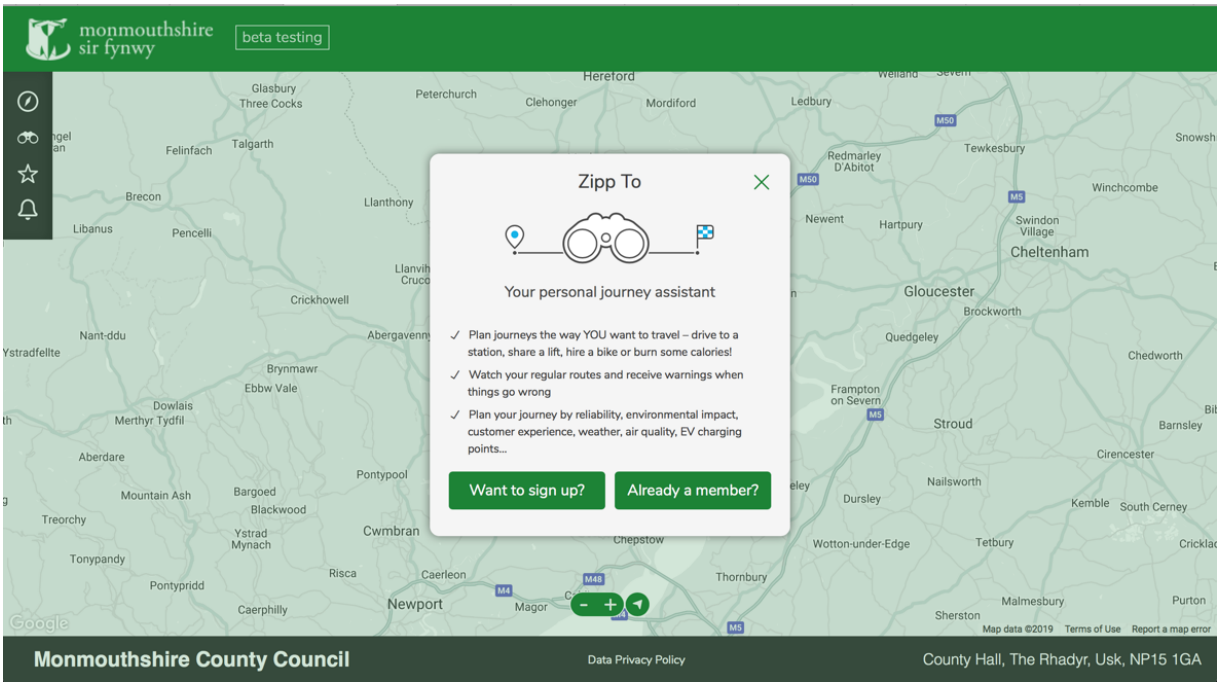

FIGURE 36. MONMOUTHSHIRE JOURNEY PLANNER (MONMOUTHSHIRE, 2019).

Monmouthshire is a semi-rural county in South East Wales, whose inhabitants, owing to a combination of factors, including an increasing ageing population and reducing public budgets to subsidize traditional transportation services, suffer of loneliness and isolation (Monmouthshire, 2019). Moreover, due to the remoteness of the areas, the journey time to social service centers can be more than two hours on public transport, making the reliance on personal cars quite high. This results to be quite costly to personal finances as well as to the environment and only heightens feelings of loneliness. This insight prompted the council to partake in the GovTech Catalyst

program to find a way to spot vehicles with spare capacity as a means to combat feelings of loneliness and rural isolation through the improved offer of transportation services (Tait, 2018). More specifically the challenge asked firms to respond to the following research questions (Monmouthshire, 2019):

1. How can we use technology to improve our interaction with older people to reduce loneliness whilst alleviating digital exclusion?
2. How can we co-ordinate transport more efficiently to increase peoples' ability to travel in rural areas whilst reducing public subsidy?
3. How do we better connect people in rural areas to improve well-being and reduce pressure on the health and social care systems whilst improving service efficiency?.

At the end of Phase I, the challenge received 57 applications. The five selected digital solutions – apps, websites, online channels, and text services – focused on integrating with the existing infrastructure and digital possibilities of inhabitants to guarantee access (Monmouthshire, 2019). Following this, the five firms spent three months working with actors from the territory – community members, third sector organizations and other organizations – to develop and test their ideas. Phase II opened in September 2019 in which the winning two companies started to transform their solutions into viable products or services to benefit Monmouthshire and if successful the rest of the UK. The two winning solutions are: Box Clever Digital Ltd., a community-directed platform that matches people based on multiple factors to enable real-time conversation via secure channels for mutual aid and assistance; and The Behavioural Insights Team, a digital service to connect isolated individuals via a range of communication channels with peers, volunteers, support workers and other healthcare professionals (Monmouthshire, 2019).

7.1.4 LabX

LabX
Lisbon, Portugal
Design Location (Design Commission's locational model): Internal Agency

Abstract
LabX is a multi-disciplinary team of Portugal's Administrative Modernizaiton Agency. It acts as a government innovation lab working with different ministries, departments and agencies across the Portuguese public sector. It's been funded for an initial three years and works primarily to experiment innovative solutions in a safe space and to empower innovation in the public sector through capacity- and network-building.

I. Organization

LabX (Experimentation Lab for Public Administration) is a government innovation lab inside Portugal's Administrative Modernization Agency (AMA). It was launched in September 2017 for a three-year funding period to accomplish the following: (1) to empower innovation in the public sector through capacity-building and through the creation of a network of innovators; and (2) to develop 12 innovative projects that go through the phases of research, co-creation and experimentation (Carrasqueiro, 2019, p. 4)). It was created to be a safe space for experimentation in government to improve public services through the research, design and experimentation of innovative, citizen-/business-centered solutions (Monteiro, 2019, p. 7). The lab operates primarily through the formation of strategic partnerships with civil society organizations, national research centers, universities and entrepreneurs to create a network of supporters to help them cope with the finite resources at their disposal and the limitations of their intervention. The AMA team's main activities can be divided into four macro-categories: (1) experimentation: projects that aim to innovate public services through the production of tested, co-created (with system actors) solutions; (2) empowerment: capacity-building of the public sector to equip civil servants with the necessary competences, methods and tools to innovate; (3) connection: create a networks of actors supporting public sector innovation from civil society, the private sector, third sector and between public agencies themselves; and (4) exploration: initiatives to stay on the forefront of innovation and stay relevant as an organization (Monteiro, 2019, pp. 7-8).

The team is made up of five people composed of: a sociologist (the Director), two service designers, a content designer and a public policy expert. Their methodology is based on a renewal of the service design principles guiding the development of public services and is built on three stages: research, design and experimentation (as seen in the figure below). In the research phase, the problem is framed, freed from "persistence of the past" (Martin, 2009) and from the burden and/or allure of routinized procedure. A focus is also given in this phase towards understanding the actors involved: users and providers. The design phase is crucial for providing a process, methodology and tools to engage with stakeholders in the ideation of user-centered solutions. Finally, the experiment phase allows for ideas to be tested in a safe space and for learning to take place to reduce risks and make improvement.

FIGURE 37. LABX'S METHODOLOGY BASED ON UPDATED SERVICE DESIGN PRINCIPLE (LABX, 2019).

II. LabX's Design Culture

a. Object of Design: role of design in the organization

The lab's main work, experimentation, is mostly determined by the public organization who commissioned the project. Overall, digitalization projects to meet citizen needs is a principle feature of the projects, along with projects that focus on offering life events services. In line with its strategic operative model based on collaboration and networking, the team places a high emphasis on cross-agency collaboration on innovation projects, engaging all relevant stakeholders in the process, when possible. The approach can be defined as design-led, with a strong element of co-design in each of the phases of their methodology. Despite a heavy focus on user-centered services, be they citizens or businesses, the lab engages users primarily in an exploratory capacity, or rather to gain insight on their experience of the services and needs rather than fully inviting them into the design team. The team also organizes training programs to build capacity in the public sector workforce. This is done primarily through a 4-hour workshop called Pro'Lab in which civil servants are trained in the methodology of the lab through hands-on activities. As an internal team of the AMA, the lab benefits from the resources of the organization and an insider knowledge of the practices, routines and values that define the culture of the Portuguese public sector, granting them a unique position from which to intervene and foster innovation.

b. Espaço Óbito, Death and Bereavement Service: an Example of LabX's Design Process

The Death and Bereavement Service focuses on providing an integrated, holistic service for those who have just lost a loved one, taken from a life-event perspective. The project sought to remedy the current situation of citizens, already in a fragile emotional state, who must visit multiple government offices to settle their lost relative's affairs and also contact private companies to close accounts and settle the bills (e.g. telephone services, utilities, banking services, etc.). The emotional distress and feelings of confusion on what needs to be done and from whom the service is provided adds more stress to an already trying time. Out of this need, LabX was asked by the Institute of Registration and Notary Affairs (IRN) to come up with a solution to ease the bureaucratic experience of death, by making "getting the job done" easier. The project began with user research to uncover the experience of citizens dealing with issues, both private and public, regarding the loss of a loved one through online and face-to-face interactions (AMA & LabX, 2019b, p. 12) done via 50 interviews (AMA & LabX, 2019a, p. 4). The lab collected 45 roadmaps (see Figure 38) from research centers at Portuguese universities (LabX, 2018) which conveyed different user experiences and opinions. A web analysis was made for keywords used and the information obtained, which were "qualification of heirs", "inheritance" and "death certificate" (AMA & LabX, 2019a, p. 4). This was followed by a detailed analysis of service statistics to understand the most popular services and it was found that the IRN and the Portuguese Tax and Customs Authority (AT) had the most interactions.

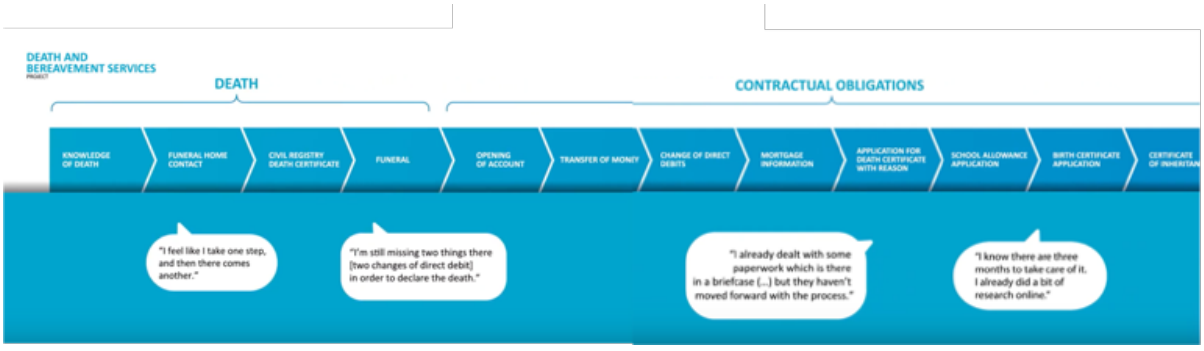

FIGURE 38. DEATH AND BEREAVEMENT SERVICES ROADMAP (LABX, 2018)

These insights were then shared in a participatory session with the relevant public bodies and partners of the project: the AT, the Public Institute of Participated Management (ADSE), the Institute of Social Security (ISS), the Retirement Pension Scheme (CGA), and the Bank of Portugal. The project itself was sponsored by the Ministry of Justice, who also took part in the sessions. While citizens and funeral directors were present, they did not take an active part in the co-design sessions. The three main ideas coming from the session were: (1) to create a manual of duties and benefits of the space; (2) to simplify the technical language of the new service; and (3) to support the most fragile citizens. It was evident from the user research and the co-design sessions that an integrated service was necessary.

The next phase saw the creation of a prototype of the service that lasted 10 days (see figure below). The physical prototype was meant to test the interactions and see how to best structure the new digital service. The prototype was an integrated, cross-agency service desk hosted in the IRN offices of the Justice campus in Lisbon, in which one civil servant from six public organizations (AT, IRN, CGA, ISS, ADSE and Banco de Portugal) was present to offer the "real" citizens a real-time response to all of their questions and needs. Thirty user journeys were made of the citizen

visits, 20 interviews were done with citizens and a service diagram of the new service was made at the end of the prototype (AMA & LabX, 2019a, p. 6). Following this, there were two more prototypes of the service hosted at citizen shops, which served to further refine the criteria for the integrated platform, which is currently being built. While the decision was made to start with only public organizations, the final service will include private companies as well.

FIGURE 39. PROTOTYPE OF DEATH AND BEREAVEMENT SERVICE DESK (MONTEIRO & CARRASQUEIRO, 2019)

7.1.5 Turin's TO-HOME

Turin's "To-Home" Project
Turin, Italy
Design Location (Design Commission's locational model): Brokered Intervention

Abstract
SIC is a community for social innovation in Europe funded by Horizon 2020. During its project life, the collection of tools and methods were tested through city-based experimentation. Through the process, the interplay between social innovation and innovation in the public sector were explored through action research following a co-design approach that focused on co-producing social (and public) value for the users (citizens). The case provides an interesting starting point to reflect upon the impact of EU-funded projects on the correlating ecosystems of innovation.

I. Organization

Social Innovation Community (SIC) is a recently closed Horizon 2020 project that aimed to create a community for social innovators across Europe by strengthening and connecting existing communities, while also supporting policymakers work more effectively in solving public challenges. As part of the project, an online, learning repository was made available for social innovators and the supporting intermediary system. The collection of tools, resources, methods and case examples were tested in five social innovation contexts across Europe –Estonia, Italy, Norway and two in Croatia (Rich, 2017).

The consortium was made up of twelve leading organizations across Europe, bringing together diverse backgrounds and expertise, from academia and practitioners. The group included design professionals, communication and networking experts, leading researchers in the field of social innovation and transitions, and policy experts, among others. While the project has closed, elements of the project remain, e.g. the learning repository, the quarterly newsletter and the summer school. While active, the project offered: (1) annual summer schools on current hot topics for practitioners, researchers, citizens and policymakers to reflect and share knowledge; (2) policy masterclasses to create awareness of the value of social innovation policy approaches; (3) high impact, city-based experimentation centers; (4) learning relays to empower new learning through small, communities of practice; and (5) hot topic workshops, academic-led workshops bringing together different perspectives on important, research topics of the moment (SIC, 2019).

II. SIC's Design Culture

a. Object of Design: role of design in the organization

The SIC project, as a consortium, worked to design artifacts for the development and maintenance of active communities in the social innovation ecosystem. These artifacts took the shape of diverse media with the objective of creating and stimulating interaction between actors, whether through digital channels – e.g. research forum, newsletter, platform, learning repository, SI declaration– or live – e.g. summer school, policy masterclasses, experimentation centers –, often by implementing tools and insights gathered in the research and development of the project. With the perspective of enabling a community of practice and action around social innovation across Europe, the artifacts are meant as devices for knowledge transfer, learning and development, that are intentionally open to allow for local adaptation and adoption. Through the process, diverse actors from the social innovation ecosystem are engaged, with more emphasis in different activities in

which particular roles are more leading, e.g. policymakers in policy masterclasses, academic researchers in the research forum, etc. In each area, the consortium focused on using collaborative, participatory practices to co-create the final outputs of the project. This is particularly evident in the experimentation but can also be seen in the development of the SI Declaration.

The different processes, in the experimentation centers, aimed to explore new models to support and facilitate cross-sector and multi-actor collaborations addressing local problems and challenges. The local partners ("host centres") were supported by the SIC partners in facilitating a co-creation process to develop and test innovative 'solutions' to their locally defined issues. The aim of the experimentation was to create a platform to share and inspire locally designed solutions to societal issues, with a strong potential for replication, adoption or scaling up across Europe and beyond. The approach used in the experimentations followed the SIC co-production process for social innovations, as seen in the below figure, which consists of four phases leading to the development of co-created solutions. The specific phases will be exemplified in the following section on the experimentation done in Turin, Italy.

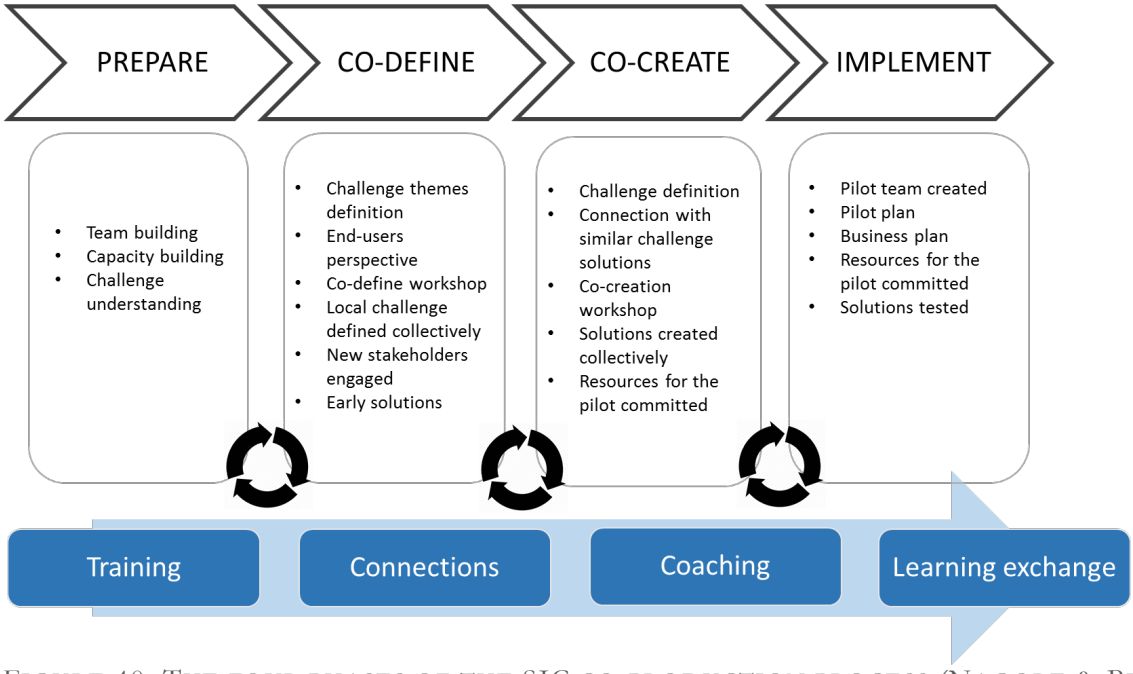

FIGURE 40. THE FOUR PHASES OF THE SIC CO-PRODUCTION PROCESS (NAGORE & BYNON, 2019)

b. Turin's TO-HOME service: an Example of SIC's Design Process

Turin is the third largest Italian city, well known in the world as the hometown of FIAT automobiles. The crisis of the automotive sector, however, starting in 2007, led to the delocalisation of production and to a relevant increase in the level of unemployment. In response, the Municipality prioritized the development of internal capacities to design and deliver innovative services that respond to the needs of citizens affected by the crisis. Most of these services, however, call for an integrated approach, requiring the Municipality to first promote a smoother cooperation among departments, with the aim of overcoming organisational silos. Similar to most Italian Public Administrations, the Municipality of Turin is divided into administrative and institutional structures.

The administrative side is further divided into eight offices to service the eight districts, each with its own social service office. These offices are in turn further divided into service specific divisions, creating hierarchical layers of nested silos.

Even though, the city is receiving widespread attention for its experimentation with collaborative models of innovation, as seen in its social innovation program – Torino Social Innovation – the high level of bureaucracy and the strong organizational culture characterizing its infrastructure, disincentivizes civil servants from taking part in experimentation and organisational innovation, often seen as an 'extra' activity. The challenge, therefore, was to combine departments to create an integrated service covering employment, social housing, education, and support to disadvantaged families to assist citizens and families at risk of losing their home. The SIC experimentation allowed 20 employees from different divisions of the Municipality of Turin to take part in a service co-design loop for 4 months (December 2016 - March 2017).

The main outcome of the experimentation was a new, integrated service called "TO-HOME, in which employees from the housing, employment and social care departments could collaborate and work together on social service delivery with increased awareness of the needs and perspectives of their users. The aim of the service is to create a "one-stop-shop" for vulnerable groups at risk of eviction by integrating the knowledge and experience of different departments tackling different facets of the same problem, often starting with the loss of employment. The new service allows for new relationships and collaborations to emerge within the Municipality (between employees from different departments) and with external actors coming from the third sector, civil society or the private sector, who are also involved in the same space. This allows for a new network of actors from across agencies and sectors to form and build experience and knowledge around the problem. The experimentation process followed the SIC co-production process as follows.

In the preparation phase, the Municipality of Turin together with the University of Bologna developed local success indicators for the experimentation process, following an analysis of the current state of their social service provision. This was done by studying data and documents from the municipality, visiting two front line social service offices and conducting interviews with some of the employees. The specific indicators were to improve efficiency and coordination of social service delivery, build up capacity for citizen-centered services, and develop a new innovative service that integrates the specific service to be designed with the overall policy framework.

In the co-defining phase, a workshop was held in the "Job Policies Department", in which the main problems of the organization and the services provided were identified. This was done by first presenting the insights coming from the research done in the preparation phase and then through a co-design session in which the problem was framed through the problem definition tool and solutions were generated with the idea generation tool.

In the co-creation phase, three workshops were organized on different days with 12 civil servants belonging to different social service departments (social care, housing and employment). The main objective of the workshops were to co-design solutions for the internal and external challenges of the service system and to build the capacity of the civil servants in the use of service design tools. Some of the design tools that were used in the process included: Disney's Creative Technique, personas, service blueprint, customer journey, and stakeholder mapping.

In the implementation phase, several activities were conducted to develop the solution for an initial trial period to understand how it should be better designed for full implementation.

7.1.6 GovLab Arnsberg

GovLab Arnsberg
Arnsberg, Germany
Design Location (Design Commission's locational model): Internal Agency

*****Case was taken from the Horizon 2020 EU project SISCODE's Co-Creation Case Study Collection. The project is coordinated by Alessandro Deserti of the Design Department of the Politecnico di Milano. The specific case was written by Christopher Graetz, Tanja Klimek and Eva Wascher and was elaborated through desk research and a semi-structured interview. For the full case, please see Work Package 4, Task 4.2 "Understanding collaborative models of Policy Making".

Abstract
GovLab Arnsberg is the innovation lab in the District Government of Arnsberg in the federal state of North Rhine-Westphalia (NRW), Germany. The mission of the lab is to test and integrate innovative technologies and new working methods in order to improve and reinvent administrative processes in the public sector. It focuses on core benefits for end-users (citizens as well as administrative staff), who are included in GovLab's innovation processes from the onset.

I. GovLab Arnsberg

GovLab Arnsberg was founded in April 2018 as a public sector innovation lab in the District Government of Arnsberg in North Rhine-Westphalia (NRW), Germany. The lab was the idea of the President of the District Government and former mayor of Arnsberg, Hans-Josef Vogel. As part of his political platform, Vogel has a two-fold agenda to innovate the public sector: (1) to modernize the administration through digitization and new technologies and (2) to boost citizen engagement and participation (Bezirksregierung Arnsberg, 2019). These tenets are reflected in the lab's overall mission, which is to make public administration easier, better, faster and wiser by changing its working practices and culture towards one that is more human-centered and able to agilely respond to emerging needs. While focusing on the final user and its benefits, the lab also focuses heavily on the needs of all the actors involved, from civil servants to politicians and business leaders. Beyond the overall goal, some of the objectives of the lab include:

- developing and supporting innovative District Government projects;
- developing and testing new ideas, methods, tools and solutions;
- supporting employees in change processes and turning them into innovators themselves (supporting employees 'when thinking outside the box');
- contributing to the government innovation community (regional and international);
- engaging in knowledge exchange with digital start-ups, companies, other authorities and science; and
- networking.

The lab seeks to create a working environment that is based on collaboration, free of hierarchies. New ways of cooperation include interdisciplinary project groups and open methods such as design thinking. The current GovLab team consists of the lab manager and two employees. The lab manager brought in a lot of new knowledge to the District Government, including agile working methods and service design. In choosing the rest of the staff, selection criteria included that

they come from the public administration to ensure that they were well-versed in internal structures and mechanisms, networked and pragmatic.

II. GovLab Arnsberg's Design Culture

a. Object of Design: role of design in the organization

The lab develops projects in collaboration with different units and departments of the public administration, focussing mainly on digitization and citizen engagement. As described earlier, innovative technologies, methods and approaches, such as: agile working methods and project management, service design, moderation, facilitation and, above all, design thinking play a very important role for the processes in GovLab Arnsberg. Rather than applying a fixed process to their project work, each project is considered individually and flexibly and suitable approaches and methods are chosen in relation to the problem/challenge. The overall process, however, can be described as being design-led, placing primacy on a human-centered approach in which "user" centricity is intended as any actor involved in the product-service system: citizen, civil servant, supplier, etc. Project groups are specifically created to be as interdisciplinary as possible, integrating users right from the start. Attention is given to ensure that the process is open and free from hierarchies.

The GovLab, as an innovation lab, is an experiment in itself that develops iteratively. The lab experiments, tries, verifies and improves step-by-step, using preliminary solutions and adding on new details. The processes carried out and the tools and methods used are critically reflected upon in the end so that new findings and learnings can emerge from each project to inform future work.

b. "LEADER-Chatbot: Development of a digital regional manager": an Example of GovLab Arnsberg's Design Process

The LEADER-Chatbot is the lab's first pilot project. The chatbot's purpose is to support regional management in distributing information about funding, project requirements, application documents, etc. of the LEADER program. LEADER is an instrument of Community-Led Local Development (CLLD) within the European Union. It provides a local development method to engage local actors in the design and delivery of strategies, decision-making and resource allocation for the development of rural areas (European Network for Rural Development, 2017). The technological solution was chosen to help spread awareness of the program and the tools it offers in a fast and easy way, thereby enhancing, rather than replacing, the work of the responsible regional managers.

After the decision was made to work on a chatbot for the LEADER program, the lab manager invited several colleagues and regional managers in the Local Action Groups (LAG) of the program to join the process. The employees of the District Government could only join the process following permission of the head of the Department of Rural Development. It was agreed that the employees could spend one full working day for the kick-off of the chatbot process. The group of participants was kept small on purpose to create an experimental safe-space for developing a rather new idea. The regional managers of LEADER have first-hand experience regarding the needs of the people who want to receive funding. The employees of the Department of Rural Development are responsible for the funding of the programme so they decide who is eligible for it and from their experience know what kind of questions are frequently asked regarding the funding.

A design thinking process was adopted to develop the chatbot. The goal was to get to a first prototype within the time-frame of one day. In setting up the co-design workshop, the first step was to find out what kind of tool was suitable to easily create a chatbot without knowing how to code

(all persons involved in the process including the manager of GovLab are interested in IT but are not IT professionals). Soon, an editor tool was found and bought by the manager. The second step was to properly design the workshop. Knowing that it would have to be suitable for a one day time-frame and simultaneously taking into account the main principles of design thinking the manager of GovLab created a three-step design process: (1) building empathy; (2) idea development; and (3) prototyping.

On June 28, 2018, a first workshop for the development of the 'LEADER-Chatbot' took place. The workshop was facilitated by the GovLab manager. The first step of the process was called 'Building empathy'. Personas were used to gain insight and build empathy of the end-user's perspective. Questions to help participants take on their perspective, included: What do applicants for LEADER want to know when applying?; What is good about the application process?; and What needs to be improved about the application process?. Furthermore, the group constructed a 'customer journey'. The journey mapped all the steps a person has to take in order to go from having an idea for a LEADER project to having a successful LEADER grant.

The second phase of the workshop was about 'idea development'. Following the empathy-building exercises, the group had to form first ideas about what a suitable chatbot would look like. In the brainstorming phase, participants reflected on the following questions in forming ideas on the new technological solution: What kind of support would applicants like to have? In what way would they like to receive it? What functions should the chatbot be able to perform? What kind of language should be used? Should applicants be addressed formally (using 'Sie' [formal you]) or informally (using 'You')? What kind of design would be appealing? Should different communication tools be used such as videos and text? What kind of background knowledge can be assumed? All ideas were written on post-its and clustered. There was a fruitful, open and productive discussion and the group came soon to concrete directions within the discussion process. The group then worked on 'terms' that should be used for/explained by the chatbot and a list of about 100 terms was created.

The third phase of the workshop, 'prototyping/solution development', consisted of three groups to create the first prototype. Using all of the ideas developed throughout the day, the groups wrote explanations that could be used by the chatbot. By the end of the day, the chatbot prototype contained about 60 questions with corresponding answers. With the 'showmode' function of the chatbot editor tool, the group was able to directly see the prototype at work. This contributed to the general perception of a successful workshop and a worthwhile cooperation among participants. The participants even agreed to further develop the chatbot (e.g. bring in more explanations, editing, looking for ways of implementation) after the end of the workshop.

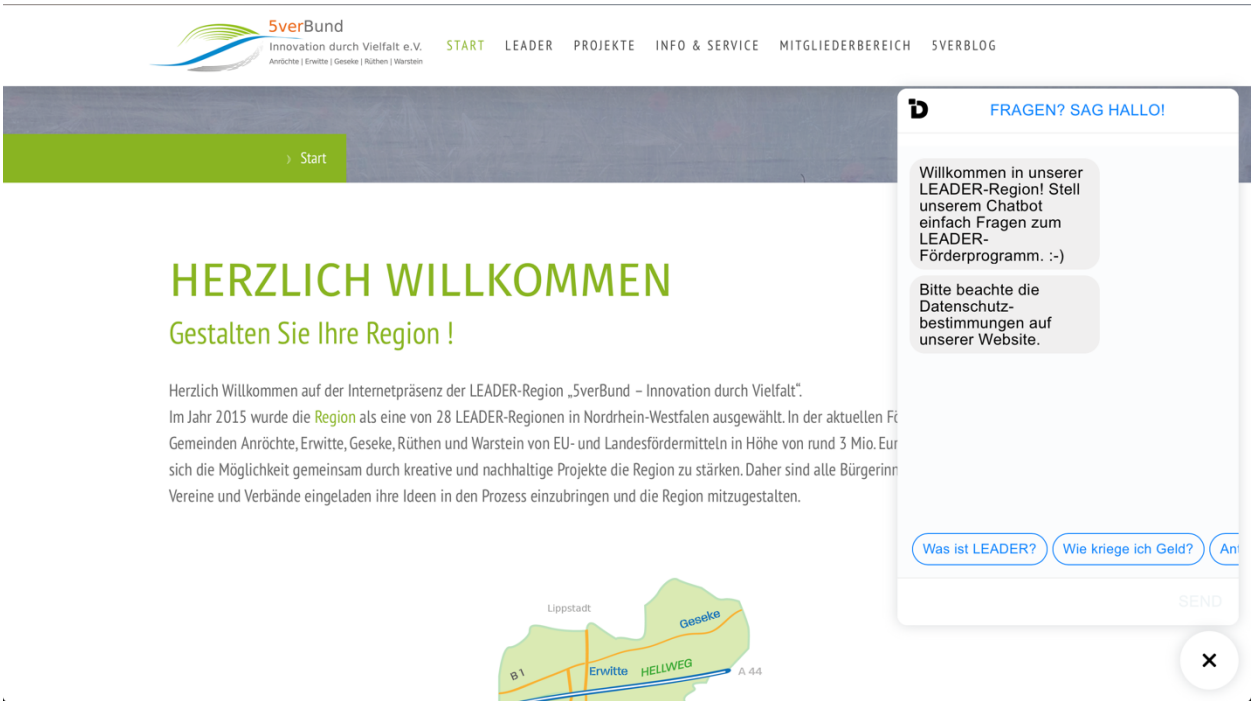

FIGURE 41. LEADER BOT PROTOTYPE (5VERBUND, 2019)

Furthermore, the chatbot prototype was presented to the President of the District Government and the Vice-President, receiving recognition from top management who agreed to allow the involved employees to spend additional working hours on the chatbot. All participants received access to the editing tool and were able to work on the chatbot on their own accounts to further refine the chatbot. Two of the regional managers agreed to test the chatbot on their LEADER websites about four weeks after the chatbot prototype. Technical implementation was easy and could be done by the GovLab manager. He developed a data protection note for the chatbot on the respective websites, as well as an info tag that the chatbot was in its beta version (therefore no guarantee could be given to the correctness of answers). The regions had to pay to use the chatbot tool for about €15 and be official partners of the chatbot service provider. After a couple of weeks, the lab team decided together to make the tool available to all LEADER regions. The lab team prepared a presentation for all regional managers in a conference at the federal state Ministry of Environment. Regions could use the chatbot if they agreed to share some of the cost, due to the payment structure of the chatbot service that gets more costly the more it's used. The discussion was lively and most regional managers seemed interested. After one year, eight regions have taken up the chatbot for their LEADER websites.

7.1.7 Danish Design Cener

Danish Design Center*
Copenhagen, Denmark
Design Location (Design Commission's locational model): External Agency

***Case was taken from the Horizon 2020 EU project SISCODE's Co-Creation Case Study Collection. The project is coordinated by Alessandro Deserti of the Design Department of the Politecnico di Milano. The specific case was written by Maria Damgaard Jensen and was elaborated through desk research and a semi-structured interview. For the full case, please see Work Package 4, Task 4.2 "Understanding collaborative models of Policy Making".

Abstract
The Danish Design Center provides design competences and knowledge to support the growth and professionalization of Denmark's design industry. It particularly works to strengthen the relationship between design, business and the public sector to create value through design. The operating strategy is heavily focused on collaborative work practices, engaging in partnerships as a key vehicle towards value creation and innovation. The case study presents an initiative that saw the use of design in strategy formation by engaging system actors in the co-design process.

I. Danish Design Center

The Danish Design Center's (the DDC's) mission is to help professionalize the design industry and document, promote and brand Danish design in Denmark and abroad. Their key approach is systematic experimentation with design-based value creation in companies (DDC, 2019c). With financial support from the Ministry of Business and Growth, it is the DDC's ambition to make design one of the three most important positions of strength for Danish companies (DDC, 2019c).

The DDC is a private limited company owned by Design Society. Design Society was established by the DDC together with the Ministry of Business and Growth and the DDC's two sister companies – INDEX: Design to Improve Life and the Danish Fashion Institute – in order to build an effective and unifying national entity with the necessary knowledge to act as a qualified advisor on the development and implementation of efforts to promote the growth of design in Denmark (DDC, 2019b). In this sense, Design Society acts as the parent company for the three companies, which, however, act according to their own vision and mission and in accordance with their own board. Since 2017, Design Society has received grants from the Finance Act.

The DDC reports to a board that actively contributes to the DDC's mission, determining the direction and content of the work carried out in the DDC. The board is also responsive to the Ministry's views on growth in the creative sector, innovation and digitization, considering the Ministry's financial support to the DDC. In addition, the DDC has an international advisory board that contributes to the DDC's work by providing outlook, input and inspiration, as well as identifying new opportunities for Danish design to create value (DDC, 2019a).

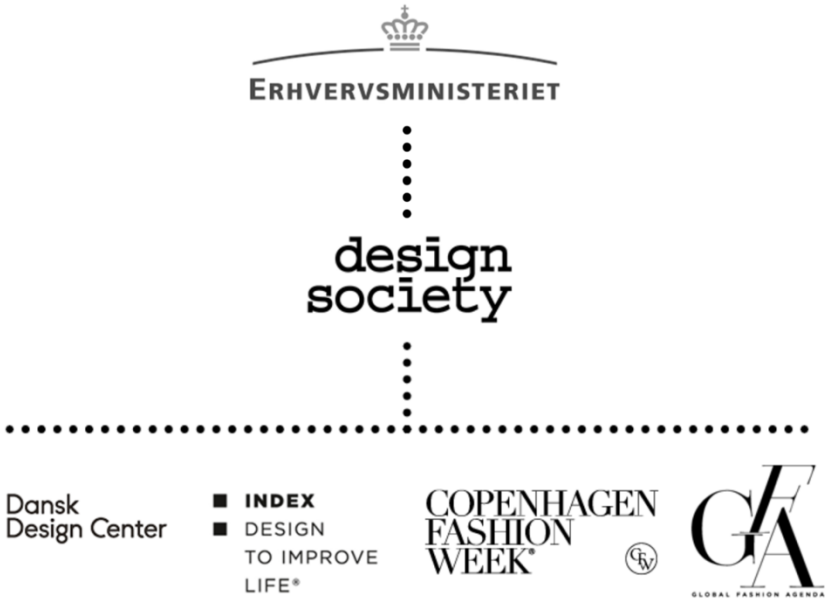

FIGURE 42. THE DDC'S GOVERNANCE MODEL.

II. Danish Design Center's Design Culture

a. Object of Design: role of design in the organization

The DDC was established, in 1978, by the Design Council as a national knowledge center for design (DDC, 2019c). As the emphasis was on industrial design, design was mainly promoted in the form of objects for industrial production with function and aesthetics as the key parameters. As design became a political subject, recognized as a means of improving the production and development of Danish society, an incentive was established for the Ministry of Business and Growth to enter the design industry and make a policy for design. The idea was to make a policy that included goals such as: 1) educating and developing the next generation of creators in industry and society; 2) creating high quality within the large area called public design; 3) attracting knowledge and developing skills in future growth areas; and 4) maintaining and developing Denmark's international image in the design field. In 2000, the DDC, along with the rest of the world, began to shift its focus towards the design process itself, making design thinking a key term (DDC, 2019c). This lead to an expanded concept of design to also include systems design, service design and co-creation. The DDC now works to promote design thinking in business, industry, and the public sector. Today, the DDC works to empower businesses, people and society to 'shape the next': to design the future we want to live in, whether it be the health sector, business models or technologies of the future.

For companies, cooperating with the DDC must first and foremost lead to business development, transformation and increased growth. For the designers, the DDC must open new market opportunities. For politicians and authorities, the DDC must provide new, concrete and data-based knowledge about how design can create innovation and value. In all cases, co-creation can be used as a key factor to achieve goals. The DDC focuses on areas in which the potential for

creating value through design is particularly large, hoping to trigger the innovation potential found in the interaction between private companies and public organizations and putting technology in play to create valuable and meaningful experiences for citizens. They therefore offer five types of services, engaging and empowering companies, public organisations and designers, which are as follows:

1. Futures - *Watching the horizon.* The DDC identifies the latest national and international trends in design, digital transformation and more, and communicates and translates them into usable knowledge and ambitious initiatives.
2. Academy - *Sharing learnings.* The DDC trains managers in design methods and approaches in collaboration with national and international teaching and research environments.
3. Transformation - *Creating change.* The DDC develops, facilitates and drives ambitious projects, programmes and initiatives where design methods and approaches are used to develop products, services and business models.
4. Branding - *Profiling Danish design here and abroad.* The DDC brands Danish design by communicating both national and international successful design cases.
5. Policy - *Providing the right framework conditions.* The DDC advises the Ministry of Business and Growth and other authorities on design and innovation policy, based on trends, analyses and data from projects.

Denmark is known and admired internationally as a design society that rests on unique values, namely as being: social, sustainable, honest, holistic, quality-minded, simple, user-friendly, involving, human and attractive. The DDC works to support this and builds on four main values:

1. Experimental: The DDC's work is design-driven, where trial-and-error and learning through practice are key principles.
2. Active: The DDC not only describes new trends and conveys knowledge generated by others, but, also, translates trends and new knowledge into action in the form of concrete initiatives, projects and programs that create impact for its target groups: companies, designers, politicians and authorities.
3. Involving: The DDC does not create results on its own. The DDC always develops and implements in collaboration with the relevant companies, designers, organizations and people. The co-creation approach strengthens the deep involvement of customers, users, business partners and employees to develop ambitious and visionary solutions, and ensure quick implementation and testing.
4. Generous: The knowledge and experience that the DDC creates is a common good that the DDC wants to share actively with all its target groups.

b. Smart Greater Copenhagen: an Example of the Danish Design Center's Design Process

Smart Greater Copenhagen was a joint project by the Capital Region of Denmark and the DDC to create an ambitious and holistic strategy that brings municipalities, citizens and companies together around a common strategy for the digital society of tomorrow within the area of Greater Copenhagen. The project is initiated at the political level (top-down) but implemented at the regional level. The aim behind the collaboration was to create a design-driven strategy for the digital society of the future that puts citizens and users at the center of digital solutions, and at the same time outlines the business opportunities of increased digitalization. To achieve this, Smart Greater

Copenhagen brought together actors from both the private sector and public sector in a co-creation process.

Several actors participated in the co-creation processes of Smart Greater Copenhagen, including citizens, companies and municipalities. The stakeholders were divided into four groups, each with their own focus and role in the processes. The working group and steering committee were made up of people from 10 selected municipalities in the Capitol Region of Denmark and two (partly publicly-funded) industry organizations – Clean and Gate 21. The project team was made up of the Capitol Region of Denmark and the DDC. Finally, an expert group consisting of experts from both the public and private sector was established.

The actors had different interests in contributing to the project. The Capitol Region of Copenhagen had an interest in creating a bigger market for tech-companies and SMEs across municipalities. The ambition with Smart Greater Copenhagen was to make it possible for companies to deliver new innovation solutions to more people. Therefore, it was important that all the municipalities saw themselves in the common strategy, and how the common strategy can fit into their own municipal strategy. For the Smart Greater Copenhagen strategy to be successful and efficient it must be compatible with the visions and ambitions that exist in the municipalities as it is the municipalities that have to carry it out in everyday life.

Prior to the project start, the Capitol Region of Copenhagen invited all of its 29 municipalities to participate in the development of Smart Greater Copenhagen. In this way they were given the opportunity to influence the strategy that would later affect their administration and policy. A total of 10 municipalities participated. The main driver for the participating municipalities was the need to figure out how the regional strategy could be used to promote their own core values, but also create more value for citizens across the municipalities.

The companies' main incentive to participate was to work closer with public institutions (in this case the municipalities) who provide a big market potential. The process of working with public institutions is, however, often too slow and bureaucratic for this potential to be realized. Through the co-creation process, the companies were interested in forming a more agile collaboration that is accessible and test-oriented.

Depending on whether the actors worked in a municipality, a company, or participated as an individual, they each brought a specific professionalism and expertise to the project. The municipalities brought knowledge about policy areas to the project, especially issues related to the environment, welfare, transport and infrastructure – e.g. insight on how problems are tackled in an everyday context turned out to be useful in the project. The companies, on the other hand, came with more concrete needs for how the public sector and private companies could collaborate.

One barrier to the process was the knowledge and competence deficits of the municipalities that are used to working in political processes that run linearly and focus on a specific outcome. These political processes rely much on accountability, whereas the design process is a circular and iterative process that does not guarantee, nor is intended to guarantee, a specific outcome. This was therefore a very unfamiliar way of working for the municipalities, and it took time to make them feel safe in the design process. They especially had problems understanding why they were not tasked to create solutions for everyone, but instead asked to focus on a particular citizen group. Another barrier was the diverging political interests between the municipalities. Each municipality works according to their own political agenda and therefore focus on different issues and citizen needs. Finding a common focus, e.g. choosing two citizen groups (commuters and seniors) was therefore a bit of a challenge.

The co-creation process started with preliminary research done by the DDC based on the two agreed upon citizen groups which could provide common ground for the different actors: commuters and senior citizens. Based on interviews conducted with the two groups, the DDC

concluded that the most important issue for *seniors* was to understand how technology can make a difference to them. For *commuters*, on the other hand, the most important issue was to make commuting as simple and easy as possible, enabling them to think their journey through from start to finish. The DDC also interviewed selected tech-companies and SMEs for insight on the business needs and opportunities around the project. The conclusions from the analysis formed the basis for co-operative workshops where experts, students and tech-enthusiasts were involved.

A large part of the project was about developing conceptual directions and initiatives. This part was carried out in close collaboration between the Capitol Region of Denmark, the work group, and with input from experts and was based on the analysis done in the initial research by the DDC. The result was three conceptual directions: (1) Sustainability and Growth, (2) Health and Welfare and (3) Mobility and Transport. Following this, the Capitol Region of Denmark, the working group and the steering group worked in depth on delimitation, success criteria, analysis of field work and idea and concept development. Design approaches and methods were used actively throughout the entire process.

The DDC contributed to the development of the strategy by leading the design process. The strategy development was handled as a design task and created via interactions between the micro and macro levels: from the human scale to the entire region. The goal was to create a strategy which put the individual first and translated technological possibilities into new innovative solutions. The design process was characterized by being: (1) user centered, (2) explorative, (3) co-creative and (4) visual and concrete. To lay the groundwork for the strategy, the DDC used a design game that made the actors reflect about the future. This served to establish dialogue and discussions between the different actors. Finally, the DDC used the *How might we? Matrix*, in which insights were translated into design issues and then used to generate ideas, e.g. develop concepts and initiatives.

Co-creation took place in the ideation and design phases in the form of a future workshop with 130 participants. The participants were experts and companies who discussed future scenarios for 2030 as seen through the lenses of the three identified themes: *Sustainability and Growth*, *Health and Welfare* and *Mobility and Transport*. In the design phase, co-creation took place as a workshop with municipalities and selected experts. In this phase, insights about user needs found in the qualitative analysis were used to develop new solutions. These solutions were then presented to the Capitol Region of Denmark who gave feedback in an iterative loop. The end result was a catalogue of ideas and possible solutions that would create impact and value in various business areas over the next few years. The DDC did not participate in the implementation phase, which constituted a challenge as the DDC wasn't able to ensure the right implementation to meet the success criteria. One of the insights coming from the design process was the importance of the initial research into user needs in order to adapt design tools and methods for the particular context.

During the project, the DDC observed a clash between the work culture in the public sector and that of private companies. While the work culture in the public sector is characterized by bureaucracy and a culture of validation, private companies are characterized by workflows with a focus on speed, agility and a profit-oriented approach. The first approach relies on classical management culture, whereas the second has more in common with the design approach. To overcome this, it helped to explicitly explain the different advantages and disadvantages associated with the different working methods.

Unfortunately, despite being initiated as a part of a regional policy program, in 2019, it was decided from above (the national level) to remove the region's mandate to promote business. This power shift made it difficult to maintain the strategic line that Smart Greater Copenhagen intended. Today, the task lies with the municipalities and it is uncertain to what extent they have adopted the strategy. Nevertheless, the project is a good example of how actors with different work methods and preferences can interact and share knowledge through co-creation.

7.1.8 Helsinki's CDO

Helsinki's Chief Design Officer
Helsinki, Finland
Design Location (Design Commission's locational model): Embedded Designer

Abstract
Anne Stenros became the first Chief Design Officer of the city of Helsinki in 2016 for a two-year mandate. Her pioneering work was an experiment in itself that explored the strategic role of design at the city level. Through this, she developed her vision of people-centered urbanism that seeks to maximize the citizen experience and create value for society today and for future generations. The lessons learned are valuable for all designers working in the public sphere.

I. Helsinki's CDO

In 2016, the city of Helsinki became one of the first cities to have a Chief Design Officer (CDO). The designation of the position can be seen as an evolution of a long history of design in the city and country. From the national standpoint, the integration of design can be observed in a history of initiatives as seen in other cases (see Inland Design and Experimental Finland), namely the Helsinki Design Lab from 2009-2013; the Experimental Finland program built on a design-based model for experimentation in government in 2014; and the D9 group in the State Treasury from 2016-2018 as the focal point of design in government in Finland. From the city's perspective, the integration of design can be seen as starting, in 2000, when Helsinki became the European Capital of Culture. Following up on the activities and impact coming from the award, the city decided to prepare an application, in 2008/09, to gain the status of World Design Capitol, finally receiving it in 2012 (Schwartzmann & Milkowski, 2018). The next practical step was to establish a design-driven city and have a CDO.

The objective behind having a CDO was to bring a culture of design into the city's working practices, and integrate a human-centered approach to the administration's culture and working processes. The goal was to create a city that is developed for and by its citizens. The city has over 40,000 employees and dozens of large public agencies, making it one of the biggest employers in Finland (Murto, 2016). This means working to create a culture in a large taskforce that focuses on the citizen experience, or in other terms, the legacy that the city leaves behind for the future based on its practices, attitude, behavior and decisions today (Service Design Berlin, 2017). Beyond this, the post was also intended to enforce Helsinki's profile as an international design city and develop an international design network (Murto, 2016).

Anne Stenros was hired to fill this role for a two-and-a-half year time period in which the job description and impact of the position was one of the tasks of the post. Stenros brought to the position different competences coming from both the academic and private sector. She graduated with a Master of Architecture from the University of Oulu and the University of California, Berkeley. She holds a doctorate in technology in the field of architectural theory from Helsinki University of Technology (Rodriguez, 2018). She served as Managing Director of Design Forum Finland between 1995-2004 and Executive Director of the Hong Kong Design Centre in 2005 (Globis Insights, 2019). She then worked as Design Director for the KONE Corporation from 2005-2015. Finally, Stenros held a professorship and acted as the Program Director for Aalto University's Master's Program in International Design Business Management in 2016.

At the end of her mandate as CDO, her main activities could be grouped into three areas: city branding, foresight/navigating the future and implementation. In terms of branding, she spoke at lots of events and represented the city of Helsinki in global and local design networks, e.g. the network of design cities by UNESCO. In her foresight work, she conducted various projects, one of which will be explored below, that sought to create change in the administration's culture and design the future of the city based on the citizen experience. Lastly, she was responsible for leading the Helsinki Lab, which was an experimental collaboration platform meant to run until 2019. The lab's goal was to further embed design practices, digital competences and interaction into the development practices of the city and its agents. In order to further highlight the work being done and spread awareness of the lab's working principles, the open workspace was located in the lobby of City Hall (Design Helsinki, 2018).

The main focus that can be seen to guide her work as CDO is to design a responsive city that empowers citizens to act and shape their own lived experience. Coming from her background in architecture, her philosophy of a people-centered urbanism can be summarized by a quote by architect Louis Kahn: "A city is a place where a small boy, as he walks through it, may see something that will tell him what he wants to do his whole life" (Quinton, 2018). To Stenros, the ultimate citizen experience is to be in an environment that proliferates in ideas, inspiration and creativity for all kinds of people. Building on this, the focus should be on the responsiveness of cities and not only on their "smart"ness; in other words, the human component – i.e. what citizens can do – and not just technology should be the driving force of change strategies for the future.

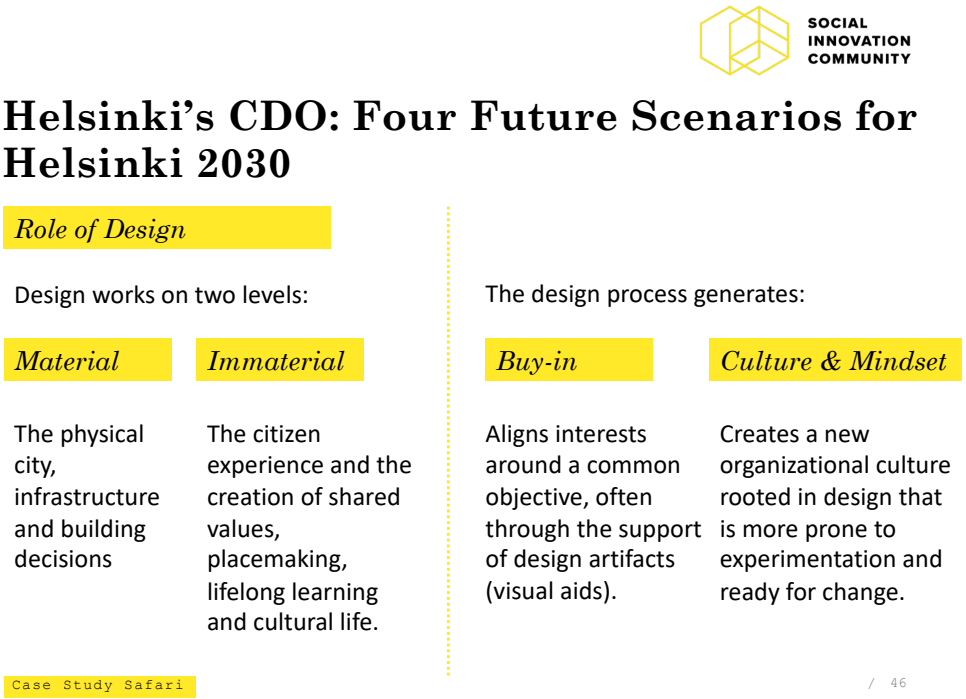

FIGURE 43. ROLE OF DESIGN IN CITY OF HELSINKI THROUGH THE CDO (KOMATSU CIPRIANI, 2017).

II. Helsinki's CDO's Design Culture

a. Object of Design: role of design in the organization

According to Stenros, the role of municipal CDOs is to ease the pain that cities are facing today, namely urbanization, population growth, inflation of living costs, the ageing population, and other pressing societal concerns that are emerging (Service Design Berlin, 2017). Solving these problems require creativity and imagination and designing for the "sweet spot" of overlapping interests (see Figure 44 below) and concerns between the public administration and society (Service Design Berlin, 2017). Doing so affords design the possibility to do good: in terms of citizen experience, that of the system as a whole (i.e. civil servants, suppliers, businesses, etc.) and society overall.

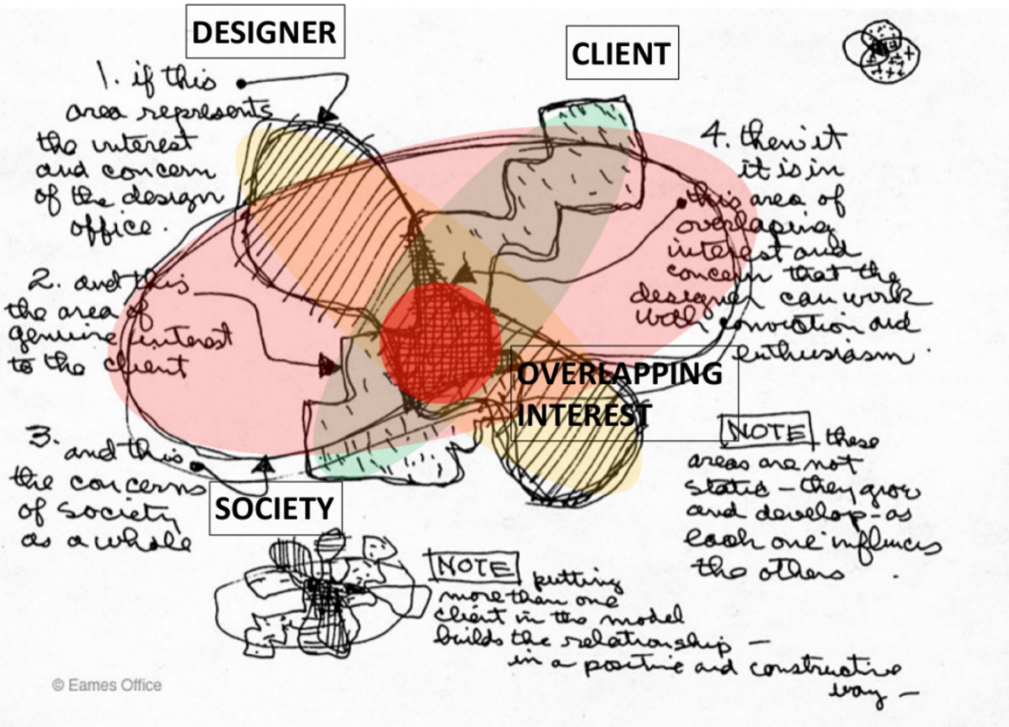

FIGURE 44. A SKETCH BY CHARLES EAMES AS PRESENTED IN A TALK BY HELSINKI'S CDO ANNE STENROS (STENROS, 2016).

Stenros sees change leadership as the biggest impact of her role (Schwartzmann & Milkowski, 2018). Operating from the inside of the municipal structure but also outside it via the design lab she manages – which while nested in the structure, also has a degree of autonomy and "right to be different" – grants her an interesting place and viewpoint from which to design and allows her work to be strategic. However, in order to create impact and really transform how the city's municipal structures and personnel operate, a real cultural change needs to happen. This is the cornerstone of her mission as CDO. It is for this reason that she prefers to work with strategic level projects to tackle the emerging problems facing public administrations, by mentoring and training the civil servants in the process rather than adopting a case-by-case strategy, which can result in an endless role without any certain impact (Schwartzmann & Milkowski, 2018). In her opinion, it is the role of the designer to give value to the unique opportunities and strengths of the city and to build on this using all the resources available to provide solutions that yield real value for citizens and empower them and those involved in the problem area (e.g. third sector organizations, associations,

public bodies, policymakers, civil servants, etc.) to act collaboratively to provide it. In this way, design can question the old modes of approaching a single problem and open up new avenues.

Stenros sees service designers primarily being used to creatively solve known problems in new ways and thereby create evolutionary change in the public sector. The CDO, however, views it her job to push the city towards Horizon #3 (see Figure 45 below) to face unknown problems with unknown solutions and change the very essence of the organization and the culture (Service Design Berlin, 2017). This is a hard task as the risk is unknown as is the payback. This characteristic makes it something that even corporations do not want to touch. However, according to her, if designers can properly frame the problem and find the right solution, *then* design has an opportunity to do good through design and hit that "sweet spot" referred to by Eames (see Figure 44 above) and go beyond innovation to transformation.

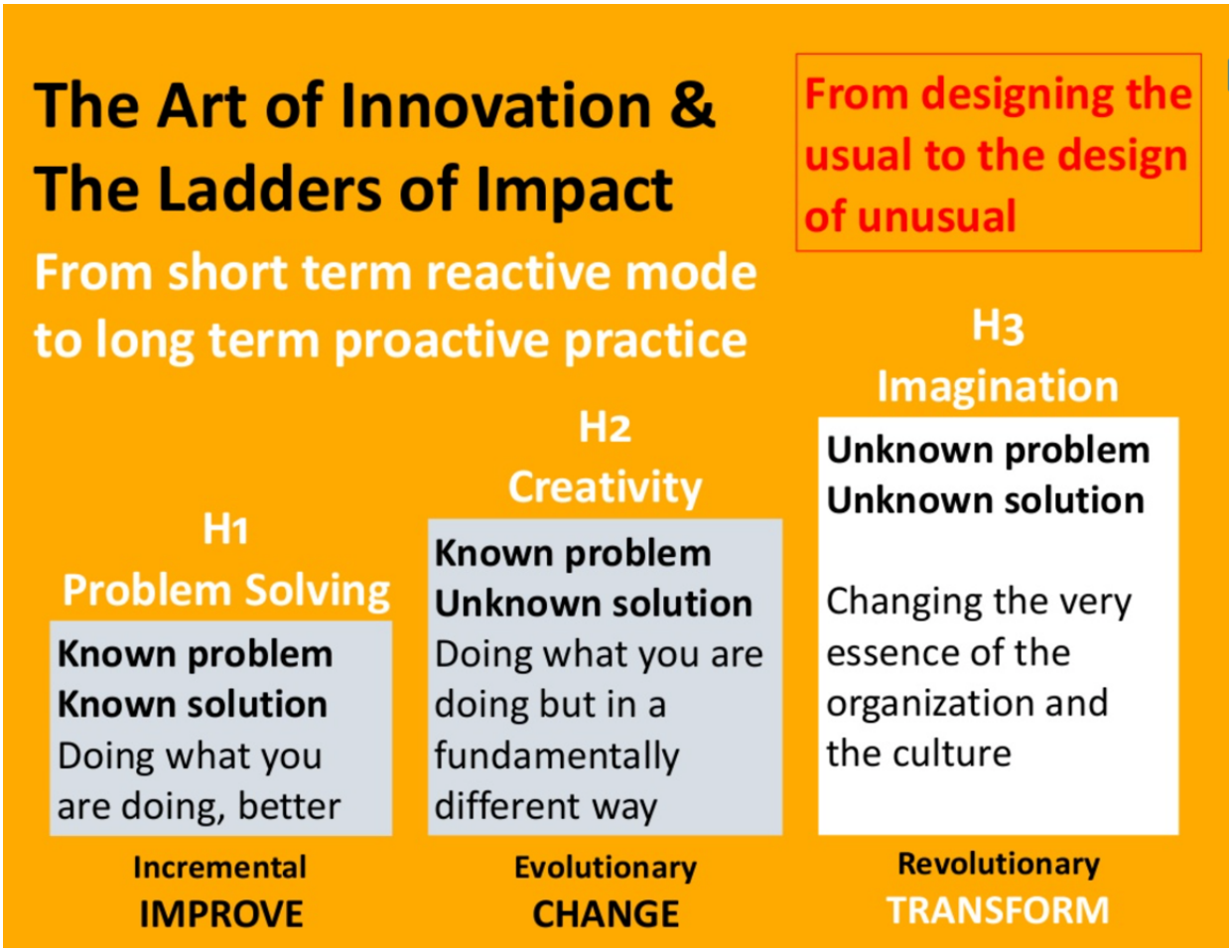

FIGURE 45. THE THREE HORIZONS OF INNOVATION AND IMPACT AS PRESENTED IN A TALK BY HELSINKI'S CDO ANNE STENROS (STENROS, 2016).

Anne views co-design as a vehicle to design the future with citizens in a democratic way. Tools like Open Space Technology, which can be seen in different cases of innovation in the public sector (see the case on Bologna's Participatory Budget), are examples of processes that invite citizens (users) to the table as experts of their own experience. This interaction is important as it allows the participants to create their own experience instead of building knowledge on someone else's, establishing a situation in which everyone is both student and expert at the same time role (Schwartzmann & Milkowski, 2018).

Stenros has identified three barriers to her efforts as CDO in the city's structures and organizational culture. The first is language. First, designers are often used to using the English language in their work and terms are usually kept in English even when speaking other languages, – e.g. the names of tools: user journey, personas, service blueprint, 5 whys, "I like, I like, I wish", "how might we…" etc. and other terms like "insight", "prototype", "brainstorm"; "iterate", etc. At the end of one of her workshops with top-level city officials, one official said in passing that it should be Finnish (Schwartzmann & Milkowski, 2018). So this is one linguistic barrier that can keep design "foreign" to the public sector's working environment. A second part to this barrier is the form of communication. Design is very visual but civil servants aren't able to read visualizations as they are guided by a text-based culture (Schwartzmann & Milkowski, 2018). This is another hurdle to jump over, requiring training and familiarity.

A second barrier that builds off the first is definitional. It is very important that designers define what service design, UX design, human-centered design means in these contexts and how that translates into actions or roles (Schwartzmann & Milkowski, 2018). This would be beneficial not only for the civil servants but also to designers working in the public sector and would help establish legitimacy of the field in the public sector.

The third barrier is connected to and perhaps encapsulates the previous ones and is finding organizational legitimacy. In starting her work at the Kone Corporation, a business colleague said to her, "You will get your skis only after you win the competition" (Schwartzmann & Milkowski, 2018). Stenros finds that this is the same in the public sector, but that the main issue is how to make that breakthrough to convince people of your value. This is especially difficult since civil servants and city officials did not hire you to do the job and are not your "clients". For this reason, she sees her role as a coach, mentor, teacher, trainer or facilitator to help leadership manage disruption and change by giving them new tools and methods (Schwartzmann & Milkowski, 2018).

Lastly, CDO Stenros found it to be crucial to have the mandate and support from the top to accomplish any feat of innovation in the public sector (Schwartzmann & Milkowski, 2018). In other words, the set up to the design process is crucial: knowing who to involve and when and how to go about things. "In these large bureaucratic organizations, there is a hierarchy of structure and even if you know who the leaders are and are reporting to them, there are 'silent' managers/leaders that also shape the organization and this is something that designers are not prepared for" (Schwartzmann & Milkowski, 2018). These organizations are about systems and systems thinking, which has not been a focus of design experts but is what is necessary to work in these organizations. Even though public sector organizations recognize the need to open up to react to the challenges of the 21st century, most are too slow and still lack the understanding and awareness needed to fully recognize the potential of design and creativity in their organizational practices and processes. However, in the words of Stenros, "step-by-step, not revolutions" (Schwartzmann & Milkowski, 2018).

b. Service Experience Camp: an Example of Helsinki's CDO's Design Process

Upon coming into office, one of the first projects that Stenros did was a "Service Experience Camp" for the top leaders of the city. In the end, 250+ top city leaders were engaged in the 10 workshops. The main idea was to foster dialogue on the future by rendering it tangible through visualization tools and scenario planning. This was eye-opening for the leaders (Schwartzmann & Milkowski, 2018). The use of the visualization tools was key to the process because it enabled them to develop empathy and use "emotional" skills that go beyond the cut-and-dry nature of text-based media (Alonso, 2017), allowing a discussion of values to surface. The starting point for discussion of these workshops was a foldable map with four scenarios for the future of Helsinki in 2030 (see Figure 46 below).

FIGURE 46. CIVIC COMPASS FOLDABLE MAP WITH FOUR SCENARIOS FOR HELSINKI (STENROS, 2017).

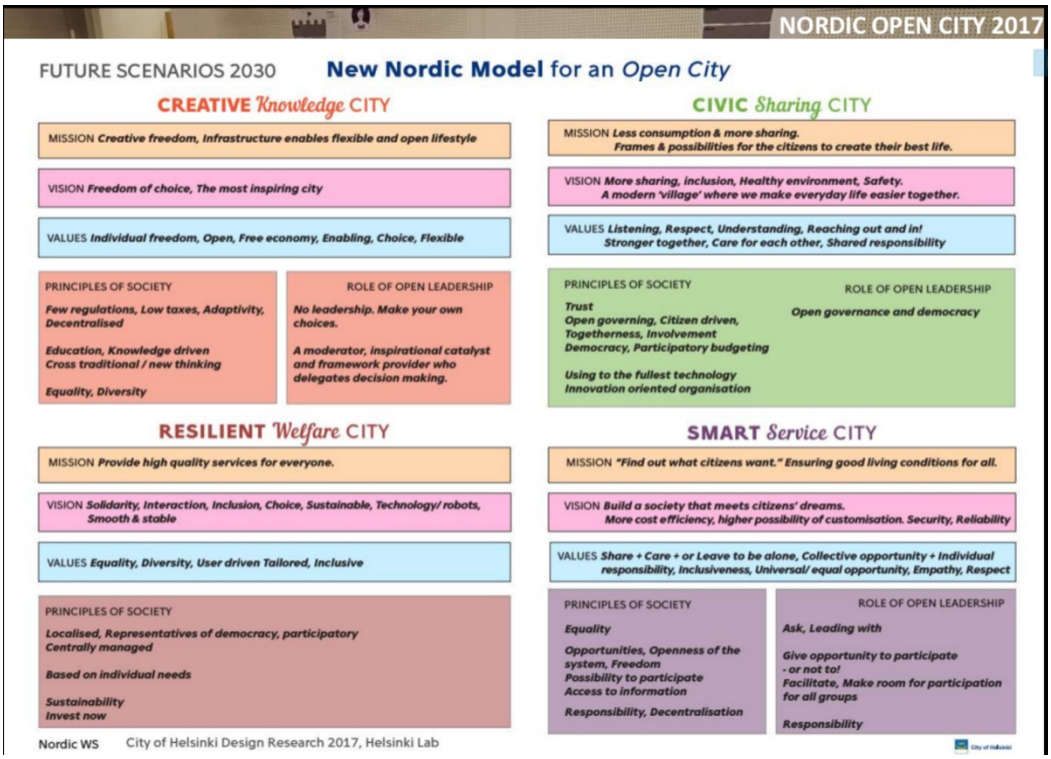

FIGURE 47. NEW NORDIC MODEL FOR AN OPEN CITY (STENROS, 2017).

The map and its scenarios were built on the premise that the future would see more bottom-up activity and collaboration with citizens. The objective was to discuss what this could look like and the implications that this has on current strategies and objectives. As creating the best citizen experience is the ultimate task for the CDO, the scenarios purposefully sought to catalyze discussions on values that could impact the city from different functional views of the city, e.g. placemaking, lifelong learning and cultural life. The hope is that through these discussions and the new tools that were introduced, the city's officials and structures will have a starting point to open themselves up to new modes of working and gradually evolve into agile, collaborative and pro-active platform organizations in the future (Alonso, 2017). A strength of the workshops was the iterative design approach used even in the format of the workshops, in which each workshop used all of the materials from previous workshops to create a "final" vision map, which was part of the official documents presented to politicians to make decisions (Schwartzmann & Milkowski, 2018). The final outcome of the workshops was a booklet called "Civic Compass of the Future" that summarized the discussions. A map was also included describing what should be done on the leadership level to get to that vision of the future (Alonso, 2017).

The final activity of the "camp" was to make a house of cards with the promises of each participant, stating what they would do in the next four weeks to support practical changes in leadership in the direction of the final vision. The new design tools and methods were quite well-received, giving civil servants tangible tools with which to do their job. The CDO was even informed that the participants continue to use the tools in their everyday work in their units (Alonso, 2017; Schwartzmann & Milkowski, 2018) , demonstrating the value of the new methods. One of the major outcomes of the "camp" was that, by the end, participants were no longer asking how they could solve, in *stricto sensu*, the problem, but rather how they could empower solutions through the resources at their disposal (e.g. regulations, legal frameworks, funding, promotion, etc.).

7.1.9 Servizz Design

Servizz Design
Valletta, Malta
Design Location (Design Commission's locational model): No-designer design work

Abstract
Servizz.gov is a one-stop shop for public services in Malta. In order to integrate the new service across the 16 ministries and 100 departments and government entities, the Servizz.gov team collaborated with service design student, Ella Walding, to facilitate the process. The case touches upon the possibilities of design to create change within public sector organizations.

I. Servizz.gov

Servizz.gov is a one-stop shop for public services in Malta. The idea behind this was to ease the citizen journey when accessing public services by grouping them into one single location that can be reached via physical hubs, a call center, a mobile app and a website (Service Design Network, 2018a). The solution aimed to bring public services closer to citizens and increase efficiency and save time and energy for civil servants. The digital service, that includes more traditional channels, is a result of Digital Malta, the National Digital Strategy for 2014-2020, that was launched by then Prime Minister Dr. Joseph Muscat. The strategy outlined guiding principles and policy actions of how ICT could be used for socio-economic development; in particular, one of the strategic themes focused on the Digital Citizen and how to increase engagement with citizens through mobile applications and social media platforms, while also providing measures to increase digital literacy (Malta Communications Authority, 2014). Moreover, the third theme was on Digital Government, whose goal was to empower public officials to share knowledge and collaborate within and across agencies to better serve citizens (Malta Communications Authority, 2014).

Servizz.gov responds to the above targets by providing citizens with one, simple access point to a wide range of public services, removing their need to visit multiple locations – physically or digitally. The services hosted in Servizz.gov are provided for by 16 ministries and around 100 departments and government entities (Government of Malta, 2016). Moreover, by providing more traditional channels – the phone line and the physical hubs – the administration bridges the digital divide granting access to all citizens irrespective of their level of digital literacy. As of 2019, 48,000 phone calls are received on the free call line per month (Independent, 2019) and the regional hubs register almost 1,500 visits (Independent, 2019) and have helped over 20,000 individuals (Independent, 2019). Moreover, the website receives 500 e-mails and 42,000 unique users per month (Independent, 2019). The digital service was meant to not only improve access to services, but also improve the dialogue between citizens and government, particularly regarding the burdens of bureaucracy and the need to simplify government processes. For this, specific channels have been provided to citizens to file complaints, make suggestions, request information and report excessive bureaucracy (Servizz.gov., 2019). The team is located in the Cabinet Office of the Prime Minister and is led by the Principle Permanent Secretary and Secretary to Cabinet, Mario Cutajar.

II. Servizz.gov's Design Culture

a. Object of Design: role of design in the organization

Servizz.gov is a digitalization project coming from the Digital Malta strategy in 2014 that meant to improve access to public services and simplify administrative procedures, while also increasing collaboration between and within public agencies and citizens. While a trianed designer is not part of the team, thanks to a collaboration, in 2017, with a master student in Service Design at the Royal College of Art, the service benefited from design competences and training and was left with a toolkit specifically made for the organization called Servizz Design (which is the focus of the next section). The main focus of the toolkit is to provide civil servants with tools to improve the service. The kit offers a process for implementing change through service design and project management tools (Office of the Principle Permanent Secretary, 2019). The kit was co-created in a workshop with Walding and has been accepted by the service and used in a pilot with the housing department. The result of this pilot was the decision to integrate a specialized customer care team from the Housing Department into Servizz.gov (Service Design Network, 2018a). The process is inspired by the Double Diamond design process and leaves the user to decide which tools to implement based on the specific need. As the toolkit aims to bring about a step-by-step change process in Servizz.org, Walding included learning loops to give the organization built-in moments to reflect and learn to better manage change in the future (Walding, 2017). The Servizz.gov's head office has been trained in the toolkit and the Office of the Prime Minister has identified an Organizational Development specialist to implement the use of the toolkit (Servizz.gov., 2019). The toolkit will be promoted through road shows and recognition measures (e.g. a thank you email for suggesting changes) and award ceremonies to highlight changes made and good performance (Service Design Network, 2018a).

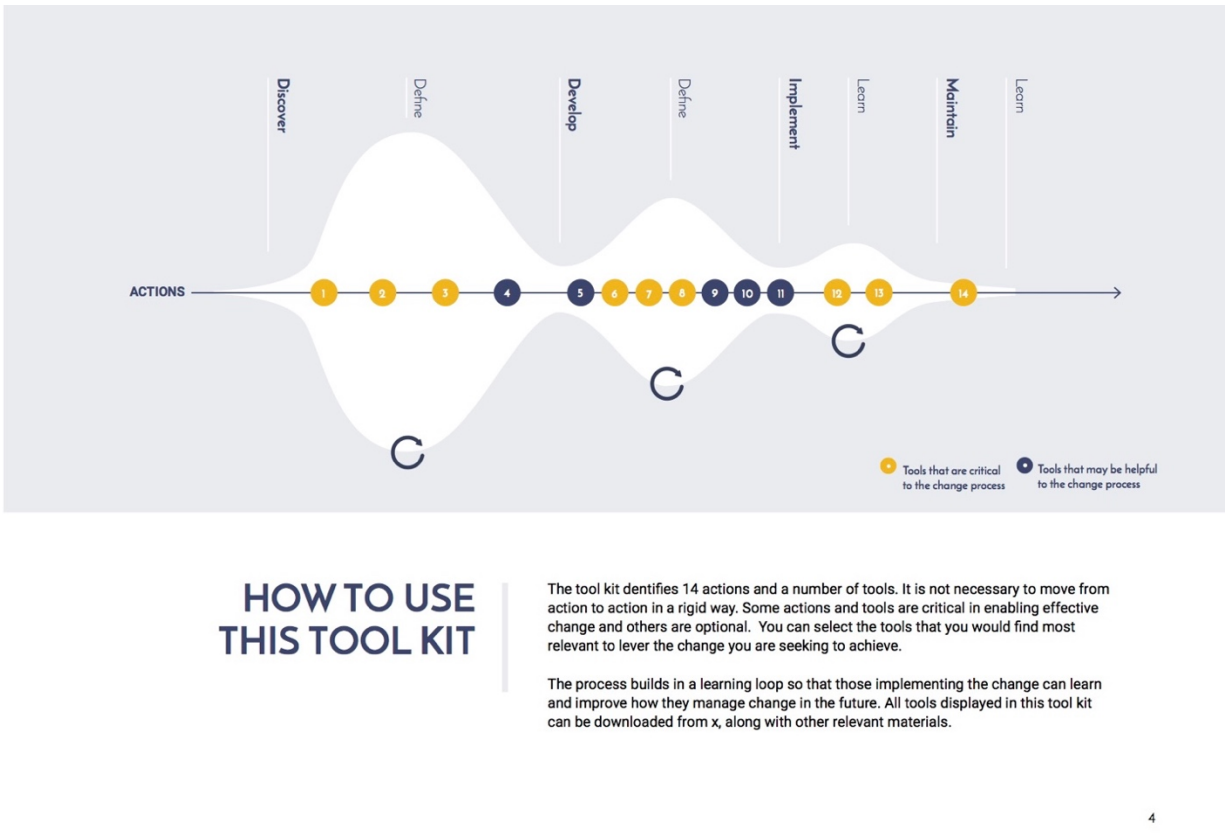

FIGURE 48. CHANGE PROCESS IN SERVIZZ DESIGN TOOLKIT BY ELLA WALDING (WALDING, 2017).

Beyond the toolkit, Walding also designed a balanced scorecard of performance measures to provide a richer way of measuring progress in achieving the service vision. The scorecard is formulated on a pinwheel with five sections that reflect the different elements of the service: people, strategy, learning, customer and operations (see Figure 49 below). The different sections are broken down into specific objectives with clear targets and mission statements. Details are also provided on what is being measured and how. In addition, to more fully understand the progression towards better service provision, a maturity model has been made to accompany the scorecard. This has led to new evaluation activities inside Servizz.gov; for example, self-assessments, a staff survey, staff and customer interviews, monthly commendations and a newsletter help promote healthy criticism and reflection, while also motivating change through recognition. Part of the scorecard's success owes to the co-design workshop done with all the stakeholders that helped motivate its implementation (Service Design Network, 2018a). Three staff members are now in charge of data collection and a regular review to ensure learning.

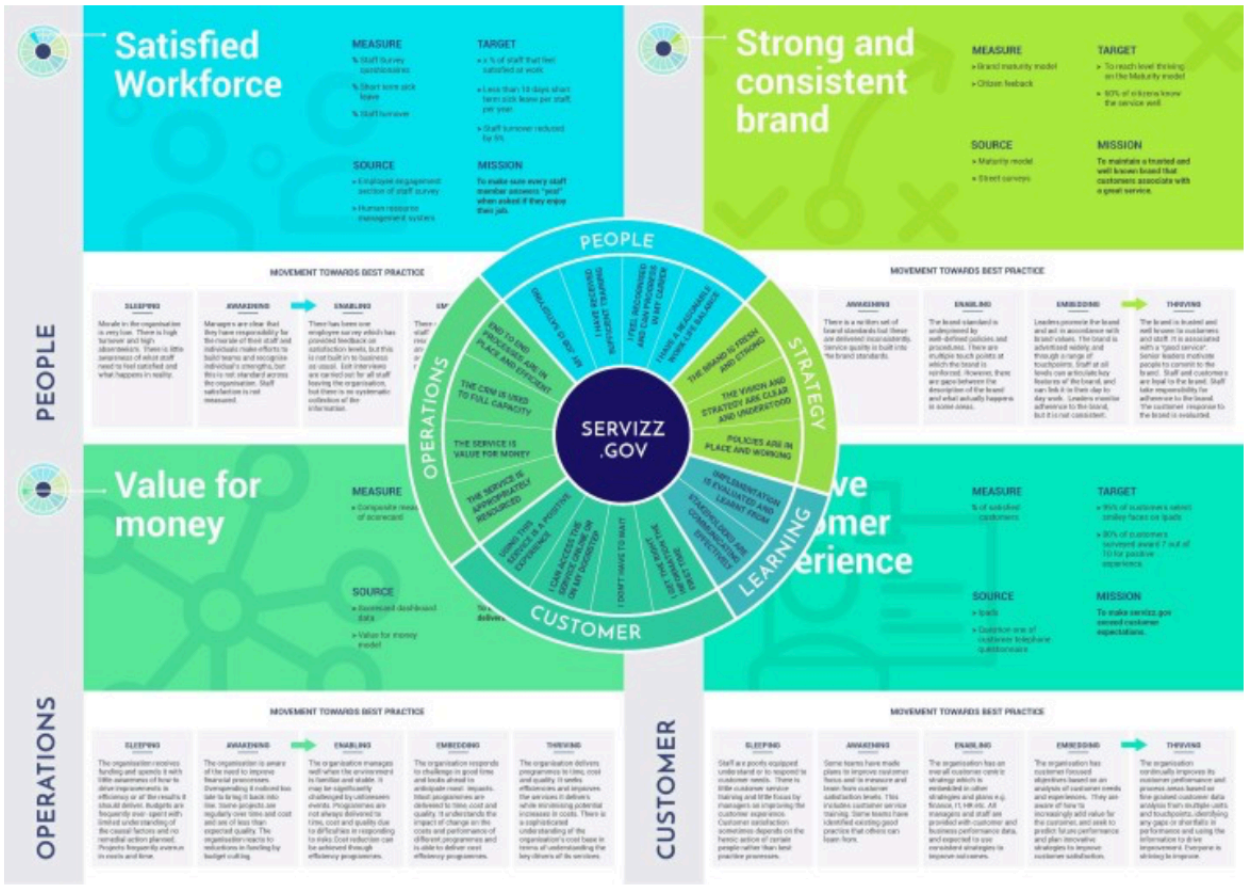

FIGURE 49. BALANCED SCORECARD OF PERFORMANCE MEASURES FOR SERVIZZ.GOV BY ELLA WALDING (WALDING, 2017).

b. Servizz Design: an Example of Servizz.gov's Design Process

After establishing Servizz.gov, the government of Malta faced the problem of implementing the service across departments to create a streamlined experience for citizens. This process became

the objective of Ella Walding's Master Thesis project, which resulted in a toolkit for change in Servizz.gov and a balanced scorecard to help motivate staff through recognition and encourage improvement through learning and reflection (see above).

Ella conducted her research using the typical double diamond process, starting with research. During this phase, she conducted ethnographic interviews with citizen users of Servizz.gov, managers and staff from the call center and physical hubs, staff from different departments, and individuals in the Servizz.gov Head Office and the Office of the Prime Minister (Service Design Network, 2018a). In addition, direct observation was conducted of staff on the job; quantitative data was studied and the evidence coming from the research activities were then analysed. Overall, most citizens were happy with the Servizz.gov service, however, some staff and citizens were frustrated because many of the systems were built around departmental functions and processes rather than around the citizen experience (Service Design Network, 2018a). Beyond this overarching lesson, the analysis of the discovery research resulted in four primary insights: (1) everyone in the system cares about the customer [citizen]; (2) implementation is taking place without a clear strategy (often leading to a disjointed customer journey); (3) there is too much push and not enough pull (leaving staff wanting more time to communicate and build relationships and more recognition for good performance); and (4) the operational pressures are preventing learning from taking place (Service Design Network, 2018a). The insights coming from the discovery work were presented in four presentations with top management, Servizz.gov, the call center and the departments, using storyboards showcasing different customer journeys that exemplified what was really happening on the ground (Service Design Network, 2018a). The following goals were agreed upon based on the input and are as follows: (1) to develop a long term strategy for implementation that would dictate the amount and pace of further integration; (2) to re-design performance measurement to improve the quality of experience for citizens and staff; and (3) to design a change process to help departments and Servizz.org ensure that learning outcomes are identified and acted upon (Service Design Network, 2018a). In response, a strategy for the future of Servizz.gov has been made and is now guiding the overall process. The solutions for points two and three instead were covered above: the balanced scorecard and the toolkit.

The biggest challenge for the service designer was to change the culture, which before was top-down and procedure-driven. The design process however is quite different, less linear and more exploratory, viewing actors – staff, citizens, suppliers, etc. – as people with agency, rather than "cogs in a machine". The main problem, typical of the bureaucratic and hierarchical processes of public sector organizations, was the expectation from management of civil servants to work in instrumental ways without regarding their interests or those of the final users, the citizens. One problem, for example, was that citizens were asking for a more timely service. The response was to introduce targets to get cases met in a certain amount of time (Morgan & Vanhoof, 2018). Management adopted a process perspective and decided to set stricter targets and send email reminders informing staff that the targets were due soon. If however a systems or human-centered perspective were adopted for the same situation, one would find one person with 200+ emails a day to answer, even on leave. While the specific situation was corrected, the underlying belief and practices underpinning the problem remained (Morgan & Vanhoof, 2018). Walding tried to explain this in various presentations, but came to the conclusion that a presentation wasn't going to change anybody's mind. In the end, she found that changing behaviour was too hard and decided instead to design solutions that would change behaviour, e.g. developing more opportunities for communication or feedback, thank you emails, etc. The idea is that by building those elements into the toolkit, change will occur as an externality of the process.

7.1.10 Muzu's User Research for Rotterdam's private Transportation system

Muzus' User Research for Rotterdam's Transportation Tender
Delft, The Netherlands
Design Location (Design Commission's locational model): External Agency

Abstract
Muzus is a user-centered design agency focusing on social issues. The agency focuses on user research as a starting point of their design work. They collaborate with actors from all sectors to tackle the problem at hand. The case shows the potential benefit of using design in procurement processes.

I. Muzus

Muzus is a user-centered design agency in Delft in the Netherlands. It was founded in 2007 by two sisters, Sanne and Neele Kistemaker. The main approach of the studio is to design solutions (products and services) that are based on sound user research. Their main mission is to provide innovative insights and a solution with a positive impact (Muzus, 2019a). The team is currently composed of 10 designers, most of whom are service designers. The studio also hosts two student interns per semester, mostly from the TU Delft, where Sanne gives a course on context mapping in the Industrial Design Engineering department.

The agency offers different services/products: (1) design projects that are people-centered and committed to social issues (Muzus, 2019d) ; (2) Muzus Academy, training packages in design competences for companies (Muzus, 2019b) ; and (3) Muzus Family Conversations, talk packages to help families discuss important topics and issues in an exploratory way, making expectations and ideas negotiable (Muzus, 2019c).

II. Muzus' Design Culture

a. Object of Design: role of design in the organization

Being a user-centered design agency, people are the focus and starting point of Muzus' design approach. Their process is based on three steps: explore, envision and enable. In the first step, the team explores the user in their life sphere to really understand what their needs and motivations are and in what context these needs emerge. In the second step, the team uses tools to visualize and make clear the insights coming from the research, mostly in the form of customer journeys, personas and service blueprints (Muzus, 2019a). In the last step, final concepts are presented that enable actors to carry forward the solution and that catalyse behavioural change.

Their projects mostly focus on social issues but have a wide range of application in both services and products. They work with private, public and third sector actors. In their work, they engage all system actors in the process (when and if relevant), as will be seen in the case below. In this manner, the agency follows a human-centered approach, making use predominantly of service design tools and borrowing from other disciplines on a case by case manner.

b. Transit Concept for Rotterdam's Transportation Tender: an Example of Muzus' Design Process

The project, in a sense, started with the shift in the Netherlands of some social services from being provided at the national level to becoming municipal services (Morgan & Vanhoof, 2018). As

a result, the city of Rotterdam was faced with the challenge of setting up a tender for all of its 35,000 transit users without knowing who they were. In 2015, Neele Kistemaker of Muzus met a public manager responsible for the tender and through this conversation agreed to help them understand who these users were.

The process was two-fold: while Muzus conducted exploratory research to understand user needs, the municipality set up an innovative tendering process using the Competitive Dialogue Procurement Process with the "forward commitment" that a solution would be purchased (Sustainable Cities Platform, 2019) at the end of the process. Moreover, due to the strict requirements of recent procurement tenders for "modified transport services" (i.e. those for the disabled and elderly) mixed with a highly competitive market, transport companies struggled with barely profitable contracts, leaving the users to suffer the consequences of poorly delivered services (Sustainable Cities Platform, 2019). For this reason, the municipality decided to focus the tender on user needs and set the budget at its previous expenditure (217 million euros for a 7-year time period), asking bidders to propose the best solution for the users with the allotted budget rather than compete based on price (Morgan & Vanhoof, 2018).

The first step was to understand the user. To do so, Muzus engaged in stakeholder mapping to understand who the actors were and the relationships between them. They also looked into the laws and regulations that led to different transportation arrangements. It became quickly clear that not only the needs of users but also taxi drivers, phone operators, bus drivers, and other municipal workers needed to be explored. Generative interviews were made with the different stakeholder groups, following preparatory exercises that had been sent to them the week before to stimulate their reflection for the interview. A total of 30-40 interviews were done with the different actors (Morgan & Vanhoof, 2018). To enrich the interviews with larger numbers and support insights with more data, 2,500 postcards were sent out (see Figure 50 below) or left in strategic areas (e.g. parent boards at schools, bus stops, etc.). Around 250 postcards were sent back and used in the research (Service Design Network, 2018).

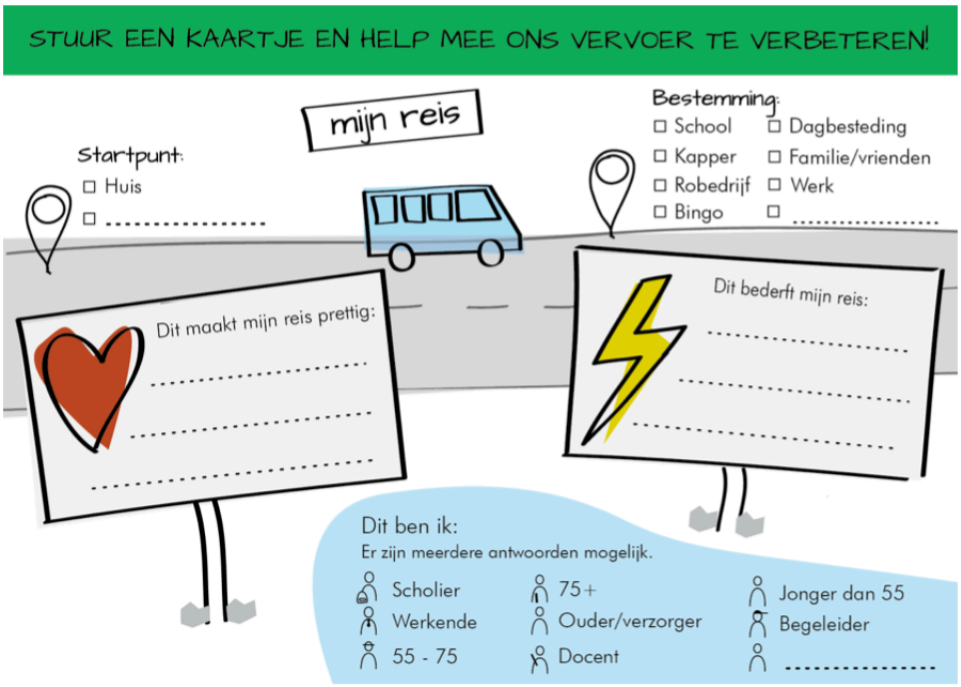

FIGURE 50. POSTCARD TO UNDERSTAND UNMET NEEDS AND SUPPORT INTERVIEWS (DIJK ET AL., 2015)

The first real change in perspective that the design team brought to the research base of the tender process came from this deep dive into the user. While the current scheme was based on the laws safeguarding the citizens' right of transport and therefore focusing on the type of disability, impairment, deficit, etc., the design process focused on their mobility needs and segmented users based on this rather than on their physical constraints. The output of this insight was a spectrum of mobility needs of the disabled and elderly in Rotterdam to be used by the consortiums during the construction of their bids. The spectrum was useful to clarify to taxi companies the needs of their users, who could be on different parts of it on the same day and required services all the same. Likewise, since the spectrum was segmented by mobility needs rather than specific physical or mental difficulties, it gave the municipality a starting point to build integrated services (Service Design Network, 2018b).

Following this initial user research, the design team worked with the program team from the municipality to create personas based on the clusters of mobility needs identified. Interview transcripts were analysed to pull quotations to enrich the personas (Service Design Network, 2018b). Four clear clusters emerged from the analysis with specific needs of the services provided for by the taxi companies and municipality. At the same time, the research also evidenced that every individual is different, even day-by-day (Service Design Network, 2018b)(Service Design Network, 2018a)(Service Design Network, 2018a). A flyer was then created for each persona to easily share with stakeholders; each one contained detailed information on the travel pattern, what a successful ride looks like, the ideal driver, communication needs and experiences in public transport (Service Design Network, 2018b).

The next step saw the creation of customer journeys for each persona. While the previous customer journey had only three steps, the Muzus team stretched this into 12 steps taken from the user perspective. The 12-step customer journey was also made with the municipality's program team who filled them out with the relevant details. The journey maps helped provide a narrative of the user's experience to accompany the personas (see Figure 51).

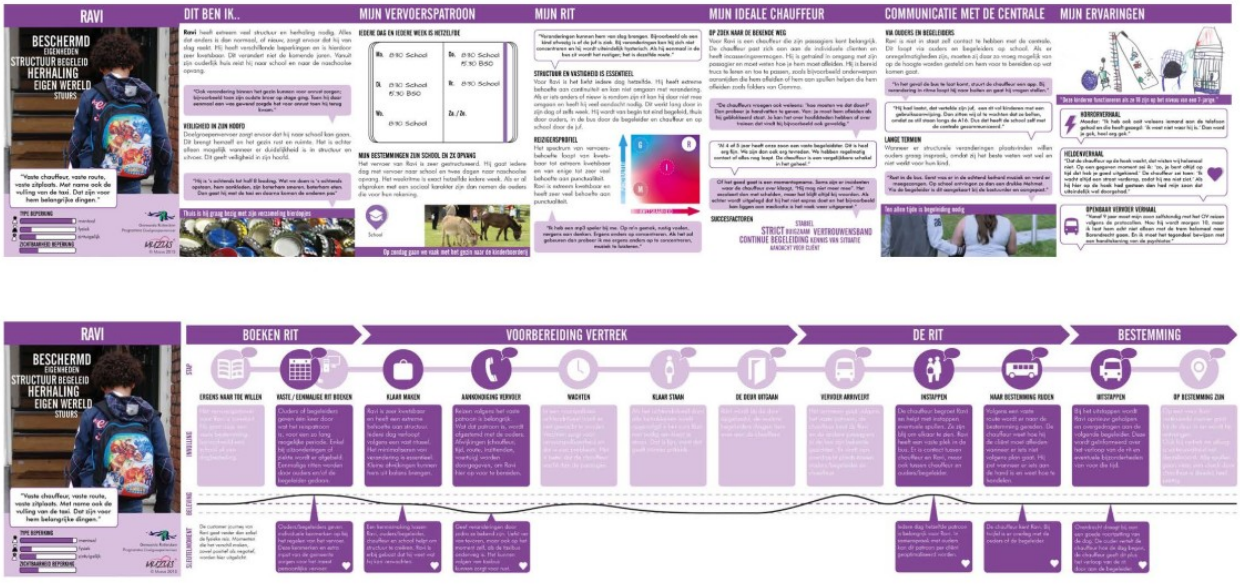

FIGURE 51. PERSONA AND CUSTOMER JOURNEY (SERVICE DESIGN NETWORK, 2018B)(SERVICE DESIGN NETWORK, 2018A)(SERVICE DESIGN NETWORK, 2018A)

When the two tools were completed, the municipality then used them as the advanced information of the procurement process. In other words, all consortia would have to base their bids on the user needs as presented in the four personas and customer journeys. The municipality organized three networking events, inviting a wide range of stakeholders, from healthcare and car companies to ICT and the mobility sector, to ensure a holistic and integrated solution. Four consortia applied to the pre-selection phase of the competitive dialogue process, of which three were selected to continue. The three consortia then went through 13 rounds of feedback over a period of nine months to work on their proposals with user and front-line staff . The dialogue's structure adopted a citizen-centered perspective. In the first five round (Sustainable Cities Platform, 2019) s, the user's needs were explored and the vendors determined how they could add value for them in their transportation offer. The next five meetings were used to fine-tune their own concepts, while the last three focused on the legal and contractual aspects (Sustainable Cities Platform, 2019). Muzus was there to advise the municipality for the entire process. A lack of knowledge on how to address the needs of the hearing impaired emerged through the process and the design team quickly created a supplement to guide the consortia through their needs for each of the 12 steps of the journey (Service Design Network, 2018b)(Service Design Network, 2018a)(Service Design Network, 2018a).

The last phase saw the submission of three great, yet different, final blueprints for the future services, from the three consortia. The results surpassed every expectation the program manager had had (Service Design Network, 2018b)(Service Design Network, 2018a)(Service Design Network, 2018a). In the end, the Trevvel consortium won the bid. Specific details of their service solution is still unknown; however, the consortium partners included three local transport companies and ten other diverse partners, from HR consultancies to experts in measuring customer satisfaction in mobility to app developers to healthcare specialists (Sustainable Cities Platform, 2019). Some basic features include: mobility customization enabling variation from day-to-day; personal attention and early detection by bus drivers; personal support and coaching in learning how to travel independently; improved information provision; and an accelerated transition to nearly fully zero emissions (Sustainable Cities Platform, 2019).

One final impact of the project can be seen in the collaboration post-tender with the city of Amsterdam, who had also collaborated with Muzus on a transport issue regarding the needs of disabled children. Given the focus on children in the Amsterdam project, the design team was able to go further into detail on the target. At the end of the project, the two cities agreed to share the user insight (personas and customer journeys) with each other to see how it can be useful for their own services (Morgan & Vanhoof, 2018; Muzus, 2019a).

7.2 Design Biographies

7.2.1 Brescia Zero Tender

Brescia's Zero Tender
Brescia, Italy
Contact Person: Felice Scalvini, Deputy Mayor of Welfare; Elisa Chiaf, Researcher at Socialis
Design Location (Design Commission's locational model): No-designer design work

Abstract

Brescia's Zero Tender project abolished tenders from the procurement process in preference for an accreditation system. The new system is based on the co-design, co-creation and co-production of the city's welfare services. The underpinning insight was that while the public administration was viewed as the sole provider of welfare, reality informed that there were in practice multiple welfare providers found in the third and informal sectors. With the accreditation system, the city of Brescia hopes to strengthen its welfare response through a vibrant community of welfare providers. The implementation process engaged the entire system of actors from providers to citizen users to civil servants and led to a cultural change in the city.

I. Case Description

a. Context

The city of Brescia is the second largest city in the Italian region of Lombardy with nearly 200,000 inhabitants. It, like many other European cities, is facing numerous social problems and shrinking public budgets. For every 100 young persons under the age of 14, there are 118 elderly persons (Comune di Brescia, 2018a, p. 16). While the immigrant population is alleviating the demographic crisis in the inner city by keeping the population younger, the ageing population will nevertheless constantly require more and more care and assistance from the city's welfare services in the future (Comune di Brescia, 2018b, p. 15). Furthermore, the NEET category is also a rising problem in the city, with 8% of families having at least one individual out of work and not in school under 35. Understanding how to better serve the citizens of Brescia and offer an attractive city to live in is crucial for the city to combat urban decay in the city center.

In response to this, in 2013, newly inaugurated mayor, Emilio del Bono, and Deputy Mayor of Welfare, Felice Scalvini, brought in a new vision of how to serve the city's social needs. Their vision was to create a flourishing city center that met the citizens' welfare needs and made Brescia a vibrant and attractive place to live in. The idea was for the city to be an incubator of services for universal welfare, with the public administration (PA) as leader and supporter of the city's wellbeing district. To enact this vision, the council decided to open up the number of welfare providers to allow for a larger service offering and more tailored social services. The PA thus decided to eliminate tenders from the city's public procurement strategy in preference for an accreditation system. This innovative decision to break free from the usual choice between unions or the State and create a different path rooted in a collaborative approach to welfare was truly novel in the Italian context and required a significant re-structuring of the municipal infrastructure, which is seen primarily in the establishment of Territorial Branches of Social Services that focus on local areas and the establishment of dedicated councils and spaces to facilitate collaboration between actors.

Before starting, the council had found that while €130 million were spent annually on welfare services, only €59 million came from the city and regional subsidies, while the rest was covered by private citizens in the form of co-payments, salaries for caregivers and fees for private services (Scalvini, 2018). These numbers exclude the value coming from volunteer services and other philanthropic resources. It was evident that the PA was already not the only producer of welfare and that social services in the city were offered by other actors including third sector organizations (TSOs), private providers, families and caregivers. In fact, according to the most recent Social Balance, 321 welfare producers in Brescia exist other than the city, offering 761 services, products and programs (Comune di Brescia, 2018b, p. 20). This insight confirmed the need to re-think how welfare was provided and supported in the city.

b. Organization

The transformation of Brescia's social service system and procurement policies regarding welfare was led by the PA and the Deputy Mayor for Welfare. In order to implement Brescia's new vision, the supporting infrastructure around it had to be built up and link the informal welfare offer with that of the city. In 2015, the city thus established the Council of Citizen Welfare along with five new Territorial Social Service (TSS) Branches. The main responsibility of the council, composed of actors coming from all sectors, was to design and carry out the call for accreditation. The five TSS branches instead served as bridges between the territorial offering of the 33 districts through the District Councils and the city-wide strategic vision. The TSS Branches were also a huge transformation of the PA's service system, decentralizing welfare activities from the city center and bringing it to the districts. Civil servants were no longer in charge of their specific target (e.g. the elderly, the youth, families, etc.) of the city to the specific target in the district, effectively narrowing down the breadth and increasing the depth of focus. To activate each district, Community Points (CP) were established to promote and coordinate the local resources at the citizen's disposal and facilitate informal help from the local community. At the moment, there are 14 Community Points but the goal is to have one in each district (33 total). To further highlight the bottom up nature of the implementation process, each Community Point is formulated and configured on the needs and culture of the particular area, making each one unique. While the vision is the same for the whole city, how that vision is then implemented and the offer that eventually emerges is different based on the neighborhood and its particular needs and resources.

The implementation and monitoring was supported by the project, Brescia "City of 'We'" financed by the Cariplo Foundation. It was set up and launched in May 2016. The project, which is in its last year, is led and coordinated by the municipality in partnership with actors coming from the Third Sector (Auser Brescia and Cooperativa Co.Librì) and Academia (Centro Studi Socialis, Università Statale di Brescia and Università Cattolica di Brescia). The project has two goals: (1) create an infrastructure for welfare that links public services with third sector and citizen activities and (2) reconfigure the roles and relationships of welfare actors around the shared goal of creating universal wellbeing.

While there is no explicit design competence present in the team, the project relies on co-design and co-creation principles in order to arrive at the co-production of the city's welfare services. These principles were taken from the city's constitutional mandate to promote horizontal subsidiarity that names co-design, co-creation and co-production as vehicles for its realization.

II. The City of Brescia's Design Culture

a. Object of Design: role of design in the organization

The city of Brescia, through its Deputy Mayor for Welfare, has activated an ecosystem around its welfare offer, including a three-year project committee. Through these actors, the city is designing the system requirements to co-produce welfare and wellbeing. They have therefore produced: (1) normative frameworks to create the necessary authorizing environment for the initiatives to take place; (2) infrastructure to support the processes; and (3) processes to implement the vision. A co-design approach has been adopted that is formalized in the Council of Citizen Welfare which groups together representatives from the different sectors to produce the welfare call for accreditation. As the project entails top-down and bottom-up support, actors from all level are engaged in the process from policymakers to front-line civil servants to citizens. Each actor plays an important role in the process, respectively, from providing the authorizing environment to translating policies into services and correctly framing the problem.

b. Brescia Zero Tender: an Example of the City of Brescia's Design Process

Quick Glance of the Initiative

The "Zero Tender" project by the City of Brescia effectively saw the removal of tenders from the procurement of its welfare services in preference for a system of accreditation. The removal catalyzed a total reformulation of roles and infrastructure of the welfare system, engaging citizens in the process and strengthening the community of service providers around a holistic vision of wellbeing that integrated informal services into the formal offer. The new accreditation system starts with a call that is co-designed with representatives from the PA, the private and third sector as well as civil society. Specific, district-level strategies to implement the city-wide vision are also negotiated and designed at the local, community level. The result of the process has been an enriched and variegated offer of public welfare services in the city and stronger, closer community relationships that increase the chance of urban serendipity for occasions of mutual benefit.

Design Process

Problem Framing and Ideation

The transformation of Brescia's welfare system was catalyzed by a fresh, if not literal, interpretation of the normative context guiding Italy's social service structures. Article 118 of the Italian Constitution states that it is the responsibility of the PA to "promote autonomous, citizen initiatives, whether individual or in association, that develop activities of general interest on the basis of the principle of subsidiarity". Furthermore, the Code for the Third Sector, which came into effect in August 2017, further emphasized this responsibility. The relevance of the new Code is the responsibility it places on the PA to activate processes of co-creation and co-design and promote partnership and accreditation measures, as tools to support the implementation of subsidiarity actions. In this new vision, public sector and third sector organizations are equal, while still maintaining their distinct characteristics and roles. The reform marks an interesting moment of transition for the welfare system in Italy and the experimentation in Brescia provides an interesting and important model for how the reform can be implemented.

From this normative premise on the national level, Scalvini and Mayor del Bono abolished tenders and instituted an accreditation system in their municipal welfare framework. The accreditation system was meant to activate a stronger and more variegated welfare system, more

tailored to the specific needs of its citizen population. This system would thus institutionalize services previously "hidden" in the informal sector and tie them into a larger framework of wellbeing, starting from the district level leading up to the city as a whole. The accreditation system, furthermore, removes the element of competition from the process and substitutes it with collaboration and active citizenship. The procurement of public services would no longer be awarded to one, single entity but be provided for by a mix of services united by a shared vision. This allows for more bottom-up initiatives and services, coming from different third sector organizations and the citizen population, to be supported with the financial, legal, infrastructural and human resources coming from the city and the region. In doing so, the resources available for welfare provision is amplified, pooling all of the resources of the actors in the city together to create a more effective and holistic service offer. The new strategy thus allows for more actors to partake in the design and provision of welfare, creating new relationships and partnerships in the process.

Design

The accreditation process is managed by the Council of Citizen Welfare. The process starts with a call for interest from actors willing to adhere to the new vision, requiring them to co-design the way forward. The call establishes the need to be addressed, the budget available and the minimum requirements to be met by the candidates. Once the candidates have been selected, they work together to create a unified proposal to meet the social need with the budget available and the resources they can each contribute. Once the proposal has been accepted, a co-design process begins, which lasts for about a month to a month and a half, in which what can be done together over a long-term timespan of at least 3 years is defined. Once this process is done and the plan approved, the accreditation process begins. Actors wishing to be accredited in the welfare offer must meet the requirements set out by the call and offer services in line with the vision set forth. The accreditation process therefore opens up the number of actors responding to a social need, giving citizens more choice in their care and allowing for a more concerted and variegated response from the supply side. This allows for more specific social needs to be met. In fact, the number of public-supported services used in Brescia has increased since 2013, while the public budget for welfare has remained relatively the same over the years (Comune di Brescia, 2018b, p. 79).

Implementation and Evaluation, Monitoring and Measurement

One crucial part of implementing the project was to create the necessary resources for the co-design and co-production of welfare services. This meant that the normative framework was not enough. Infrastructural changes had to be made to support the processes. As already mentioned, at the beginning, a lot of work was done at the municipal level to re-structure the administrative procedures to support the accreditation system: in terms of setting out a methodology, shaping the budget for each welfare sector, creating new municipal structures and understanding how to monitor the process through accountability measures. New structures were made or re-purposed from the newly formed Council of Citizen Welfare, TSS Branches and local Community Points to the creation of a temporary project team to provide the necessary competences to bring the project forward. The implementation process engaged all of the actors in the co-design and co-creation of the new welfare system and through it was able to embed the culture and competences necessary to collaborate.

FIGURE 52. COMMUNITY POINTS (BRESCIA CITTÀ DEL NOI, 2019A).

The project consortium was responsible not only for the scientific implementation of the project, providing a methodology, but also in evaluating and monitoring progress. In terms of implementation, the project partners mapped the existing welfare services and activities offered in the city in the first year. They mapped 433 organizations, of which the majority was associations. The project also worked closely with the five TSS Branches and conducted five workshops (done using a world café format), one in each of the city's districts to share the project's goals and the transformations that the Deputy Mayor was making to change and improve the city's welfare response. This action strengthened the number and quality of relationships between the TSS Branches, the District Councils and the Community Points. The world cafés were key moments to understand local needs, share knowledge on the different experiences of already existing services and understand the local history. The specific knowledge of the Quarter resulted to be a key element to the development of a Community Point, making the following question a starting point of discussions: "Is there already a sense of community in the Quarter? Is it recognized? Or does it still need to be built?" (Asis et al., 2017, p. 9). Each Community Point is thus co-designed with the local community based on an initial guideline of a few "fixed" points: to make use of and aggregate local resources in a network, to collect local needs and promote stable forms of collaboration between local welfare actors to respond to these needs (Asis et al., 2017, pp. 5–6). The Community Points are run by Third Sector Organizations and volunteers who are given basic training for the more administrative and social service tasks (e.g. providing assistance in filling out forms, understanding who to contact for public services, etc.). The volunteers running the points are also charged with promoting the creation or integration of informal services that come from the community.

In order to better support the activation of the local community around the welfare goals of the city, the research group constructed seven areas of development: (1) "Actions of Integrated Alignment, Governance and Integration" to systematize community resources with public and private ones to achieve a diffused and participative welfare system; (2) "the Strength of the Community", which is focused on empowering the accreditation system and the infrastructure built around it; (3) "First Childhood" to help parents in the first stages of their child's life; (4) "Live the Quarter and Youth Lab" to promote innovative services to promote youth development, particularly the NEET category; (5) "the 100 Levers for the City" to help connect youth with third sector organizations who can help build their capacity and knowledge in civil service programs and activities; (6) "Combatting Poverty, Social Commitment and Work Placement" to help intercept the

most vulnerable and provide re-integration pathways; and lastly, (7) "Innovative Services for the Elderly and Differently Abled" to provide care for the over 65+ , and particularly the extremely fragile over 75, who live in solitude and without a care network and to provide housing for those with physical and/or mental disabilities to favor more autonomous living (Brescia Città del Noi, 2019b).

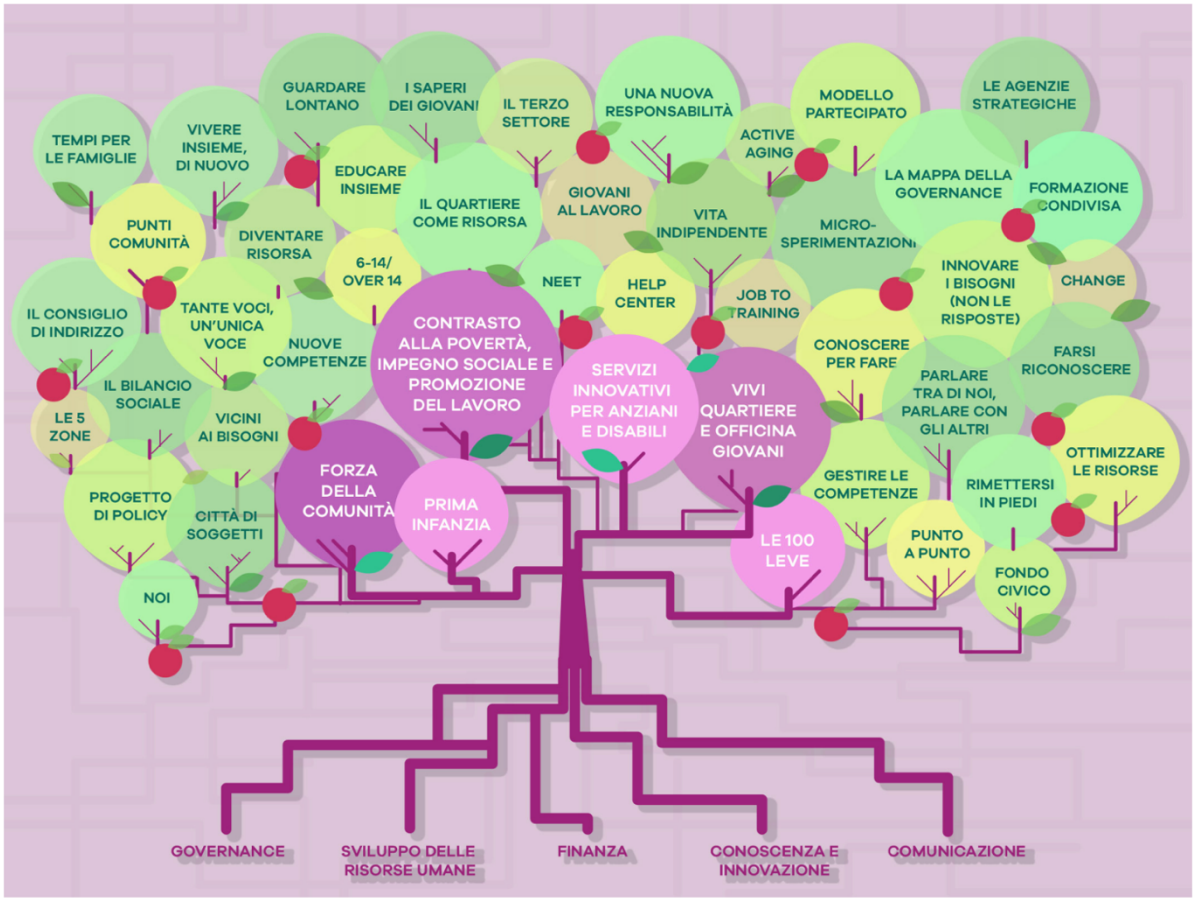

FIGURE 53. SIX AREAS OF DEVELOPMENT TO IMPLEMENT A NEW MODEL OF CO-PRODUCED WELFARE IN THE CITY OF BRESCIA.

Furthermore, the research center of the consortium is in charge of producing an annual Social Budget that monitors and measures the progress of the city's transformation project. It is launched in an event that gathers all of the actors in the ecosystem to present what is going on in each social sector and community. This allows for collective sensemaking and also for reflection to occur at the community level.

The project ended in May 2019 and had the following results, among others: (1) 18 Community Points were built; (2) 1,970 citizens were assisted in the process; (3) 667 Baby Kits were distributed; (4) 12 Family Time Spaces were created, with a total of 346 enrolled kids; (5)189 internships were offered to vulnerable youth, which in turn saw a 48% increase in employment offers; (6) 25 organizations and 39 branches collaborated to provide services for the youth; and (7) 13 centers were opened for the elderly (Brescia Città del Noi, 2019a).

The main results of the research project and the Zero can be summarized in following three outcomes. Thanks to the process, the city of Brescia has brought the design, implementation and

delivery of social services to the citizen, offering "life event" services through agents at TTS Branches and CPs. Secondly, the city is no longer divided but truly collaborates in every phase in a collective "we". As said by one of the research project leaders, *"co-design means that you design together, that you define what service to offer together. And this is hard to see outside of this experiment in Brescia […] Here there is a big relationship between private and public"* (Chiaf, personal communication, May 9, 2018). Lastly, the focus on communicating and learning from the results of collaborative efforts is key to grow as a community in terms of experience and competence development.

"One of the main points of the Deputy Mayor [and I agree…] is that the city needs to continue to develop the awareness and knowledge of what it does. The launch meeting of the social balance is an example. To continue to stress about analyzing data etc. means to continue to see the results, understand them, know them and be transparent, but most of all to give tools to understand and read what is going on" and be able to react (Chiaf, personal communication, May 9, 2018).

c. The Design Process as a Learning Process

The Zero Tender Project in Brescia was born out of the insight of the Deputy Mayor of Welfare. Having worked significantly in the Third Sector gave him a profound knowledge of the supply of welfare services in the city: who the providers were and what they faced. Coupled with knowledge of the demand, this put Scalvini in a unique position of having a holistic vision of the welfare system of the city and its shortcomings (Chiaf, personal communication, May 9, 2018). Based on this initial insight and further studies that were made, he and the mayor questioned the fundamental underpinnings of the city's welfare system, engaging in double-loop learning and choosing to dramatically re-structure it. This decision completely changed the role of each actor and the service experience of citizens. Where social services were previously offered in the city center, the citizens were now able to go the local TSS Branch and receive a holistic, "life event" service offer. This dramatically changed the citizen experience. Beyond this front-end design change to the service touchpoint, the roles of citizens, civil servants and third sector organizations changed significantly the back-end design of the welfare offer for service providers.

Public officials were previously in charge of planning, coordinating and monitoring welfare resources on the city level, and now were in charge of local areas and responsible for providing holistic service packages to citizens. The latter required that civil servants have knowledge of the entire welfare ecosystem and not just one department. The branches thus served as bridges between municipal silos. The accreditation process changed the way that TSOs operate internally and with other actors in the social sector. While before, TSOs worked individually on a competitive bid to win a procurement tender, they now cooperated to: (1) formulate a vision of welfare for each district and the city, and (2) to implement the vision with their pooled resources. Before coming together under the new system, the separation of the planning and delivery of social services had created a gap between those designing the service structure and those receiving it. The citizens were mostly in contact with the service providers coming from the third sector. This gap led to strategic decision-making based on secondary information, effectively breaking the learning loop. Gathering all the actors around the same table to co-design the welfare plan for the city and the district-level re-connected this loop.

TSOs, public officials and citizens now work alongside each other to provide social services. Co-design principles can thus be seen not only in the implementation of policy but in its formulation. Where typically the call for tenders is designed by the PA and rarely modifiable, the accreditation system brought all the actors into the co-design of the welfare plan, from the strategic direction to the implementation and delivery of the service. This allowed actors to learn from each

other by interacting and sharing viewpoints and positions but also "along the way" of planning and delivering new services. For example, the negotiation process in the world cafés was quite difficult for the actors who at first came to the table with specific expectations of what they needed to get out of the process (e.g. jobs for employees, spaces, etc.) and it was difficult to get everyone in the collaborative mindset to find mutual benefit in creation (Chiaf, personal communication, May 9, 2018). The 33 workshops conducted in the final year went more smoothly because by then the culture had already changed in the city, the organizations and the municipality (Chiaf, personal communication, May 9, 2018). The process also produced new relationships and strengthened partnerships, which also gave way to a holistic and more effective use of the assets available in the city.

The accreditation system opened up the supply of welfare services, not only in terms of the number of organizations that can offer services but also when they can be opened. Being open calls means that as long as the requirements are met, new social services can be opened at any time. This simplifies the process dramatically for more innovative services to be "on the market" and provides a more flexible service structure that can quickly accommodate changing needs (Chiaf, personal communication, 9 May 2018).

The actors learned through various modes during the implementation process of the new welfare model. As the process was collaborative, citizens, TSOs, and civil servants learned by doing through the activation of new services; by more formal knowledge transfer mechanisms through formal trainings on administrative processes (CP guide) and services (civil servants who now work at TSS Branches as consultants offering an ad hoc package to meet citizen requests); by proximity during the co-design phases of the accreditation process but also in the world cafes, the creation of different services (e.g. Family Time Spaces) and the construction and maintenance of CPs; and finally, through interaction by co-designing the welfare offer together.

d. Design Learning Outcomes as a source of Organizational Change

Brescia's Zero Tender project catalyzed a cultural change within the city that blurred organizational and sector boundaries, built on a collaborative approach that renders every actor co-responsible for the welfare and wellbeing of the city. Abolishing tenders and opting for a new welfare system based on accreditation required substantial changes to the municipal organization: from de-centralizing municipal services to creating new structures to support the process; from specializing in a single service offer to offering holistic service packages; and from being concerned mainly with organizational needs to stimulating community development through Community Points. These new roles for civil servants, Third sector actors and citizens provoked a shift in mentality for each and required a new set of skills that contributed to a new culture. Third sector actors, for example, were not accustomed to taking part in designing the welfare strategy and "oddly" in collaborating and cooperating with other TSOs and actors to provide a holistic response to the welfare needs of the city. This required the assumption of a new perspective, which was difficult (Chiaf, personal communication, May 9, 2018). The hardest effort was to create a change in the public administration and their willingness to "meet" the citizens in their backyards, which wouldn't have happened from the bottom-up: they needed a "shock" that had to come from the top to co-create the welfare system (Chiaf, personal communication, May 9, 2018). It was important to have people inside who pushed for things to go through and knew who to connect with whom to get things moving.

What can be observed is the importance of an integrated design approach that links top-down and bottom-up efforts into a unified solution when designing through plurality. The case demonstrates a few salient characteristics of this approach. First, when setting up a change initiative

at the municipal level that engages the entire production and consumption of a service area (like welfare), the supporting infrastructure is key towards creating the environment for experimentation and learning to happen. What can also be seen in the case is that this "new" environment isn't mechanic – i.e. it isn't merely the creation of new structures and services – but is negotiated and co-created with the actors from both the supply and demand of the services. Through this process of role changes (and even reversals) and service design, a new culture in the ecosystem is formed. The new touchpoints are therefore not only functional towards responding to user needs but also serve as activation devices that seek to stimulate collaboration between actors. It was also important that the new structures on the community level be afforded a flexibility in their development to respond to local needs and histories. The case also demonstrated the need for support from leadership and key network leaders. The vision and insight of the Deputy Mayor were pivotal to the activation and implementation of the project and other key network members were equally fundamental towards successfully moving initiatives through the process. Second, due to the plurality of actors, it is important that the needs of each actor be considered. It is not enough to be user-centered. The case showed the importance that the needs of the administration be considered (as constraints or levers of opportunity) in the design process. This can be seen in the need to ensure the legality of the process and to legitimize collaborative services through a new contractual agreement between actors – i.e. the accreditation process. Third, the presence of a monitoring system to measure and communicate results allowed for community reflection and also contributed to the cultural change of the city by promoting awareness of the actions taken throughout the city and the efforts made by each actor. The annual social balance report provides the city an important occasion to learn from each other and to reflect on the progress made.

In conclusion, the design process was initiated from the top-down through the creation of an environment for innovation. Meta-learning was therefore a forethought to the process as well as a continual activity during the implementation. The goal behind the project was to provide a framework that integrates actors into a shared strategy but also stimulates collaboration between them. We can then see that collaboration and human development were vehicles towards innovation in the welfare system. We can also see many ways in which the knowledge was encoded to support the implementation and strengthening of the system: the social balance, the manual for the CPs, the format for the Family Time Spaces, etc. While the use of design tools was implicit, the organizational change was quite explicit, led from the top-down but implemented through the interaction of the top and bottom levels.

7.2.2 Bologna's Participatory Budget

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Design Location (Design Commission's locational model): No-designer design work

Abstract

The Participatory Budget in the city of Bologna is the result of a political process that involved bottom-up and top-down measures with the aim of creating the basis for the establishment of a collaborative city. It provides a platform for citizens to co-design community projects for urban development, which in the most recent edition was extended to socio-cultural project as well. The case provides interesting reflection regarding the adoption of a design for services approach that focuses on the context for interaction and relationships and the gradual adoption by government of a citizen-centered perspective of (public) value creation.

I. Case Description

a. Context

FIGURE 54: THE BENCH IN PIAZZA DEI COLORI THAT STARTED IT ALL (IMAGE TAKEN FROM CITIES OF SERVICE AWARD 2018 VIDEO).

It all started with one bench and three citizens who wanted to re-paint it and had to go to five different administrative offices to get authorization. This simple request and quite laborious, bureaucratic iter catalyzed a participatory process that brought the city of Bologna, led by its Mayor, Virginio Merola, to release in 2014 its "Regulations on the collaboration between citizens and the Public Administration for the guardianship and regeneration of common goods" (RCG). It marked

the beginning of a journey towards a new vision of community life in Bologna. The Regulation, along with a re-configuration of the Pubic Administration (PA) is part of the political project "Collaborare è Bologna" ("Collaborating is Bologna") (CB), which seeks to foster civic collaboration through material and immaterial tools. The driving idea was to innovate and renew the identity of the city around a new model of citizen engagement based on a tradition of subsidiarity and de-centralization of political action, through the creation of spaces that allow citizens to interact with each other and the PA. In this manner, the goal was to promote the continual regeneration of the civic sense of its citizens. In a city where 25% of its population changes every 10 years, being a citizen is as much a choice in Bologna as it is a right. Hence creating a culture of collaboration as an operative and generative tool was strategic towards stimulating an interest and civic sense of duty to care for the city and its future. The regulation, as of 2018, has enabled 400 active Collaboration Agreements to be established, translating to around 15,000 sq. meters of cleaned urban walls and the requalification of 20 schools and 40 green areas (d'Alena, personal communication, 2019).

The legal framework, however, is empty without a supporting infrastructure to realize the new vision for the city. The municipality thus passed a reform in 2015 regarding the city's quarters, reducing them in number from nine to six and changing their role. Rather than being a replication on a smaller scale of City Council, the role of the Quarters changed from being service providers to that of territorial agent, stimulating and promoting citizen collaboration and participation in public life. Their previous tasks – education and social services – were delegated to two newly created city offices (Istituzione Educazione e Scuola and Azienda Pubblica di Servizi alla Persona Città di Bologna), along with their dedicated personnel. This re-organization of city infrastructure was done in order to re-give meaning to the role of the city's Quarters, whose founding mission was to promote the creation of vibrant communities that, together with the PA, provide for the welfare and wellbeing of the city. To further support the Quarters in this transition, the PA created the "Office for administrative simplification and promotion of active citizenship" (translated from Ufficio semplificazione amministrativa e promozione della cittadinanza attiva) to be a reference point for the Quarters and the main interface – physical and virtual – for the establishment of Collaboration Agreements (i.e. the formal agreements between citizens/associations/third sector organizations and the city for the care of community assets).

Subsequent to these reforms, the CB project held six meetings with the city's now six Quarters to map together the city's investment priorities for funds coming from the EU, region and the city. These meetings were held from October to December 2015 and the actions were consultable online until January 2016. Around 1,200 citizens took part and submitted collectively 546 idea cards, in which the social needs of the quarters were expressed and ideas on how to solve the problems were proposed. Following this, from January to February 2016, the PA was able to analyze the proposals, find synergies between them, associate funding opportunities and cluster needs into macro-priorities on the Quarter level, as well as citywide. From March to April 2016, six more meetings were held to share the findings from the analysis and present to the citizens the priorities that emerged. These priorities laid the foundation for the "Urban Innovation Plan" published in 2017, whose objective was to bring together the different projects and choices of the PA over the years (RCG, Quarter Reform and CB) and the direct effort of citizens and the community under a common framework. Part of this plan saw the creation of Quarter Labs, which work with the Quarter Public Offices to carry out citizen-PA activities. One such initiative is the annual Participatory Budget, in which the citizens work with public officials to make a proposal on how and what to spend a specified budget each year. These labs are organized and run by the Urban Innovation Foundation's (UIF, translated from Fondazione Innovazione Urbana) Office of Civic Imagination (OCI, translated from Ufficio Immaginazione Civica).

b. Organization

The OCI was established as a permanent laboratory for citizens to experiment with different forms of public innovation with other actors in the system. It can be considered as a permanent government innovation lab housed, together with the Urban Center, in the UIF. The UIF was founded in 2018 by the University of Bologna and the municipality. It is responsible for engaging citizens in taking part in the city's decisions but also in the resolution of its problems. To do so, it equips citizens with the necessary resources: information, data, financial capital, skills, and physical and virtual spaces, with which to act. It effectively acts as the R&D branch of the municipality, whose output is co-produced with its constituents. The UIF is also responsible for the projects contained in the Urban Innovation Plan, with a total funding structure of 70 million euros to be invested from now until 2021 in real estate projects to be regenerated as places of sociality, culture, sport and inclusion. This activity is managed by the Urban Center, while the OCI manages the participatory processes engaging citizens in collaborative projects. The multi-disciplinary team – which does not include a professional designer – also seeks to nurture the network and facilitate synergies between actors and citizen projects. The OCI's main activity is the Quarter Labs, whose objective is to activate continuous collaborative processes in each Quarter under the framework of the Urban Innovation Plan. The labs leverage and strengthen the new roles of the Quarters and assist them in promoting public life through the collaboration of citizens. The labs started in 2017 and have now concluded two cycles of the Participatory Budget. The third edition is now in progress.

The OCI thus works very closely with the quarters, city officials, policymakers, and the citizens. In addition to their role of facilitation of participatory processes of active citizenship, a big aspect of their work is also one of translation and negotiation between the strategic goals of the city and citizen needs, policies and grassroot initiatives. The team, together with the UIF, applies their expertise transversally on all of the foundation's activities, whose main focus is on urban transformation, through a number of different tools. While the main area of activity is providing support to the Quarter Labs and their specific annual objectives and initiatives, the team also supports other UIF activities. The team, for example, is currently (October 2019) helping to engage citizens in shaping the next Urban Strategy. This specific activity is also part of the activities done this year in the Quarter Labs. The labs focus for 2019 are grouped into three areas: (1) the General Urban Plan; (2) Reading Pact; and (3) the Participatory Budget (Fondazione Innovazione Urbana, 2019a). In the first, the overall process of the Plan started in September 2018 with the first draft of strategic objectives given by municipal technicians, which were then discussed by the local community of each Quarter (e.g. Not-for-Profit Leaders, social and civic leaders, etc.). To this initial frame setting, the OCI worked to integrate citizens in the co-creation of the plan. To this end, they conducted/are conducting the following initiatives that involve citizen participation: 6 town hall meetings focused on collecting citizen needs, suggestions and proposals on community spaces that could improve the livability of different zones; an online questionnaire to reach a broader audience and collect information on needs, suggestions and proposals; 6 Quarter walks to understand even better the Quarters from the eyes of citizens and those working in it; and 5 thematic meetings on transversal issues that interest the whole city (the environment; housing system; attractiveness and services; new economic trends; and urban renewal). The final draft will be done by the end of 2019 and will be opened up again to input and reflection until it is approved in its final form by December 2020. The second initiative consists in helping the Reading Pact map spaces around reading and defining them. The third focus, the Participatory Budget, will be discussed at length below with a specific example.

II. Ufficio Immaginazione Civica's Design Culture

a. Object of Design: role of design in the organization

Even though the OCI doesn't have a professional designer on its team, it has adopted a design approach in its work and makes use of design tools in its project work, which will be more clearly seen in the example below. The OCI is primarily engaged in designing spaces that empower citizens to actively care for the city and give room for community life to flourish. These public spaces are designed through a collaborative and open process involving interested actors and the city; the latter of which provides the authorizing environment (i.e. normative frameworks; supporting infrastructure; communicative platforms; etc.). OCI therefore designs spaces that curate new forms of city life and community and through its expertise and role as mediator activates the supporting ecosystem. The projects that they work on engage a wide range of actors, however given they are mostly based on citizen-initiative, the team's role is mostly to connect the project team to the resources needed and facilitate, at times, the dialogue, i.e. making sure they are "speaking the same language" by translating citizen requests into administrative jargon and vice versa. The OCI's approach is tailored to the needs and culture of the specific place inside the city. They use a diverse range of tools that go from more traditional town hall meetings to surveys, interviews, fields trips, walks through the Quarter and infographic communication aids. The main characterizing element of their approach is the requirement that the process be collaborative and participatory, with a specific focus on community assets and their regeneration.

b. Participatory Budget: an Example of Ufficio Immaginazione Civica's Design Process

Quick Glance of the Initiative

The Participatory Budget (PB) builds off the priorities that emerged in the CB project and engages citizens, the six Quarters and the PA in a collaborative process that enables citizens to decide how to invest an allocated budget of 1 million euros –€150,000 for each Quarter. The process has four steps: the presentation of the proposals, co-design, voting and implementation, and engages citizens, city officials from the Quarter offices, public sector technicians and supporting professionals, like those from the OCI team. The first edition took place in 2017 and it has successfully continued its activity annually. Being an activity under the Urban Innovation Plan, the main focus of the resulting projects must be on urban spaces. The first two editions only selected projects in urban spaces to move forward to the co-creation phase, however, in the current edition, a new strand of project proposals responding to strategic priorities identified by the Quarter Councils has been opened in order to provide citizens with quicker response times between a project winning and being implemented.

Design Process

Problem Framing and Ideation

The Participatory Budget begins with a preliminary phase of scenario building and setting the scene. The focus is to envision the future of the city, and the Quarter specifically, and identify elements to be prioritized in the development strategies of the Lab's activities. The priorities established during the CB participatory process are also included in these sessions. In the first year,

the OCI representative for each Quarter Lab conducted an in-depth Stakeholder Map, which is updated annually, to understand who the actors are in the area and gather interest. This mapping also helps to understand which social needs are already being met and which still need to be addressed.

Following this, the Participatory Budget process begins. In the first phase, events and open workshops are held in each Quarter Lab, in which citizens are asked to propose solutions to the need areas identified in the preliminary framing phase. These proposals can also be submitted online through the Comunità platform. The proposals are then clustered into 4 macro-categories: Public Spaces, Culture, Education and Poverty. Only the proposals for Public Spaces are selected to move on to the next phase. All other proposals and needs emerging in this first phase are passed on to the public offices managing these areas of welfare. In addition to the proposals made in person, the ones made online are added and analyzed.

Design

In the second phase, those who expressed an interest to bring the project proposal to the next step are invited to co-design the solution with technical experts from the PA and co-design experts. The co-design sessions are run on an Open Space Technology format and serve to: (1) analyze the needs that emerged in each Quarter; (2) share the priorities that the projects must address (the criteria); (3) define the areas to work on; and (4) ideate a project for each area. The resulting, more structured projects are then presented to the technical experts from the PA to understand their feasibility, both technical and economic, and the implementation time. Only the projects deemed feasible are promoted to the voting phase. The requirements to vote are inclusive: voters must be resident citizens 16 years of age and over; or non-resident citizens but who work, study or volunteer in the city; or foreigner or stateless residents that work, study or volunteer in the city.

Implementation and Evaluation, Monitoring and Measurement

Implementation is the last phase and is done by the public technicians with the help of the citizens who created the proposal; the latter serve as consultants for the project work. In 2017, 14,580 citizens voted on 27 projects. In 2018, 1,800 people participated in 50 meetings and labs in the various Quarters to propose 33 projects to be voted on and 16,348 people voted.

In July 2019, the city council met to deliberate on the Participatory Budget's progress. The project was considered overall as a success, with a high level of citizen participation. A problem, however, was identified in the 2.5-3 year delay between the end of the PB and the final construction of the winning projects. While these times are "normal" for Italian Public Administrations, it is too slow of a turnaround for citizens (d'Alena, personal communication, 2019). In order to address this concern and provide "quick wins" for the citizens, the council decided to add €1 million to the budget to fund community interest projects that support strategic priorities identified by the Quarter Councils, e.g. sport, culture, green spaces, education, social services, etc. In October 2019, citizens were then able to propose projects focused on the classic regeneration of public spaces or ones that respond to the Quarters' identified priorities.

The OCI collected all of the citizen project proposals and clustered them under the appropriate strategic actions expressed by the Quarters. The projects are being analyzed now (November 2019) and will then be presented to the heads of the Quarter Councils (d'Alena, 21 November 2019). The projects will also be evaluated by municipal leaders for a technical evaluation to test their feasibility. The projects served to further refine the strategic priorities from the

perspective of citizens. In March, the projects will go online along with the strategic actions. Citizens will then be able to vote for a requalification project and for one of the strategic priorities. Each Quarter will have €150,000 to distribute to the top three voted on strategic areas, to be distributed in descending order from the first place winner to the third, as follows: €75,000; €55,00 and €28,000 to finance projects that respond to the priority. The budget therefore no longer finances single projects but strategic areas. Considering the funds are already available in the Quarter's account to be used for cultural projects, the turnaround between the project's winning and its implementation is dramatically reduced compared to the processing time of regenerating an abandoned building, for example (d'Alena, personal communication, 2019). This year, for example, the vote will be in March-April 2020 and the first projects will be ready to be implemented in the summer (2020)[10].

The Participatory Budget and the activities of the Quarter Labs in general are monitored by a research group from the Sociology Department of the University of Bologna (Ces.Co.Com). The scientific contribution is meant to provide a methodology to the process, a qualitative analysis of its outputs and provide a critical reflection of the overall outcomes. The methodology chosen by the group was that of action research through design experimentation (Ces.Co.Com, 2018), in which their role is to formally reflect on the process and indicate measures of success but also criticalities and corrective measures.

Example: Quarter Lab San Donato-San Vitale
PB Project: "Atelier dei Saperi – Spazio di aggregazione" ("Atelier of Knowledge – Community building space)

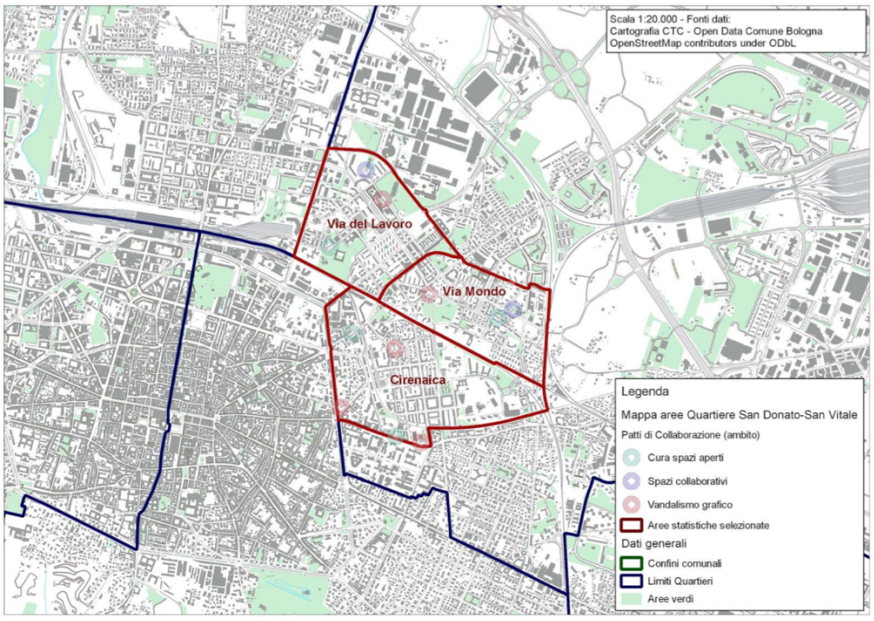

FIGURE 55. MAP OF INTERESTED AREAS FOR QUARTER LAB SAN DONATO-SAN VITALE'S PARTICIPATORY BUDGET 2017 (COMUNE DI BOLOGNA, 2017A, P. 5).

[10] Since the time of writing the case, the COVID-19 pandemic broke out in Europe (at the beginning of 2020), which has influenced the timeline and nature of the program. While the process had already gone through the more in-person and direct co-design phases and saw the submission of 157 proposals produced from the co-design process and 268 submitted online, the Council decided to postpone the rest of the program until the beginning of 2021 in order to direct resources (human and economic) towards managing the emerging crisis.

The area of interest of the Lab in 2017 was limited to three locations: Via del Lavoro, Via Mondo e Cirenaica. The first two areas have a very diverse and multi-cultural population with lots of immigration, particularly in the 1980s and 90s. The social support (associations, third sector organizations, etc.) is in fact primarily focused on integration and cultural preservation. All three areas have a high level of social activism and experience in urban renewal projects.

The labs in 2017 focused on the following three objectives: (1) the Participatory Budget; (2) defining the re-use of two abandoned buildings, Ex-Mercato Sano Donato and the Centro Beltrame; and (3) defining priority actions for the following themes: education, social and digital inclusion, sport and culture.

The preliminary phase started with a meeting on May 4, 2017, with the Quarter teams and interested stakeholders in which the needs and overall priorities of the San Donato center and Cirenaica areas were established. The three objectives of this meeting were to: (1) share information on the Participatory Budget process and the selected areas; (2) share knowledge of the territory and integrate insight into a scenario complete with criticalities and opportunities; and (3) to collect proposals on how to engage unlikely suspects and those who usually have difficulties in participating. This was done through activities led by Ces.Co.Com. The first of which was to build a scenario of the "San Donato center and Cirenaica" they would like to see in five years and the second was a mapping of the problem areas and the resources and opportunities available. The following three main themes emerged from the first visioning activity: inclusion and education; integration; and liveability and regeneration capacity. In the first, the need emerged to re-activate public spaces – both physical and social – for creative and cultural activities that are able to integrate the large number of existing initiatives in the area, especially those dedicated to the youth (Comune di Bologna, 2017a).

In June, the meetings with citizens started. On June 22, 2017, the Quarter Lab held an official meeting with citizens and municipal technicians. The meeting was run according to an Open Space Technology format, with a variant from the usual process by focusing on more than one question (i.e. public spaces, inclusion and abandoned building to renew). The main driving question for the Participatory Budget which emerged from the preliminary phase was: How can we equip San Donato center–Cirenaica with well-kept and lived-in public spaces (Comune di Bologna, 2017b)? The participatory process produced 8 projects. To this collection, 17 projects were added coming from the digital platform, Comunità. Co-design sessions to further develop the projects with citizens who committed to carrying the ideas forward were done from July to September 2017. In October, the project teams were given material to help them promote their projects for the vote. Quarter walks or bicycle tours were given to help promote the projects *in situ* and shed light on the contextual factors that play into the public space. Five projects were put to vote from November 7-27, 2017. The winning project was Atelier dei Saperi – Spazio di aggregazione.

FIGURE 56. UNUSED LOCKER ROOMS AT GIORDANI SCHOOL'S GYM AND FUTURE HOME TO ATELIER DEI SAPERI (IPERBOLE, 2017).

The project is centered on the re-qualification and regeneration of the unused locker rooms of the gym at Giordani School, which is located in the adjacent courtyard. The idea is to create an atelier of extra-curricular knowledge in the form of labs covering different areas: craftsmanship, music, comic and graphics, theater, sport, territorial knowledge, IT and digital competences. The final goals of these labs is to create a learning pathway based on "doing" for pre-adolescent and adolescent youth which could also be recognized and evaluated by the school as part of the formal curriculum. The hope is that by providing this offer it will reduce the number of students ditching school and provide additional interests to be pursued after school.

The project is one of two winning projects from the Participatory Budget program to have started implementation. Construction finally began on July 15, 2019 with an expected end date in September 2019.

FIGURE 57. LAUNCH OF CONSTRUCTION WITH PROJECT LEADERS, QUARTER PRESIDENT SIMONE BORSARI AND THE OCI STAFF AND REPRESENTATIVES FROM SOCIAL SERVICES (FONDAZIONE INNOVAZIONE URBANA, 2019B).

c. The Design Process as a Learning Process

The Participatory Budget is a political program of the current Mayor of Bologna, engaging citizens and city officials in needfinding activities, solution building and implementation. The program is the result of a political process, CB, whose aim was to build a collaborative city. In order to realize this, the city embarked on an interesting journey that started with a simple citizen request and that ended with a total restructuring of the city's infrastructure. The simple but also novel request, which required a long and arduous journey for the citizens, started a double-loop learning process for the city's administration, which was faced with a new situation that also mirrored similar citizen situations. The civil servants were unclear from whom authorization was needed. In the end, when five departments had to be visited to authorize the initiative, it was clear that resolving this problem required questioning how the city worked together and how it could collaborate for the creation of public value in the future. The city thereby effectively created the enabling conditions for a more democratic and collaborative participation in urban development goals. Instead of trying to fix certain problems related to the maintenance and meaning-making of urban spaces, the PA looked deeper and found a strategy that empowered community building from the bottom-up in an effort to promote horizontal subsidiarity. By providing the enabling conditions (e.g. legal infrastructure, technical support and resources, skills, project channels, etc.), the entire city became a space for experimentation and "doing".

The PB's co-design and participatory processes activated learning mechanisms for every actor, who now found themselves in newly defined roles. Civil servants working in the Quarter offices were now tasked with promoting civic life and an active community. In the PB, this required them to get "out of their offices" and explore the territory and enter in the citizen space, opening up new channels of understanding of the Quarter: its needs and opportunities. One of the main realizations was the need and opportunity to create synergies between the different actors around identified strategic priorities. Through the PB process, the civil servants also communicated closely with the citizens involved in the project proposals which led to mutual learning and understanding: civil servants learned about the citizens' contextual needs and citizens became more aware of administrative processes. These negotiations at times required facilitation from the OCI team to translate citizen proposals into administrative terms. This was done by re-framing and contextualizing the projects in strategic directions; likewise, the OCI explained administrative constraints and processes to the citizens. What emerges from the case is the clear need to engage both civil servants and citizens in the process and take an integrated, human-centered design approach. The input of the public technicians was important to the feasibility of the projects and helped focus them in the convergent phases and ensure that implementable solutions were produced.

Another key moment of learning is the reflection moments given by the process, which include political and project-related processes. Public assemblies organized by the Quarter labs have been instrumental in engaging citizens in participatory processes and in sharing results and progress reports for immediate feedback. Moreover, due to the political nature of the project, ordinary meetings between political leaders, public managers and the OCI team took place to deliberate on the project and evaluate its progress. The project also engaged an external evaluative partner (Ces.Co.Com from the University of Bologna) to follow the project and provide a qualitative analysis of the outcomes and critically reflect on the process. A final moment of reflection can be seen in the exhibitions displaying the artifacts coming from the co-design processes and the presentation of the final projects. Along with other social moments (e.g. neighbourhood parties, neighbourhood walks, etc.) and virtual experiences, these initiatives invited non-participating citizens to join the meaning-making of the process itself and the final projects. The reflection moments serve to provide space for feedback on the project and to course correct. In fact, one of the insights coming from the latest city council meeting, saw an integration to the already existing work on urban spaces to include initiatives of a more cultural, social or environmental nature that respond to the identified strategic priorities of the Quarters. The addition allowed them to give citizens the "quick wins" necessary to maintain citizen trust in the process.

d. Design Learning Outcomes as a source of Organizational Change

The Participatory Budget, contextualized in the larger change strategy of Merola's mayoralty, Collaborare è Bologna, is a program meant to implement the new policy on common goods and actively facilitate the creation of a collaborative city. The annual project is an example of how new innovations in Bologna can now emerge thanks to the ecosystem of actors and structures available. The new structures and resources at the citizen's disposal can thus be seen as enabling devices through which innovations are rolled out and thus fundamental to the city's change strategy. As the final design object is the establishment of a new culture, a flexibility in outcome is afforded and the scenarios for what the city will and can offer is left open. In fact, if we assume a *design for services* (L. Kimbell, 2011; Meroni & Sangiorgi, 2011; K. Wetter-Edman, 2011b) perspective, what emerges is that through the creation of the enabling conditions – as seen in the re-structuring of the city's Quarters, the establishment of the necessary normative framework, the provision of the technical

and operational support, along with capacity building efforts – the city provided the space for interactions and relationships to occur and for the creation of public value. We can see in the case a shift in perspective of who is providing city wellbeing, from being a sole responsibility of the city to a collaborative and co-responsible pursuit. Through the co-design processes, city officials were brought out of their offices to explore the territory and thereby enter into the citizens' life sphere. Likewise, through neighborhood walks, citizens from other Quarters as well as civil servants, were immersed in the contexts that surround the projects. At the same time, citizens were brought into administrative processes and through it gained a better understanding of the needs and constraints through which the administration works. What can be observed is the initial traces of a shift in mentality from a provider-centered perspective of public value creation to a citizen(customer)-centered perspective (Heinonen & Strandvik, 2009; Heinonen et al., 2010).

The setting up of the implementing infrastructure for the RCG was an act of meta-learning. In fact, we can see an alignment between the outcomes of the meta-learning process, which was focused on how to support citizen-led initiatives regarding urban regeneration – i.e. on creating the enabling conditions for the process– and a *design for services* approach which is contextual. The process was activated by a bottom-up request but was then formalized by top-down measures. The meta-learning can be seen as a forethought of the project that informed its development, and as a highly situated and negotiated process, integrating the needs, goals and constraints of the administration and the citizens into a joint-perspective. The knowledge coming from the process was transferred through reflection moments as well as through various media to capture the process, along with the participation in conferences, workshops and award competitions for cities (e.g. Cities of Service's Engaged Cities Award). In fact, as the mayoralty comes to an end, the OCI team is working hard to make sure the process and infrastructure are well established and that the value it carries with citizens is so evident that it becomes difficult for the upcoming administration to discontinue it. The need for "quick wins" for the citizens was an important insight coming from the first two editions that, left unaddressed, could have led to a deterioration of the trust built. What emerges from this is the need for more rigorous evaluation techniques of design processes as well as clearer mechanisms of how to encode the knowledge and make it "absorbable" in order to give programs like the PB a chance of surviving political turnovers.

In conclusion, the program was activated by both bottom-up and top-down processes. The design process saw the creation of the enabling conditions for citizen-led projects for urban regeneration. In doing so, the city provided the infrastructure for the citizen creation of public value. As a bottom-up process, the PB allowed citizens to guide the value propositions and to invite civil servants to co-create with them. The collaboration was essential for the establishment of mutual understanding and the creation of projects that were desirable, meaningful and feasible. The meta-learning processes observed in the reflection moments: e.g. public assemblies, city council meetings, exhibitions, neighborhood parties, etc. allowed for the program to course correct itself, as reflected in the addition of socio-cultural projects that require shorter implementation time in the most recent edition. This was furthermore supported by the scientific support of the University of Bologna who monitored the progress. The final goal of the program was to innovate the urban agenda and create a city that collaborates to reach its goals of wellbeing. In the process, the involved actors went through a learning process that increased the collective capabilities of the city through mutual learning and reflection. In the end, the meta-learning can be seen to critically reflect and act on the double-loop learning process that was catalyzed by a simple request to paint a bench.

7.2.3 Migri's Inland Design

Inland Design
Helsinki, Finland
Contact Person: Mariana Salgado, Director
Design Location (Design Commission's locational model): Embedded Designer

Abstract
Inland Design is a government design and innovation lab working inside the Finnish Immigration Service (Migri). Its mission is to codesign new solutions to improve the immigrant experience through a human-centered design approach, experimentation and technology. As their first big project, Inland codesigned with other Migri employees and their end users a chatbot to improve customer service. The process was done almost entirely through participatory processes engaging not only immigrants but also front line staff and management. The project was a success and even led to the creation of a networked service in an attempt to bridge organizational silos between Migri and two other public organizations: the Tax Administration (Vero) and the Finnish Patent and Registration Office (PRH).

I. Case Description

a. Context

Inland Design is the design and innovation lab inside the Finnish Immigration Service, *Maahanmuuttovirasto,* officially abbreviated to Migri. The lab follows a long and interesting history of design experimentation in government over the years. From 2009 to 2013, design was first integrated into the Finnish government through the Helsinki Design Lab, managed by Sitra, the Finnish National Innovation Fund. Their goal was to apply strategic design to the complex social challenges that Finnish society was (and is) facing. Following this, interest was taken up by academia in the form of a 14-week course called "Design for Government" (DfG), launched in 2013 as part of the Creative Sustainability Master Degree program at Aalto University. The course applies empathic design and system thinking to address complex challenges faced by the government and collaborates yearly with one or more Finnish ministries to address a policy challenge. In 2014, the Finnish Prime Minister's Office launched a tender to find new ways for advanced behavioural and experimental research to support government policy making (Sinclair, 2016). Think tanks, Demos Helsinki and Avanto Helsinki, won the bid in collaboration with the DfG course. The project's outcome was a working model for experimenting in government and how hands-on behavioural approaches can make policy more user-centered (Sinclair, 2016; Swan, 2018).

Upon the closure of the Helsinki Design Lab in 2013, the D9 group within the State Treasury became the focal point of design in government in Finland. Its mandate to enable cross-agency experimentation started in 2016 and ended in 2018. The team's task was to assist the public sector in creating customer-centric digital services and improve customer experience (Kokki, 2018). D9 was also an important supporter of Experimental Finland, the political platform of its former Prime Minister, Juha Sipilä.

Furthermore, in 2016, Helsinki became one of the first cities in the world to name a Chief Design Officer, mandated to bring a culture of design into the municipality. Anne Stenros served a two-year term in this role. In the same year, CDO Stenros set up Helsinki Lab as an experimental collaboration platform meant to run until 2019. The lab's goal was to further embed design practices, digital competences and interaction into the development practices of the city and its agents. In order to further highlight the work being done and spread awareness of the lab's working principles, the open workspace was located in the lobby of City Hall (Design Helsinki, 2018).

This track record of design experiments in the public arena have served to legitimize design thinking as a way to bring a 'new way of doing and thinking' into government. This impetus paved the way for two leaders inside Migri's digital services team to identify it as a means to bring change to Migri's operational procedures and organizational culture. In 2017, they founded Inland Design as an internal design and innovation lab. Inland was created to bring change to Migri's way of working, especially in response to: (1) mounting pressures to digitalize public services and (2) disruptive technological breakthroughs. The first steps were taken in March 2017 by consulting with Fjord Helsinki on how to get things started, build the concept behind Inland, the brand and visual identity, and to launch four pilot projects in Migri to demonstrate and test what design could do for them (Swan, 2018, p. 38). As the design and innovation lab was meant to introduce new ways of doing things, a new mindset and ultimately a new working culture, it was made distinct from the rest of the organization in its visual identity and brand. While this distinction has granted Inland the freedom to "be different", it has also challenged the legitimacy of Inland within Migri as it is perceived as not conforming to the values and norms of the organization (Swan, 2018, p. 119). Inland Design was officially launched in August 2017.

b. Organization

Migri manages applications for residence permits, citizenship, asylum and reception and protection, passport issuance and renewal, deportation, and other immigration-related duties and is located under Finland's Ministry of the Interior. It is divided into four Substance Units (Citizenship, Asylum, Residence Permit and Reception Centre) and five Support Units (Legal and Country Information, Customer Service and Communication, HR, Finance, and Digital Services). Inland is part of the Digital Services Support Unit, SÄPA (*Sähköiset Palvelut*). SÄPA provides advanced technological expertise and is one of the biggest and best IT teams in the Finnish government (Swan, 2018, p. 38). Residing in SÄPA thus gives Inland a convenient position from which to combine advanced technology with design thinking. In fact, its technology-based projects have validated its work within Migri, supporting its organizational legitimacy (Swan, 2018, p. 119).The nature of this work is well exemplified in their Chatbot project, which will be explored below.

Consequentially, Inland's mission is to co-design new solutions to improve the immigrant experience through empathy, experimentation and technology. Their goal is three-fold: (1) to create organizational change within Migri by creating an experimental culture, (2) to bring a human-centered approach to Migri's projects, and (3) to launch projects that see cross-agency collaboration (Swan, 2018, p. 38). Inland's team is currently composed of three (service) designers; all of whom are Migri employees. The team has been hired on a 2.5 year contract. It is unclear what will happen at the end of the contract, but likely there will not be a renewal (M. Salgado, personal communication, May 8, 2019).

Being "regular" civil servants has allowed the team to gain the trust of their colleagues and gain access to organizational resources and insight. In other words, acting as in-house designers has afforded Inland a position of greater impact by being viewed as being on the same team and not having to sell certain services as you would, should you be hired as an external consultant.

Inland's activities fall under four main strategic objectives that are in line with its mission: (1) to co-create new services with other public agencies; (2) to initiate new projects with/for internal units in Migri; (3) to bring an experimental culture to Migri; and (4) to spread design thinking throughout the organization. Inland doesn't hold ownership of any of their projects, but rather seeks to wean their presence as leader, leaving the project to run autonomously, assuming a role as either consultant or regular project member. Its activities are divided into two typologies that serve the different objectives: project work which carry out the first two objectives and initiatives which carry

out the latter two. Inland has developed four operating models, in which the role of Inland changes based on the needs of Migri's different teams, allowing it to flexibly adapt to organizational needs and thereby serve it better (M. Salgado & Miessner, 2019). The four models are as follows:

- from leading to consulting in which Inland takes the idea given to them from another Migri team or an immigrant and is the expert lead and through the process eventually fades out to become a project partner or consultant. An example of this is the chatbot project which, as already mentioned, will be covered in the upcoming sections.
- participating, in which projects are led by other units and Inland brings in its service design expertise.
- consulting, in which Inland starts and remains consultants, never entering as a formal part of the team.
- and finally, building space for collaboration, in which Inland functions as a connector between design expertise coming from different stakeholders: academia, NGOs, other public agencies or even different teams in Migri (M. Salgado & Miessner, 2019).

II. Inland Design's Design Culture

a. Object of Design: role of design in the organization

Inland adopts a co-design approach to their project work, making use of a vast array of service design tools to carry out their tasks and engaging users and other service actors in the design process. As Inland is located in the digital services team, technology is a big part of their work and has acted as a figurative "foot in the door" to gain organizational legitimacy. It however is not their sole area of intervention. Inland, in other words, seeks to be engaged in non-technological solutions, promoting initiatives that seek to embed a design approach to the work of the entire organization. A part of its activities are thus cultural.

Inland's goal, in fact, is to bring a human-centered design approach to the work that Migri does and help bring the immigrant, or the user, to the center of its services. In order to spread this mindset, Inland has two methods by which they seek to spread design competences and a user-centered approach, both of which are rooted in learning-by-doing processes: project work (like the chatbot) and initiatives that directly seek to build design capabilities in the organization. A key example of the latter is the Service Design Ambassador program which is a 1-year long training course for civil servants in design competences, in which participants advance their own projects through the help of course instructors and training modules. The first edition just concluded. Each participant had to dedicate 160 hours total through monthly, day-long workshops and monthly "homework" days in which participants were given readings and tasks to advance their projects. The course involved 8 lectures from service design experts, a field trip, project work and readings (M. Salgado, 2019). An open call was sent out to all of Migri personnel and 35 people from different departments and positions applied, all of whom were accepted. The course trained 28 ambassadors who have taken what they learned and are applying it in other contexts. Other initiatives that seek to promote the use of design competences in Migri's working practices include: "road trips" to other Migri offices in which ideation workshops are held; "10 ideas for your unit" to start collaborating with different units; "user research workshops"; and a "service library" to communicate their services to the other units. Thus as can be seen, Inland designs many types and forms of solutions

from tangible services and products to more softer solutions that seek to create a cultural change in the working practices and mentality of Migri and its employees.

Inland engages different actors in its activities through different methods based on the specific project, much of which is reflected in their four operating models described above. In its work, Inland has included Migri employees from various units, employees from different agencies, immigrants, and other users in its design work. Other actors are involved in different phases depending on their relevance to the particular development phase. For example, when working with other agencies on joint projects, leaders from the different agencies are immediately engaged in the framing the problem and creating the design brief; users are often engaged in user research/problem framing and prototyping phases; and employees are often engaged throughout the whole process. Depending on the model, the role of Inland in the process can be more dominant as the leader of the project (and their role ideally fades in time) or can be less dominant as a project participant.

b. Kamu, Migri's Chatbot: an Example of Inland Design's Design Process

Quick Glance of the Initiative

When Inland started its work in August 2017, Migri provided them with visions and a map of prioritized goals and objectives to improve their services and upon which to focus project work . These decisions were based on quantitative statistics to guarantee that the problem being faced would benefit and impact a large user base both internal and external (M. Salgado & Miessner, 2017a). Based on these statistics, a project to strengthen customer service was identified that also supported one of Migri's four strategic priorities to be customer oriented. The main input coming from the statistical analysis was that from January to March 2017, only 21% of phone calls were answered. This challenge was caused by the large increase in the number of applicants following the refugee crisis in 2015-2016, which saw over 30,000 asylum seekers in Finland, effectively increasing its yearly asylum requests by 822% (Eurostat, 2016).

The first step made was to conduct interviews with the customer service workers about what topics were most covered in the conversations. The results were that customers usually asked questions concerning the two general topics:

- general information found in the public migri.fi-website; and
- inquiries on application status, which requires the customer to be identified and this identification takes by phone a long time (1 to 5 min).

Based on these insights, the team decided that the solution was to lower the number of calls received per day by ameliorating access to key information by automating a part of the calls through a chatbot and a live chat. The chatbot, who's been named Kamu and given a personality, has had considerable success and between May 2018 to January 2019 has had more than 45,000 conversations, averaging about 180 a day. It has also been a source of inspiration for other public agencies and has led to a joint project on a network of chatbots between Vero, the Tax administration and PRH, the Finnish Patent and Registration Office, seeking to bridge organizational silos and offer comprehensive events-in-life services. A first prototype was made for foreign entrepreneurs coming to Finland. In January 2018, the Ministry of Finance expanded this concept to a larger scale, calling for a national network of chatbots under the project name "Aurora AI", to which Kamu served as a best practice.

Design Process

Problem Framing and Ideation

The concept behind the chatbot was catalyzed by an analysis of the statistical findings regarding the poor customer service response rate. This prompted Inland to conduct initial interviews with the customer service staff to understand the problem better and get an idea of the actual need, not only from the user-immigrant perspective but also those of the front line service providers. These insights helped frame the problem around more tangible and concrete needs. One insight was the difficulty of users to find and filter useful information from Migri's digital services. Information was communicated on four separate channels: the public Migri.fi website, the application portal EnterFinland.fi, the phone service lines and the customer services points spread across the county. Likewise, the customer service staff were pressured to find information quickly, having to search and filter information through various internal channels: emails, Migri.fi, document sharing platforms and EnterFinland. It was clear that Migri's customers needed support finding critical yet also basic information and that these types of requests could be easily taken care of by technological means, freeing up the customer service staff for more complicated cases (Figure 58).

Based on these insights and on the idea of using conversational interfaces to ease access to digital content for users, Inland conceived the idea of a chatbot for Migri, supported by a live chat and as a final resort a phone call. Chatbots have become a hot topic for increasing customer service quality in public organizations in Finland due to the following features: (1) they conduct natural conversations; (2) information can be given at the user's pace without pressure and the answers remain written in text for later consultation; (3) all information is given in the same window rather than searching and filtering through many tabs or windows; and (4) given the ease of the conversational tool, it doesn't require users to be tech savvy to use it (Miessner, 2018a; Salgado & Miessner, 2017a).

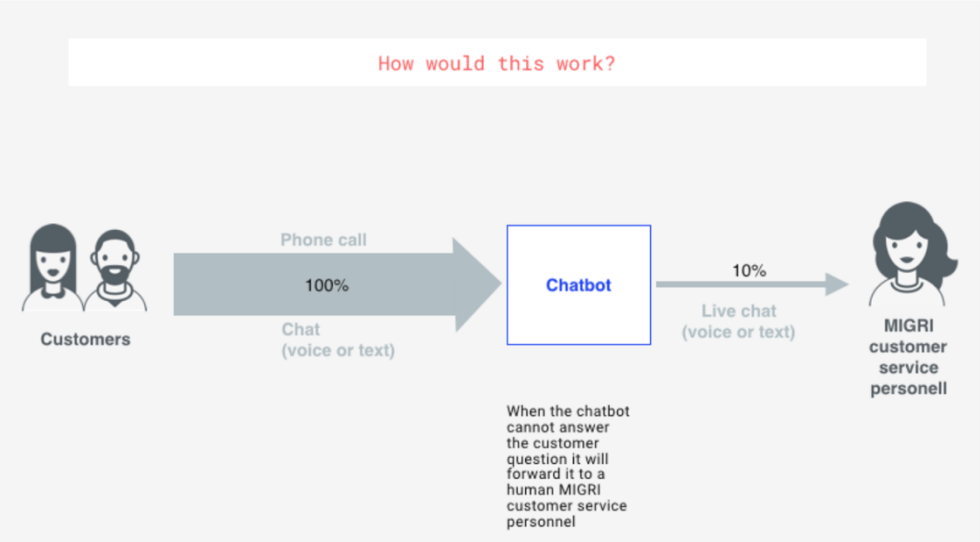

FIGURE 58. CONCEPT FOR KAMU (SALGADO & MIESSNER, 2017A).

When seeking to explain and describe their concept to their Migri colleauges, the team at Inland used system maps, user journeys and detailed and high-level road maps.

Design

In order to guarantee that the chatbot's content was relevant and would actually reduce the number of phone calls, it was important to co-design the bot with the customer service staff. In September 2017, Inland spent three days in Kuhmo, one of Migri's sites where the customer service staff respond to telephone calls. During this session, the team learned a lot about: the everyday work of the staff, what challenges they face, the importance of involving them in content generation and that the staff is often frustrated with other Migri units who often fail to respond to their requests, thus confirming the poor interaction between the units . The customer service staff furthermore made clear that the bot should inspire trust and state clearly that it is a bot. This insight confirmed a research question that the team had had on how to make sure that people trust the answers given by the machine.

The answer to this for Inland was to design a personality for the chat bot, which represented another objective of the three days in Kuhmo: to test with customer service staff what kind of personality the bot should have. Here the team wanted to understand what personality traits the customer service expert used in their daily work. In October/November 2017, the team did further research on the personality of the bot through immersion testing with immigrant users via a survey done at the Helsinki Service Point to understand what kind of customer service servant they expect to find at Migri. The last step was done in February 2018 in which the team tested on users how informal or distant the chatbot should be (Salgado, personal communication, May 8, 2019). Immigrants were given movie tickets for their participation (Salgado, personal communication, May 8, 2019). Following the decision regarding the chat bot's personality, the team asked the Migri employees to vote on a name. Only gender neutral names were provided for the vote and Kamu was the name that was chosen.

FIGURE 59. KAMU'S PERSONALITY PROFILE CARD (INLAND DESIGN, 2019A)

Implementation and Evaluation, Monitoring and Measurement

In June 2018, the team ran a pilot of the services and evaluated it during the summer.

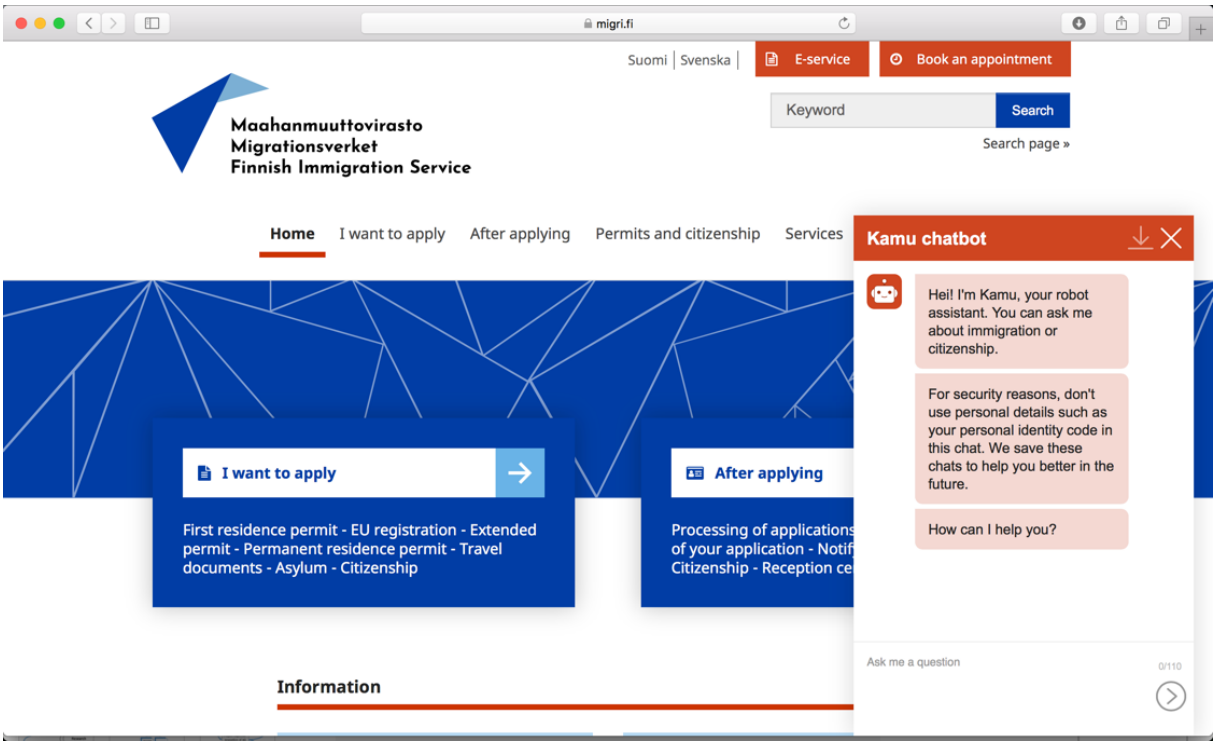

FIGURE 60. KAMU CHABOT ON THE MIGRI.FI WEBSITE (MAAHANMUUTTOVIRASTO MIGRATIONSVERKET, 2019).

Overall, Kamu is considered a success. It engaged in 45,000 conversations between May 2018 and January 2019, averaging 180 conversations a day. In terms of organizational gains, the project has helped ingrain a user-centered mindset in the team, making user testing an integral part of their working practices (Inland Design, 2019a). While there was initial skepticism on the utility of Kamu, the chabot has now become an integral part of the service offering and requests to add new content has now surpassed the team's capacity to produce. Lastly, while at the beginning the live chat was only open for 2 hours a day, it is now open from 9am to 4pm just like the telephone services. The success of the project has also translated in Migri becoming a leader in chatbot development for public services and the team is often asked to share their experience and help other organizations replicate their experience. This has led to another project led by Inland, Starting up Smoothly, that works to create a networked chatbot service with Vero, the Tax Administration and PRH, the Finnish Patent and Registration Office.

While Inland was project leader at the beginning and made heavy initial investments in the concept development, research and development, user testing, prototyping and translation of user and technological requirements, once the initial phase was over, Inland phased out to become only a project member as the dedicated team, ENNI, took over. ENNI is hosted in SÄPA. All content is made together with the Migri substance units involved, as well as experts coming from the supporting units. All the units furthermore collaborate as a review group to provide feedback on the content quality of Kamu's responses before they go live.

Kamu is owned by Migri: its content belongs to ASPA (customer services), while the technology development to SÄPA (Salgado, personal communication, May 8, 2019).

Starting up Smoothly

Following the success of Kamu, other agencies became interested in the idea of using a chatbot. This led to the idea of creating a cross-agency network of chatbots. This project really took to heart Inland's focus on seeking to respond to user needs by offering life event solutions that by nature bridge government silos.

Problem Framing and Ideation

In Finland, as is common with most public organizations throughout Europe, public service organizations work in silos to guarantee efficiency. This however results to be problematic or rather less efficient for the user who often must visit various organizations to accomplish tasks related to specific life events: e.g. moving to a new country, birth of a child, loss of a loved one, etc. The need to bridge organizational silos around life events is the key insight that drove the Starting up Smoothly project to create a networked chatbot service. In their concept, each organization remains the owner of their own chatbot and its content. The individual chatbots are then interconnected on an additional network layer to provide a more holistic service. The experiment started with two initial research questions, which were: (1) How can we serve customers through a common channel? Should the customer be aware of organizational silos? (In other words, does it make sense for the customer to have one bot for two organizations? And if so, do they need to know that there are two organizations behind the single bot and which content comes from which?); and (2) How can we collaborate across organizational silos? How can we take another organization on board (Miessner, 2018a)? The answer to the first question was that the customer needed to be aware of the two different organizations and their respective areas of expertise should the user decide to go in person to ask for information or to call the phone services, etc. Thus, the decision was made for each organization to keep its own chatbot and to create a networked layer that refers users to the right chatbot. The second question was reflected upon at the end of the process and will be explored below.

Design

The first part of this service took the form of an experiment between Migri and Vero. The experiment was designed to have a short turn around, starting in March 2018 with the expectation of having an initial prototype of the service by June 2018. The initial prompt was to help Vero's China Desk serve Chinese entrepreneurs who wanted to set up a business in Finland. The teams coming from the two organizations met once a week at the Vero offices to learn about substance matters but also how chatbots work, for which the experience that the Migri team had was very beneficial. Some team members worked on this project full-time while others just on the official day of the week allotted to it, also depending on the tasks of the member and the phase of the project (Miessner, 2018a).

The project had six steps. The first step was an online survey to understand what kind of content was needed: what were the user's questions, needs, pain points, etc. Three categories of user types were distinguished from this activity, which led to the second step: interviewing 3 users representing the three types to gain further insight. At the end of the user research, the team decided that the struggles of the Chinese entrepreneurs were the same as any entrepreneur coming to Finland, irrespective of country of origin. Thus, the decision was made to change the target to any foreign entrepreneur coming to Finland. The team also decided to limit this to immigrants who wanted to come to Finland to work either in a start-up or a big enterprise, i.e. specialized workers.

This was done to find common ground between Migri's target (personal applications) and Vero's target (enterprises) (Miessner, 2018a). At this point of the process, the teams had defined their user target and defined what content they needed to convey. What remained was the personality of VeroBot. As there was no intent to go live immediately, for the sake of the experiment, the teams conducted a quick survey done through a paper questionnaire to understand the characteristics of VeroBot's personality. The fifth step saw the building of the content and in the final step the team tested the bot with target audiences.

In June 2018, the final prototype of the experiment was demoed live with success and participants encouraged them to pilot the service as soon as possible (Inland Design, 2019b). In August 2018, PRH came on board and the experiment turned into a project to build a common service helping foreign entrepreneurs start up business in Finland. The process took on the same double diamond process (Discover/Research; Define/Synthesis; Develop/Ideation; and Deliver/Implementation) and built the service around three user personas based on the identified targets: limited liability companies or private traders. The personas were: (1) Yu Chen who wants to start up a subsidiary; (2) Vera Allik who wants to start up her own business and (3) Berat Asani who wants to start an import-export company (Miessner, 2018b).

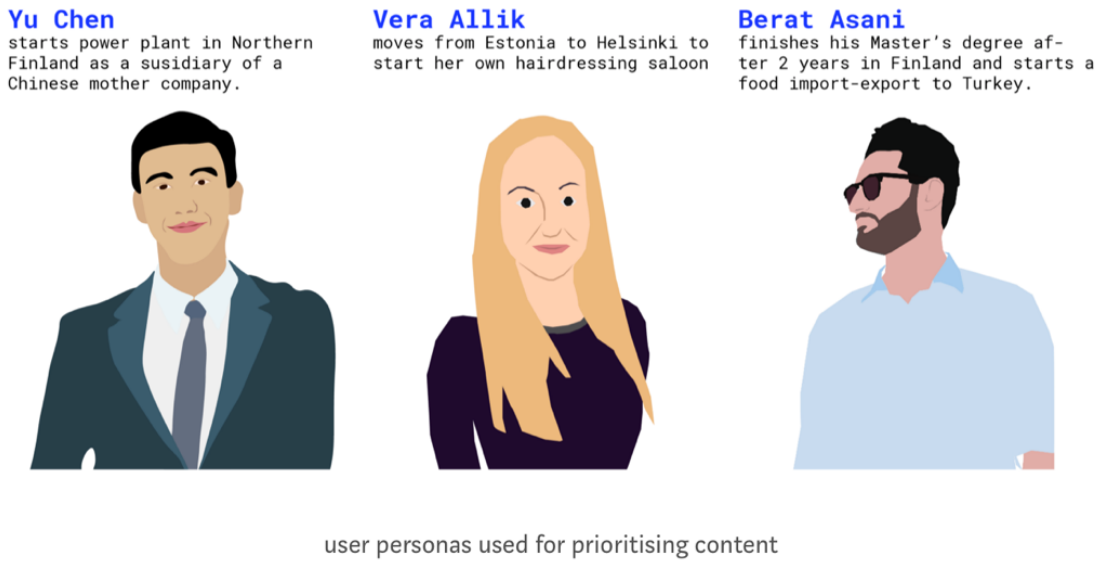

FIGURE 61. STARTING UP SMOOTHLY USER PERSONAS (MIESSNER, 2018B, 2018A).

In the final prototype, users can ask questions to one bot and be referred to another bot for questions that concern the partner organization in the same conversation and window. For example, a foreign entrepreneur may first go to the Vero website interested in how to start up a company in Finland and then be referred to Kamu through VeroBot for questions regarding immigration. Or vice versa, an individual may go to the Migri website interested in getting a work permit and then be referred to VeroBot by Kamu for questions regarding personal taxes.

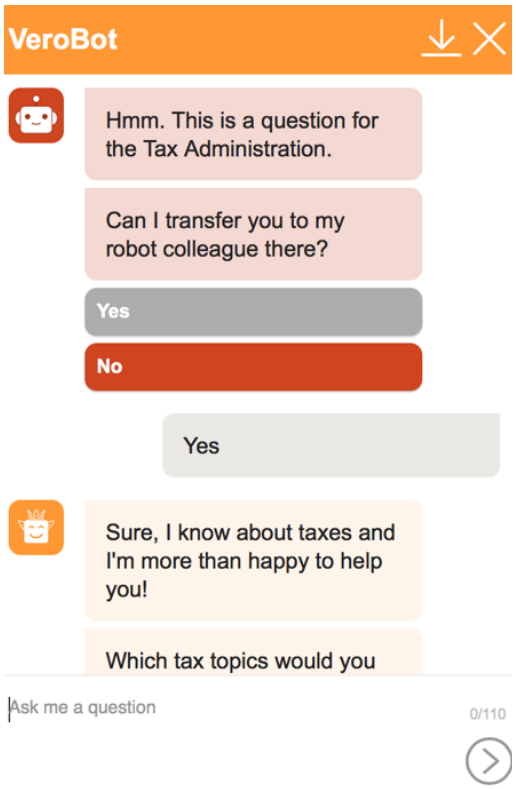

FIGURE 62. KAMU TO VEROBOT REFERRAL (MIGRI, 2019).

Implementation and Evaluation, Monitoring and Measurement

The service started piloting in December 2018 and will run until June 2019. The main evaluation of the project will then take place during summer 2019. During the process, Inland and the institutional organizations, Migri, Vero and PRH, learned a lot about collaborating within agencies and the bureaucratic and technical hurdles that arise. One insight that came out of this process very clearly is that technology comes after accounting for and understanding user needs. Inland took an agile and collaborative approach to creating an integrated, networked service of organizational chatbots. Rather than investing in large infrastructure and convincing organizations to get on board, Inland chose to connect separate prototypes designed to meet the individual organization's and its users' needs (Miessner, 2018b). In this way, a networked solution that meets a larger scope is also suitable for specific needs – social, cultural, technical, etc.

c. The Design Process as a Learning Process

The design processes for Kamu and the subsequent networked level of chatbots followed a typical double diamond design process, starting with the problem framing. Both challenges shared the need to better direct users to key information; with Kamu, the problem was specific to the needs of immigrants seeking to establish themselves in Finland, while the Starting up Smoothly project focused on meeting users' needs from a holistic, life-events perspective. Both cases engaged in double-loop learning. With Kamu, instead of hiring additional staff to cover the phone lines, the team looked further to understand why the calls were being made. This investigation led to the

discovery that information was scattered among many sources, fragmented and also very slow to come. This was coupled with no feedback mechanisms to reassure users of any progress. Many of the calls in fact were related to application statuses. In both cases, we can observe the desire to find a new solution to persistent needs that go beyond the existent practices in the organizations.

Designing the chatbot spurred different forms of learning for Migri and its employees. Throughout the design process, Migri employees were engaged directly in the development of the chatbot. While the design team did most of the user research, observing and holding workshops with the customer service personnel and consulting with immigrants, the SÄPA team were actively involved in the translation of the insights into the development of the chatbot. These employees learned several things working side-by-side with the designers from Inland: (1) the importance of putting people at the center of technology and adopting a human-centered approach (understanding who their users are); (2) what design tools are available and how to use them to explore and integrate user needs in product development/service delivery and to align visions and information around project goals; (3) the value of different forms of information. The competences have been passed and a new team was formed to manage and continue its development.

Furthermore, by collaborating with other agencies in the Starting up Smoothly project, Migri learned about organizational bottlenecks that happen across agencies for users when seeking to "get through" a life event. Taking on this more holistic approach, required civil servants from all three agencies to think beyond organizational needs and take a step towards a different way of serving. Each organization analyzed who their user was and what services they require for a specific event and which combination of user and event would lead to interacting with the other organizations. Writing up the script for the chatbot and coming up with scenarios of interaction linking the different organizations helped facilitate a deeper understanding of organizational practices and user needs and where on the user and organizational journey these occurred. We can therefore see that engaged participants learned through concrete experience by doing the design work, through proximity which helped foster tacit knowledge exchange; and by interacting with others.

A gap in user research, from the perspective of the final user but also in terms of service providers, emerged in the process. In fact, we can observe a need to extend this phase from solely user research to an investigation of organizational constraints, exploring the chain of service provision both internal and external to the organization. In terms of learning from proximity, Inland Design holds an interesting position. As was seen in the case, their location was quite influential to their work in two principle ways: (1) being located inside the government agency as employees, i.e. as civil servants and colleagues, levelled the playing field allowing them to more easily gain trust from the rest of the organization and have inside access to organizational resources and knowledge; and (2) being located in the digital service unit gave them access to bigger projects and also gave them a metaphorical "foot in the door", being able to demonstrate their value in an area in which design is more easily accepted: technology (as opposed to business strategy).

Being in-house designers rather than external consultants allowed Inland to be viewed as part of the team, rather than agents needing to sell something (Salgado, personal communication, May 8, 2019). This position of being colleagues working to better the department allowed them to gain access to resources, also in terms of insights coming from informal conversations, that helped them direct their operating strategies in a manner that aligned with the strategic goals of Migri but also those of Inland (which were to help Migri change its working practices and better serve its clients). We can therefore see tacit knowledge being exchanged from Migri to Inland and vice versa: in other words design competences and mindset being passed in one direction and organizational knowledge and practices in another. Being in-house has also allowed them to follow their project from conception to implementation, while also changing roles during the process. The hand-off from design expert to project member or consultant is an important moment because it ensures that

ownership of the new process and the competences that go along with it are passed on to the organization, while also providing space for guidance and constant support. While a lot of the design work and experimentation being done in public services has often ended at ideation, being in-house has given Inland the possibility of following the project beyond conception and service ideation and into implementation and even evaluation, thereby demonstrating the value behind the co-design approach. In the case of Inland, being located inside government has given it a strategic position from which to operate and make an impact.

While being housed within Migri and its digital service unit as internal design experts has its positive features, it also comes with its problems. For example the nature of the work that Inland is invited to do is mostly service-oriented, and rarely touches upon strategy, where co-creation processes could be quite impactful (Salgado, personal communication, May 8, 2019). This leads to questions regarding the location of design competences within the organization and to its permanence. In the case of Inland, the designers have a temporary contract which most likely will not continue. As stated by Inland's Director, in order for designers to be able to propose radical solutions and truly impact the organization, "[it] needs to be a permanent resource in public organizations, not a pop-up endeavour or an experiment" (Salgado, personal communication, May 8, 2019). This alludes also to the fragmentation of the learning outcomes of design work in public sector innovation efforts thus far. Moreover, the separation of design competences from strategy and limiting it to the design and delivery of service solutions is also found on a macro-scale in the policy cycle, where design is being used predominantly to find and test solutions (McGann et al., 2018, p. 14). As highlighted by Junginger (2013), limiting the role of design to policy implementation (i.e. the design of services) can lead to problematic policy outcomes (i.e. the possibility [and futility] of designing [even great] services that implement poor policy). This holds true also on the organizational level, where strategic objectives could be fulfilled with great services even if they aren't necessarily needed.

Also relevant to the learning processes activated by the design process is the strategy that Inland employed to connect the bots in a networked layer. Inland chose an iterative and "lean" strategy that was based on the activation of unique organizational pilots which were then connected through a network layer of collaborative services. This allowed organizations to get on board in an organic way without bypassing the crucial learning outcomes that are acquired through the design process. In other words, in more traditional solutions that see the construction of large infrastructures in the hopes that other organizations will join in, learning is disjointed, occurring only in the leading organization. Inland, however, walked each organization through the necessary steps towards creating a chatbot for the specific user group of the organization. In this way, each organization acquires an understanding of the technical and social aspects of the solution, the competences to move forward and also the necessary mindset for collaboration and "doing something new or old in a new way". The case demonstrates the importance of the learning process that occurs during the codesign process and the benefits it has in terms of successful implementation of an innovation in contexts that are rigid, highly bureaucratical and hierarchical.

Lastly, the design team themselves learn by reflecting on their process and project work regularly. This is externalized through blog posts done on Medium that not only recount their activities but that also reflect on the process and offer lessons learned for other practitioners or interested individuals.

d. Design Learning Outcomes as a source of Organizational Change

The decision to create an internal innovation lab by Migri was done specifically to change Migri's working practices and thus to help the organization create new ways to serve their users and

embed an experimental culture. Throughout the case, we can see different activities that have been performed to accomplish these goals from specific and more formalized training activities (Service Ambassadors Program) always rooted in hands-on design processes to project work following the traditional diverging and converging phases of the design process. What can be gathered is that in these activities, the organization created a space for it to both "stop and reflect" and engage in double-loop learning. The creation of the lab thus created the interaction and reflection space necessary to reflect on the underlying causes of organizational problems and collaborate to find new solutions. When designing Kamu, Inland and their colleagues reflected on the problem and decided not to simply correct the symptoms and hire additional staff but to really take a look at the problem and change its approach by integrating a technological solution to support existing services. This change was integrated slowly and later scaled (e.g. the live chat was initially only open for two hours but then was opened for the entire work day). The change of approach also happened in the employees, which can be seen in the high level of requests to integrate new scripts for Kamu. While there are no formal evaluation measures taken, the Inland team constantly receives new requests from different units to support them in their work. The team takes this a positive sign and a signal that the design approach has found organizational legitimacy and is being adopted. Furthermore, as a result of the design process, new relationships and collaborations were formed with other agencies (i.e. Vero and PRH), within Migri itself and new teams were created (i.e. ENNI). Lastly, thanks to the lab's position, tacit knowledge was mutually exchanged allowing for a new culture to slowly establish itself embodied in the new practices and approaches given by design.

Despite the progress being made, a deeper transformation has yet to take place, allowing design to work on more strategic issues of the organization. Currently, Inland works off of the strategic objectives that have been already decided rather than contribute to the formulation of these objectives. Doing so would allow for reflection to happen at deeper levels and perhaps lead to more transformative organizational change. In the end, what has emerged from the case is the role of the lab as a space for meta-learning and the design process as a vehicle of both double-loop and meta-learning fostering organizational change (even if in less explicit means).

7.2.4 La 27e Région's "La Transfo"

La Transfo
Paris, France
Contact Person: Anna Lochard, Head of Research; Laura Pandelle, Service Designer
Design Location (Design Commission's locational model): External Agency

Abstract

La Transfo is an experimental and inter-public service program whose final goal is to create an innovation lab in the partnering public administration. A multi-disciplinary team trains twenty, volunteer, civil servants in innovation methods through a series of challenges, while contemporarily setting up the groundwork for the innovation lab within the administrative "ecosystem". The program lasts 1.5 years and engages civil servants from different administrative stations. While the program is a process of meta-learning for the city's administration, its final impact risks being minimal due to an inherent paradox in its design: the process is internal, involving only civil servants and excluding external contributors, while also being external to the home organizations of the volunteers which hinders the effective transfer of knowledge post-program.

I. Case Description

a. Context

In a context of constrained public finances and changing citizen expectations, innovation is a focus of the French government in its efforts to modernize public services. In this direction, the General Secretariat for the Modernisation of Government (SGMAP), launched a program called 'Futurs Publics', in November 2013, with the double mission to: (1) test and experiment new solutions in public services in a "lab" setting; and (2) develop within the administration an ecosystem to support innovation that is open to new partnerships (Bry, 2015). The program aims to help public service providers become more inventive and reactive in the solutions they implement, as well as more flexible in the mobilization of resources and competences from both inside and outside the organization (OECD, 2019b). In March 2017, the SGMAP, through Futurs Publics, launched the French manifesto for public sector innovation. The manifesto set forth the following: it defined 7 principles to help establish innovation in the French PA's culture (of which included: putting the users first, a need to be open to new knowledge and research findings and break down silos, a focus on doing and the value of co-creation); it identified design and behavior economics as the two methods that constitute the basis of public sector innovation; and it established 5 challenges to be tackled to spread innovation, which included the need to boost the innovative capacity of France's 5 million civil servants, open the public sector to civic participation and introduce a new work format, like the establishment of labs (Futurs Publics, 2017).

The movement that can be seen in the French administration through SGMAP is an interesting development of what was already observed by the founders of La 27eme Région in 2008, who saw a mismatch between public policies that were made for the 20th century's industrial society and today's societal needs and expectations. The recent manifesto is also reflected in the work of the NGO and its "La Transfo" program which will be covered specifically below.

b. Organization

La 27eme Région was established, in 2008, as an initiative in alliance with the Association of French Regions (ARF) in 2008 with the goal of being a public transformation lab. It was supported in its initial trial basis by FING, the Next Generation Internet Foundation, and became an independent association in January 2012. It has been funded since the beginning by the ARF, the Caisse des Dépôts and nine member regions, along with benefitting from European funding (La 27eme Région, 2019b). The lab mobilizes multi-disciplinary teams made up of designers, idea generators, and social scientists from diverse fields (e.g. ethnography, sociology, and participant observation) and engages in ground-level actions (e.g. do-it-yourself projects, adult education actions, etc.). Both of these approaches place the concrete experience of users, civil servants and citizens as the top priority and makes it the starting point for re-examining public policy.

La 27e Région conducts action-research programs to prototype new methods for designing and implementing public policies by engaging in experiments in the field. La 27e Région is also a resource center set up to build and pool knowledge and know-how, and to encourage peer-to-peer exchanges in the public sector. The lab in fact has sought to position themselves as a sort of common good, or shared resource, for public sector innovation. Their business model is therefore built on partnerships with local and regional authorities, public administrations and private stakeholders who provide funding to both benefit from and actively contribute to the common good. In most cases, the lab frames the issue and then a partnership is created within this methodological framework and governance model. The team is composed of eight, permanently employed staff and 2 part-time employees, who have varied backgrounds from cultural projects management, design, marketing to management. The design presence is just one tool of many that the lab uses in its methodology. It can be seen to provide an overall process strategy and also tools, but the methodology of the lab is really *ad hoc* to the project needs and based on a multi-disciplinary approach.

II. La 27eme Région's Design Culture

a. Object of Design: role of design in the organization

The lab's methodology is based on what they call "public policy design", which applies the principles of (user-oriented) design to public policy making (La 27eme Région, 2019a) and is rooted in the belief that policymaking is a multidisciplinary and collective practice. The methodology is therefore user-centered and seeks to embed a new mindset in policymakers from the perspective of the intended beneficiaries and to provide them with new methods and tools to engage them in its formulation. Design, however, as mentioned above, acts as one element of their approach and other disciplines are employed to complete the process. The lab also focuses on prototyping solutions and challenging methods in order to find the best tool or approach for the organization and their users' needs so as to organize policymaking practices differently and give new meaning to public action (La 27eme Région, 2019a).

La 27eme Région primarily designs learning and experimentation pathways for civil servants and policymakers to better serve their beneficiaries. This can be seen in their action research projects, for example Territoires en Résidence and La Transfo, the latter of which will be seen more clearly in the next section. The former, which is their first program, is based on a 3-week (in 1-week intervals) full immersion of the team in the host organization to question its operation from the viewpoint of the user and propose ways to concretely improve their services and/or working practices. The program, due to its transversal focus, has brought the team to apply their

methodology on a diverse range of areas from designing the library of tomorrow to regenerating abandoned train stations in rural areas. It has to date partnered with 16 different public facilities/services (La 27eme Région, 2019c)

The lab engages a diverse range of participants in its activities. Beyond the project participants, the team also involves relevant professionals with the expertise needed to work on the specific project. While the focus is always on the user, the final user is only actively engaged if their input could be useful towards the construction of the project. In the project done on the train station in Bretagne, for example, due to the nature of the project, it was determined that the citizen's contribution, in terms of knowledge, was usage and experience and thus their contribution was made, "unconsciously" (notice was given) through their daily commute. A clear and studied strategy of resource uses and knowledge sources informs their process.

b. La Transfo Paris: an Example of La 27eme Région's Design Process

Quick Glance of the Initiative

La Transfo is an experimental and inter-public service program that started in 2011. The final goal of the 1-to-2-year program is to create an innovation lab in the public department that it partners with. A multi-disciplinary team of "residents" take up shop for 7 to 10 weeks, interspersed throughout the timeframe, to work with the volunteer civil servants on the task of setting up the lab within the administrative "ecosystem". This is done primarily through the organization of three mini-challenges related to the organizational context that the team works on to learn a new approach, different methods and diverse tools that can be integrated, and perhaps even transform, existing working practices. La Transfo also acts as an open source device to share know-how and skills between different public authorities, done primarily through organized days of sharing and reflection in which all the program teams from the different regions come together.

Design Process

La Transfo can be defined as an experimental learning pathway whose final goal is to create an innovation lab inside the host public administration to act as both a repository of the knowledge acquired and also a device with which to transfer the knowledge to other parts of the organization. The pathway is inspired by Bloomberg's Innovation Delivery approach and service design methodologies. The program has three primary goals: (1) to train civil servants by testing and appropriating new tools and working methods; (2) to produce new ideas or solutions, with the tools and working methods on policies chosen as testbeds with the participating authorities; and (3) to create a group of trained agents accustomed to working together in a collaborative and transversal way (La Transfo, 2019a).

The process starts with a partnership agreement between La 27eme Région and the host administration. The contract is very clear and detailed; in particular, it emphasizes that the process will take time and require a long timeframe (of at least 1 to 2 years) to properly establish an innovation lab inside the organization (Lochard, personal communication, September 18, 2017). The contract represents an important step of the partnership since it establishes the ground rules and also the commitment that each actor makes to the process, effectively serving as the first act of trust that is taken by the partnering organization in the process. The program is financed in a small part by the municipality, in part by a French national supporting entity and 30% is covered by Bloomberg Philanthropies. La Transfo's program has certain fixed points but its implementation

remains flexible to allow for it to better contextualize itself to the local ecosystem of actors, resources and needs. Each pilot city has a team of three professionals from La 27eme Région called *residents* who follow the 1.5 year program and facilitate the sessions.

The next step is the launch of the call for twenty civil servants within the participating municipality. The volunteers, called *ambassadors*, are selected based on their backgrounds with the aim of having a wide variety of skills, professional backgrounds and perspectives represented in the group. The formation of this group is one of the most difficult parts of the process (Pandelle, personal communication, February 23, 2018) as it requires getting members from different stations in the PA to communicate with each other. For instance, getting an Executive Secretary to speak to a Technician (e.g. a gardener, builder, janitor, etc.) in a horizontal way can prove difficult, and likewise for technicians to value their own ideas to an equal degree (Pandelle, personal communication, February 23, 2018). Forming this group identity and preventing the re-creation of internal hierarchies is the first official challenge of the La Transfo process.

The learning program is designed around the timeline of the project and is divided into three main phases. The first is focused on learning project tools, –e.g. ethnographic research, thinking differently, prototyping, service design, project management, etc. The second aims to understand how to apply these tools in their daily work practices. Finally, the last is dedicated to giving shape to the future lab, particularly seeking to understand its practical application from the perspective of the participants: "In my current job post, how can the lab help me? How can I approach the lab? In what circumstances can the lab help? What can I expect to get out of it? What's my role in that process? What's the lab's role? Etc." (Pandelle, personal communication, February 23, 2018).

The program is focused on learning by doing and is based on the launching of three challenges to be solved by participants (an example of which is given in the box below). The challenges are chosen based on the composition of the group. For example, if there are several *ambassadors* coming from the Department of Culture, then a challenge will be made in collaboration with this department to understand concretely how to integrate the new approaches and tools into the daily working practices of the organization (Pandelle, personal communication, February 23, 2018). The challenges are used to experiment with the new tools and to slowly build a new working culture amongst the *ambassadors*. The team of *residents* from La 27eme Région carefully prepare the work sessions before the start but are also reactive to the process as it unfolds.

The sessions are divided into three sections: an icebreaker; challenge work and methodology training; and reflection time. The icebreakers work to create a group culture, while also working on "soft" innovation skills like accepting risk, developing curiosity, working in a team, listening to the opinions and ideas of others, iterating "solutions", considering the user as a contributor, etc. The main challenge work focuses on moving the group through different tools and methodologies to respond to the specific challenge. This part often requires participants to go out in the field for discovery work or to collect user or provider insight on the proposed solution. The last part of the session is dedicated to debriefing on all the activities and to focus on developing an attitude of reflexivity. The group discusses what worked and didn't work, shares learning outcomes and reflects on how specific tools and methods could be used in their work and how they could be adapted to better suit the specific context. Challenging the tools is a positive learning sign of taking control of the tool and internalizing it. One of the difficult goals of the reflection process is to get the *ambassadors* to talk by themselves (Pandelle, personal communication, February 23, 2018), as it is rare in the PA for civil servants to share knowledge coming from their own experiences. The re-centering of experience as a basepoint for sharing is a novelty in these contexts (Pandelle, personal communication, February 23, 2018).

The program also focuses on sharing the learning outcomes and knowledge coming from the process with the rest of the host administrations. This is done in different ways in each La

Transfo program. In Dunkerque, for example, the main method was through a newsletter that was sent out to other civil agents to update the organization of their activities (Pandelle, personal communication, February 23, 2018). In Paris, knowledge sharing was done through "show and tell" events in which the *ambassadors* presented the outcomes of the process to *relays* and other members of the organization. *Relays* were external followers of the La Transfo Paris program who were updated on the progress of the program and participated in testing solutions. The Paris call had such a large response that civil servants who weren't selected to be part of the process as *ambassadors* were given the opportunity to provide an outsider vision through moments of exchange and also help the *ambassadors* spread the learning in the organizations. La Transfo also holds moments of exchange and learning between the different La Transfo programs called "Intertransfos" to support knowledge sharing.

At the end of the three challenges, the group produces the groundwork for the new innovation lab and presents it to the city's administration. The challenge at the end of the process is to find parting ways for the *ambassadors* to remain in contact and for momentum to continue while the official lab is being formed (Pandelle, personal communication, February 23, 2018). Yet perhaps the most difficult aspect regarding the "success" of La Transfo is the establishment of the lab within the city's administration and the transfer of the knowledge and experience of the process to the rest of the administration. This is particularly tricky as the *ambassadors* return to their posts and new personnel is hired to run the lab.

In the case of La Transfo Paris, for example, no clear knowledge transfer mechanisms were identified other than the group of 20 *ambassadors* themselves. In fact according to the coordinator of La Transfo at La 27eme Région, Nadège Giraud, it is still unclear what kind of human and financial support will be given to the lab by the City of Paris, which puts into question the ability of the lab to spread these practices throughout such a large administration, which boasts 50,000 civil servants (Goëta, 2017).Moreover, in a report by the Independent Reporting Mechanism of the Open Government Partnership (Goëta, 2017), it was found that while the commitment of the program was aimed at shifting the administrative culture of the City of Paris to be more user-centric and innovating, the training program was limited to the small group of *ambassadors* and failed to include a public-facing mechanism to improve access to information, nor did it include citizens in decision-making processes or improve mechanisms for government to justify their actions to citizens (Goëta, 2017, p. 40). Finally, the same report found that owing to the internal nature of the commitment, there was no change in the level of government openness at the end of the process (Goëta, 2017, p. 40).

"Redefining the Paris Citizen Card" by La Transfo Paris

FIGURE 63. "REDEFINING THE PARIS CITIZEN CARD" BY LA TRANSFO PARIS (LA TRANSFO, 2019B).

Problem Framing and Ideation

The objective of the Citizen Card challenge was to introduce the ambassadors to the methods of field investigation. The card is free for all Parisians, regardless of nationality or age, and grants access to cultural and sports offers in the city. It is one of the concrete actions taken after the Paris terrorist attacks in January 2015 and is managed by the Department of Citizen Participation (La Transfo, 2019b). Since its launch, however, it remains unclear how the citizens use and perceive the card and its services. The challenge brief was first introduced to the group by representatives of the Department of Citizen Participation. The main research questions that arose to face the challenge, included: Who are the real users of the card and what are its real uses? How does it articulate citizenship? Should it offer more types of interaction?

Design

The first step was to make a map of citizen "hot spots" to find where their users were and to ensure a good representation of different citizen pockets. Following this, the group was broken down into small groups and went out on an immersion survey to one of the locations identified on the map. The groups had three roles to play: a journalist, photographer and observer. The groups practiced their roles through role play before leaving. After, the teams prepared a poster to present results to the rest of the group. Following this, the group was divided into four larger groups for a second round of interviews with card users, card distribution points and the creators of the card to understand more on how the services were offered, how they were used and what symbolism the

card possessed. Following the interviews, the groups reported back the findings and analysed the data from the interviews and the immersion survey through a process of: clustering insight; extrapolating new questions based on the insight; connecting these ideas to current trends (e.g. sharing economy, DIY, alternative currency, etc.); brainstorming new ideas; transforming key ideas into more concrete solutions; and finally sharing these ideas as Usage Scenarios through video prototyping.

Implementation and Evaluation, Monitoring and Measurement

The final video prototypes were shown to a group of 30 *relays* (external La Transfo followers described above) who provided feedback on the ideas. A discussion was also had with them on how to best integrate the new methods and tools acquired during the challenge with the host organizations and other city departments. In the discussion, the *ambassadors* comment that they find the methods used ten times more effective than what they do every day. Two volunteer *ambassadors* were also identified to share the work done on the Citizen Card with the card's Steering Committee. The *residents* from La 27eme Région found the group discussions to be an important moment for the *ambassadors* to appropriate the tools and the process.

c. The Design Process as a Learning Process

The learning process of La Transfo, as evidenced in the case, is experiential and based on a strategy rooted in multidisciplinary tools and competences. The process follows a general design approach with tools and input coming from different disciplines. Design can be seen to serve as a framework for the process, as well as providing specific tools and competences in the learning program. La Transfo trains civil servants to engage in double-loop learning through an experiential learning process, in which *ambassadors* are immersed in project challenges and are invited to question the underlying assumptions that are at the root of the problem. A large part of this work can be seen in the discovery part in which *ambassadors* focus on understanding the system and the users. Both aspects constitute novel experiences for civil servants who are well-versed in organizational protocols and processes in their daily roles and hardly adopt the user's viewpoint or even those of colleagues. In the case example of the Citizen Card in Paris, we can see this in the immersion work done to understand the real reason behind the slow uptake of the card and its services by citizens. The immersion work served to bring the *ambassadors* out into the field and investigate first-hand who the users were and how the services are used, questioning even the utility of the service and how they could be better designed. Coupled with the diversity of the group of *ambassadors*, who came from different stations in the public service system, the program established a democratic learning process in which the perspective and experience of each actor was valued and held equal ground in decision-making and solution-building.

In this way, the program prompted *ambassadors* to value each actor as a contributor of knowledge and allow experience to guide decisions and be accepted as a source of knowledge. The reflection moments at the end of each session provided the space for these reflections to emerge and served to create a culture of openness in the *ambassadors*. While the project work trained *ambassadors* in the methods and tools, the reflection moments helped establish a new culture of practice to be integrated and adopted in their current work. The real challenge, however, is to find ways to adapt these methods to the participants' work in a way that reconciles the current organizational culture with the practices that the methods require for implementation. This process of challenging the tools and adaptation is one of the key focus areas of the program. The idea is that

through this process a real bridge can be created between the *ambassadors* and their home organization to facilitate knowledge transfer. As will be discussed further in the next section, questions remain regarding the feasibility of knowledge transfer through the effort of only 20 civil servants and of obtaining the larger goal of the program to change the culture of the PA. While effort is made throughout the program to share results with the rest of the organization, it remains to be seen if the competences and culture that required 1.5 years to acquire can be shared through softer forms of engagement with the new lab and through the efforts of the trained *ambassadors*. A key resource to the program in fact is time, which is considered a pre-requisite to start La Transfo, and essential for the creation of a lab that is something more than an empty box.

We can therefore observe learning in La Transfo to happen primarily through concrete experience (e.g. project work; immersion activities); observation (e.g. immersion work; reflection moments); proximity (e.g. working with other colleagues in the context as *ambassadors*); and by interacting with each other, system users and beneficiaries. Formal training is limited in the program and is only reserved to basic explanations of the tools and to introduce new topics.

d. Design Learning Outcomes as a source of Organizational Change

The final goal of the La Transfo process is the creation of an innovation lab inside the host municipality. The lab is meant to provide an authorizing environment for doing things differently; a space to approach problems in creative ways and center services around citizen needs; to stimulate collaboration within the PA but also with citizens and other actors; and to change the culture of the public sector. The 1.5 year La Transfo program is therefore a meta-learning process, in which the participants learn how the PA learns and how it can best act on the knowledge acquired. The final product of the process is the creation of a space to foster double-loop learning, rooted in experiential learning practices. The program in fact focuses on helping *ambassadors* gain knowledge through first-hand action research practices that is based on learning by doing and learning through reflection. Both aspects are quite important. The former helps *ambassadors* gain confidence in their own experience as a source of knowledge, while the latter helps them accept this type of learning as a legitimate source of knowledge. The moments of reflection also afford *ambassadors* the time to understand how to integrate the practices into their daily work, which is important in terms of the practical application of the knowledge acquired and the hope of transferring the knowledge into the rest of the organization. The reflection also ensures that the learning outcomes are calibrated to serve administrative needs as well as those of the users. In other words the tools, methods and approaches must also meet the organizational needs in order to realistically change the culture of the organization and its working practices. The focus on the user, which is important to stress in its current absence, should be balanced with a continued focus on the administrative needs. The learning process is therefore also a negotiation of how to best balance administrative and user needs, or rather how to best serve citizens within the constraints (e.g. legal, transparency, etc.) that bind the PA to its role as protector of the general interest. For this reason, the adaptation of the tools, methods and approaches is crucial to the process.

The valuing of new forms of knowledge is important towards the uptake of the learning outcomes and knowledge by the *ambassadors* in their daily working practices. However, questions remain as to how the knowledge will be transferred to the rest of the organization. As the learning occurs external to the organizations and on an individual level – with team learning happening only between *ambassadors* who won't be working together post-program –, the risk is that the organization will not learn in the absence of clear mechanisms for this to occur. While the final innovation lab is designed to encode the knowledge into the organization, it risks to be limited to the project participants without more buy-in from top-level managers who can do more to institutionalize the

practices. The risk is heightened since the lab will not be run by the *ambassadors*, but by new employees. The findings confirm what was observed by the Open Government Partnership report, which found there to be no change in the level of openness of government owing to the internal nature of the commitment (Goëta, 2017, p. 40). The same report (ibidem, p. 40) recommends the city of Paris to engage high-level political and administrative support for the lab's project, to consider how the public can directly benefit from its methods; and to include more public-facing activities such as co-designing innovative initiatives with the public. In short, it remains unclear how a small group of *ambassadors* can transfer the knowledge acquired to the rest of such a large administration.

In terms of the specific challenges that are worked on during La Transfo, the hosting organizations do benefit from organizational learning to a degree, albeit it is hard to measure. These learning outcomes include: (1) understanding the value of adopting another perspective on what is and is not working in the public service, whether from the users' perspective or front-line staff and pinpointing their "blindspots"; (2) learning to collaborate with civil society and the third sector to promote already existing solutions, rather than being too apt to solve them on their own; and (3) getting comfortable with experimentation at early stages and beyond (Pandelle, personal communication, February 23, 2018).

Finally, the organizational change goal was to train civil servants and help them collaborate with each other to innovate citizen services. As seen in the discussion, the extent to which this will happen remains unclear on the organizational level, despite the positive aspects of the program on the individual learning level.

7.2.5 Fjord's Bundesagentur für Arbeit

Fjord Berlin
Berlin, Germany
Contact Person: Jennifer Dettmering
Design Location (Design Commission's locational model): External Agency

Abstract

The German Department of Labor (Bundesagentur für Arbeit, BAA), in an effort to improve the dialogue between citizens and themselves, decided to create a new digital interface to mediate between the administration's and the citizens' needs. The organization, through their partner Accenture, outsourced the project to Fjord Design. Through Fjord's design process, the organization was able re-design how they communicate with their users and in the process how they themselves view their own services, going from a siloed viewpoint to a holistic one, focused on the user and their needs from a life stage perspective. The process led to the creation of design principles that inform their digital offering and the integration of new competences in the organization's working practices.

I. Case Description

a. Context

Despite being a leader in Europe, Germany lags in its digitalization strategy. In fact, only in November 2018, did the country launch its digitalization strategy based on five fields of action: digital skills; infrastructure and equipment; innovation and digital transformation; society and digital change; and the modern state. Regarding the last pillar of the strategy, the goal is to simplify the dialogue between public authorities and citizens by digitalizing all services by 2022 (The Federal Government, 2018). In an effort to implement the strategy, the government has launched digitization laboratories that use design sprints, among other tools, to develop digital government services. For example, a design sprint was done on Dec. 5-6, 2018 in Berlin as part of the "Birth" Digitization Lab.

In the climate leading up to this new strategy, the Bundesagentur für Arbeit, along with other public agencies, felt the growing need to digitalize its services. This is particularly relevant for the agency's work in the "emerging" paradigm which is estimated to see around 1.3 million jobs replaced by AI, but that in turn another 2.1 million jobs will be created (Brady, 2018). The Agency has in fact started a pilot of a "lifelong occupational counseling" service, with the aim of re-skilling workers to prepare for this change (Stern et al., 2018, p. 11). It was estimated that, through digitization, German citizens could gain 84 million hours of free time per year; companies could save €1 billion per year in administrative costs; and civil servants could save 59% of all work hours spent processing cases (Stern et al., 2018, pp. 5–6), freeing up time to dedicate to more delicate issues (which would lead to service improvements).

b. Organization

Fjord Design is the design agency for Accenture Interactive. The firm primarily works with clients to design digital products that put people first. Considering the constantly evolving technological landscape and the fast shifting expectations of customers, Fjord designs what they call "Living Services", or rather "digital experiences that are responsive to the user and the environment,

able to shape-shift and renew themselves to remain relevant" (Fjord, 2019a). They focus their work on three main services: design-led strategy, service design and product design. They work with both the private and the public sector.

II. Fjord's Design Culture

a. Object of Design: role of design in the organization

Since Fjord Design is the design agency of Accenture Interactive, most of their projects are digital solutions. However, due to their design process, the questions that need to be answered also give way to different design fields: service, spatial, etc. The agency follows a typical design process rooted in a human-centered approach.

b. Digital Transformation of Bundesagentur für Arbeit's web portal: an Example of Fjord's Design Process

Quick Glance of the Initiative

Governments around the world are dealing with the need to digitalize public services and work processes. The fast changing technological advances have prompted not only new needs from its citizens but also new expectations that are also very quick to change. The German Department of Labor (Bundesagentur für Arbeit, BAA), in an effort to improve the dialogue between citizens and themselves, decided to create a new digital interface to mediate between the administration's and the citizens' needs. The platform bundles its services into one, user-friendly and intuitive portal making access to key information and forms on the various services easy and guided and in "three clicks".

Design Process

Problem Framing and Ideation

The BAA is the German Federal Employment Agency and is the largest provider of labor market services in Germany. They provide career and employer consulting, job placement, and promote advanced professional education. They also dispense unemployment benefits and compensation. They have a network of more than 700 agencies and branch offices nationwide. Their main activities include:

- Matching job seekers with companies as quickly as possible;
- Finding work for the long-term unemployed; and
- Offering young people a vision through an apprenticeship.

As highlighted in the introduction, digitization is changing the paradigm of their work offering both in terms of citizen expectation of *how* their service is delivered and of *what* services are offered (e.g. the BAA's "Lifelong Occupational Counselling" course to help train and prepare the workforce for the effects that digitization and AI will have on the labor force). To best prepare itself, the BAA launched its 2020 IT Strategy, which included the need to provide customized, easy-to-use digital services. In an initial survey, the design team found that 70% of respondents would like mobile access to job offers, 71% believed that digital customer channels are growing in importance, 55% saw mobile access as the preferred customer channel for government services,

90% expect public digital services to be as good as private ones and only 33% trust that the government will provide digital services (Fjord, 2019b). The old BAA website was quite difficult to manage with over 95 different services offered on over 20 different pages, without a unified approach, content strategy or wayfinding mechanism (DrivenxDesign, 2019). This disorganization made it very difficult for users to understand how to find the answers to their specific situation: from understanding what services were available to what forms were needed to which unit they needed to contact. It became very clear that their digital communication and interface needed to be improved and modernized. The idea was to create a single portal that bundled all of the BAA's services into a one-stop shop for all.

Based on these insights, Accenture, who has consulted with the BAA for many years, decided to engage Fjord in the project to offer something new and a fresh perspective. Accenture and the BAA gave Fjord a simple design brief, written in a human rather than technical tone of voice: we want a new website where everything is accessible within three clicks. In 2015, based on the design brief and initial research, Fjord pitched a prototype to the BAA Board and Accenture of a first idea of what the portal could look like in "three clicks". The idea was quite innovative and bold for the BAA as it is a large public sector organization, but the Board was quite enthused and willing to proceed with the development of the idea.

When Fjord entered the project, they found, as described above, a website that was messy and disorganized, which presented the need to focus first on re-defining its content. Coming from the outside and from a novice position regarding who the organization was and what they needed to do this, the team started with classic design research, talking to the different departments who owned the content and analysing the contexts the content was written in. Through this process, Fjord discovered the silos that exist in the BAA and the core of the website's problem: the compartmentalization of the content caused by silo mentality that produced a mass of different information that wasn't integrated and absolutely not user-friendly, as each department looked at their own content from their own perspective and not the user (Dettmering, personal communication, November 15, 2019).

From a technical standpoint, a constraint of the design brief was that the new portal had to respect safety and data protection requirements of the public sector and use the government's site builder. The public sector's need to have systems be so safe made it difficult for Fjord to come up with innovative UX solutions. The team thus had the challenge of finding work arounds from the technical perspective to build good user experiences.

Design

Once the go ahead was given by the Board, Accenture and the BAA design team started setting up the necessary resources and spaces for the design phase from the beginning of 2016 to the summer. In order to break down the silos and bridge communication between them, the bold decision was made to create a working group that brought together different content editors, splitting up departments and bringing them together to work in a big room. The entire service department of the BAA's headquarters was dedicated towards creating a new website and developing content from a humanistic or design-centered perspective. In addition, a group of people were hired to launch the website and work with the Fjord team on its development. They were briefed by Fjord and worked alongside them to look into the design principles and needs from the user perspective.

Once everything was set up, Fjord started the detailed design phase which lasted from from mid-2016 to 2017 with the final launch. This phase saw the use of personas to better understand the BAA's users' needs and to see the BAA's services from the point of view of the user. This tool

brought forth another constraint of the design process. Legal limitations on data protection and privacy made co-designing with actual BAA users impossible. Fjord was thus forced to engage in guerrilla research and talk to people on the street to understand the motivations that bring citizens to the BAA website and what their real needs are. This was complemented with information from interviews with the BAA agents working in the service centers to understand what questions are asked the most and what needs were presented. Private companies, who are also users of the service, were consulted with as well. The finished personas included the following: an unemployed person looking for a job; families expecting a child and in need of family benefits; students and young people looking for additional job training (education and further education); and someone with disabilities in need of support. From the personas, the team created life stages complete with a list of needs to match each profile and worked on these life stages as the basis for content organization of the new portal. Task analysis was done for each persona to understand their journey on the website: how did they get from one page to the next; how do they know where to go; what goals do they have and how would they like to reach them, online or in a personal conversation.

FIGURE 64. TASK ANALYSIS AND CUSTOMER JOURNEY OF THE NEW WEB PORTAL (ACCENTURE, 2019)

Based on the user research, the next step was the creation of user journeys, specifically content types, page types, and prototypes, which were then iterated (Dettmering, personal communication, November 15, 2019). This tool was the most eye-opening tool for the participants who weren't used to co-creating and being engaged in and throughout the design process (J. Dettmering, personal communication, November 15, 2019). The group met weekly and even bi-weekly to co-design with each other and Fjord the new concept for the portal. One of the outcomes of this was an understanding of how co-design works and the importance for the content editors coming from different units to come and work together. The work on the user journeys was particularly "eye-opening" (Dettmering, personal communication, November 15, 2019) for the civil

servants who saw juxtaposed in large poster print outs the "as is" journey and the "to be" journey which demonstrated how even small changes can really affect the user's journey. The "to be" user journeys showed a sophisticated end-to-end cycle according to individual needs with step-by-step guides to take users through an otherwise complex and elusive process, creating understanding, and providing direct access to online processes (Accenture, 2019). This process not only equipped them with new tools but also gave them the experiential knowledge to really understand their use and utility. The user research was then used to make low-fidelity wireframes and prototypes, which were then iterated based on feedback. A final mock-up was then handed over to the Board to show the starting concept. This process repeated itself for each life stage.

The whole process was facilitated by an agile collaboration with Accenture. At the start of each life stage, Fjord would meet with Accenture and the BAA to frame the project and detail who needed to be consulted with and why. This was then supplemented with inside knowledge held by Accenture of the working practices and environment of the BAA, which allowed them to anticipate any political problems and engaged the right people early and get them on board. Based on the initial meeting, Accenture would set up the work group with the people in charge of the content to answer the needed questions. Once this was done, Fjord would start the design process, which followed a cycle of research, design, iteration, implementation and again iteration to arrive at a high level concept to present to the implementation team, mixed with the Design team from BAA. Fjord would also establish the working process for the group. The process on whole would last 6 weeks. The process was then repeated for the next life stage, for which Accenture had in the meantime done all of the pre-work to form the working team. Overall, Accenture did most of the people management in pre-work and Fjord did the execution in collaboration with them.

Implementation and Evaluation, Monitoring and Measurement

The implementation of the new portal was part of the design process and was constantly iterated to improve the content and its organization. Even after the launch, the implementation process is ongoing as old content has to be integrated into the new concept. In fact only three to four levels have been harmonized until now (Accenture, 2019). The development and maintenance of the portal is managed by the BAA digital team who was trained during the project in the design principles of the portal and its concept. In a user survey done after the launch, 80% considered it to be a success (Accenture, 2019)

c. The Design Process as a Learning Process

The design process led by Fjord with the agents from the BAA and Accenture catalysed a process of double loop learning in the organization. Before the project, the BAA's website ran without any guiding design principles, content was made to serve department needs without any consideration of the content coming from other units, their possible interconnections, overlap or conflicting nature. This made the citizen journey quite laborious and confusing. The first step Fjord took was to investigate with the BAA team the tacit design principles and mechanisms that informed the current website, question them and form new, co-designed principles that take into account needs from the user perspective, while also satisfying administrative needs. In order to accomplish this, a working group was put together to bridge organizational silos, harmonize content, and create an integrated site organized by user needs and life stages. Bundling services in the new portal according to these life stages was a real change in how the content of the old website was organized, which also reflected the siloed nature of the BAA's internal organization. Through the co-creation sessions, the agents learned also the needs of colleagues in different departments and units and were

able to put together a more holistic vision of the service offering through the lens of the identified life stages. Tacit knowledge of internal work practices was therefore brought out by working closely with each other and with Fjord who brought in the user perspective.

The co-creation sessions were completely novel to the agents who had been accustomed to handing over design briefs and waiting for the consultants to come out of a "black box" (Dettmering, personal communication, November 15, 2019) with a ready-made solution to be implemented. The new working style allowed the agents to learn, by doing, by working closely with the designers and through repeated interaction, design principles like user-centricity, empathy, human-centered design, and rapid prototyping within the context of application and therefore to really understand how to apply the principles in their working practice. Fjord's way of working was really influential to the BAA, opening up a new way of doing, thinking and producing under a single, holistic viewpoint, centered on the principle of serving the public from the public's perspective rather than being centered on themselves as unilateral providers of information (Dettmering, personal communication, November 15, 2019). This subtle but important shift also entailed an acknowledgement of the user as a contributor of useful and valid information.

The adoption of the new working practices is reinforced by the BAA's Digital Department, who are re-working existing content to fit under the new concept and new content guidelines. Other evidence of the adoption of the tools and principles by the BAA agents in their working practice, as observed by Fjord before closing the project at the launch, is the use of tools, like personas, for internal issues to understand needs and pain points and to take on an empathy perspective, as well as making rapid prototypes to have something tangible to work with (Dettmering, personal communication, November 15, 2019). The internal design department, which had always existed, is now trying to show things quicker. Moreover, some of the agents involved in the co-creation sessions have even became ambassadors of the new mentality and tools and have hosted workshops to train others in the agency (Dettmering, personal communication, November 15, 2019).

d. Design Learning Outcomes as a source of Organizational Change

The goal behind the project was to innovate the BAA's digital service offering and service delivery. However, getting people to work together in a silo-driven organization, proved to be a big challenge to the design team from Fjord. A key factor of their success was the presence of a highly engaged client, Michael Adam, the Online Services Lead for the BAA, who was driven to get the project done. Mr. Adam also had a unique background, having started as a social worker for the unemployed before working in the central headquarters in Nuremberg. This gave him personal insight and experience in the content of the issues themselves and the actors with whom to engage. This was furthermore enhanced by the collaboration with Accenture, who had a long working relationship with the BAA, and were well aware of the political issues that could surface. This allowed them to engage the right people at early stages and anticipate certain barriers to the process. Without these two resources, the process might have gone differently for Fjord.

In fact, what can be observed in the case is the importance of the set-up of the design process in which existing design legacies are explored and in which the team reflects on how to create an environment conducive to the design process, one that puts the organization in the best position from which to design. In other words, the team engages in meta-learning. In the case, this was seen in the initial meetings between Fjord, Accenture and the BAA, where thought was given on how to best organize the work sessions. The idea of setting up a work team that bridged silos, bringing content editors and those responsible into a single team and space, was quite novel and bold for the specific context. Those initial pre-meetings between the partners were moments of meta-learning, in which the team reflected on how to create an environment with the "right" people

and space to best facilitate the co-design and co-creation of the new portal for each life stage. This authorizing environment was crucial to the final design process, allowing it to work in a quicker and agile manner despite the organizational context. In the words of Jennifer Dettmering (personal communication, November 15, 2019), one of the service designers from Fjord, "in environments such as those found in the public sector, there is a lot of legacy behind why things are the way they are. This was one of the hardest parts of the process for Fjord: investigating the legacy to understand the present situation to then go back in time and see where the breaking point was and determine how to solve it". In the case, in fact, we can see many elements that went into the set-up of the design process (e.g. the identification of key stakeholders to engage, bridging organizational silos, mapping out content and service touchpoints) that work off an understanding of "how things are done" at the BAA. In the case, this was facilitated by the organizational knowledge held by Accenture. Acknowledging and learning the legacy of the BAA was crucial for the success of the co-design process, allowing Fjord to co-design with the organization in an organic way that builds off of current practices and the context in which it is situated. The co-design sessions helped create the trust in the design practices and create the experiential knowledge to really adopt them in their existing work practices. The tools also established collaboration between the participants and helped ease communication between the silos. By including a lot of people from different departments, one of the hopes and goals of Fjord was to create *tribes* of ambassadors in the different departments able to create a welcoming environment to receive the output once it was ready for each life stage and ease its integration in their particular silo, removing barriers to change. The designers thus engaged in change management but in an organic, implicit manner rather than engaging any explicit strategy.

Moreover, the current need to re-fit content to the new concept reinforces the learning from the process, along with any ripple effect coming from the participating agents sharing the acquired knowledge. The concept driving the portal itself can therefore be seen as a lasting artifact that encodes the learning from the process into the organization. It is unknown however to what extent the tools, methods and principles have been applied to new projects in different areas or if they have been limited mostly to the further development of the portal.

Chapter 8: A Discussion of Co-Design's contribution to Public Sector Innovation

8.1 Opening up the Public Sector

> *We face problems for which causal relationships are so complex that we cannot know when one problem ends and another begins, or whether the problems themselves have been caused by previous or existing policies. We confront a world in which "what works?" is a simplistic and nonsensical question. "What works?" like probability, is a poor guide to action in a world in which "problems" are not continuous over time and space.*
>
> *Wayne Parsons (2010)*

> *If bureaucracy has declined as a paradigm for the public sector, however, it has not been replaced with any single model that can provide descriptive and prescriptive certainty. Neither scholars attempting to capture the reality of contemporary public administration, nor politicians and managers attempting to make the system work on a day-to-day basis, have any simple model of what the contemporary reality is.*
>
> *B. Guy Peters (2010)*

The need for public sector organizations to be "open" to face the emerging challenges of the 21st century is widely discussed in public management literature (e.g. Ansell & Torfing, 2014; Bourgon, 2011; Goldsmith & Eggers, 2004). Much of the discussion stems from the rising complexity and "wicked" nature of public sector problems that are "forcing" new models of governance to emerge (Goldsmith & Eggers, 2004, p. 7). Public managers today are facing new circumstances and new challenges (Bourgon, 2011, p. 19) for which the tried and tested solutions will not work. These new circumstances have to do with the nature of the problems, which generally involve a large user base, acting simultaneously and with a varied set of particular needs that exhibit high levels of interdependence and no clear solution, as described in the introductory quote by Parsons (2010, p. 27). In addition to framing the problems and their "boundaries", public administrations operate in layered paradigms of governance (Benington & Hartley, 2001), each providing different conceptual lenses for treating problems and a different set of operating tools. Public managers must therefore be savvy in the identification of the problem space and the governing paradigm in which they find themselves. This speaks to the need to not only account for the context of destination of the innovation, but also the context of origin, and alludes to the importance of an integrated design approach that accounts for both top-down and bottom-up needs and constraints, as evidenced in the discussion below.

While New Public Management brought in scientific rigor to governing and efficiency-oriented models from the private sector, as reflected in evidence-based policy and evaluation research, the complexity of the wicked problems facing public sector organizations is now challenging the validity of these notions. As remarked by Snowden and Boone (2007), decision-makers in the public sector are now "probing" or feeling their way through to suitable solutions. One could liken this to the act of bricolage (Lévi-Strauss, 1966; Weick, 1993) in entrepreneurs and is

in line with Moore's (1995) strategic triangle for public value creation and the need to call a public into existence (Moore & Fung, 2012). In sum, the context of origin of public sector innovations has been depicted in literature (as detailed in Chapter 4) as a layered structure of organizational arrangements, governing notions, cultures and traditions through which public managers and other actors seek to create value for citizens and respond to pressing, wicked problems. Evidence coming from the cases discussed at the end of the section point to the possibilities of a transformation, or rather, a re-interpretation of public sector organizations as platform organizations (Ciborra, 1996), making use of the mixture of elements at its disposal to create the enabling conditions for collaborative, citizen-led, multi-actor innovation.

The current section will explore evidence coming from the cases that discuss the contribution of co-design as it is being used to help public sector organizations face rising complexity and wicked problems and better serve citizens.

CO-DESIGN ACTS AS AN ENABLING DEVICE FOR PUBLIC VALUE CREATION AND MULTI-ACTOR COLLABORATION.

The cases showed that co-design processes were instrumental in facilitating innovation objectives by creating shared understanding and enabling new ways of doing things. In the majority of the cases, co-design was declared as being chosen for its capacity to bring actors around the same table to improve or re-design services and create a common culture of collaboration and open communication between actors. This is in line with literature celebrating the need to design *with* rather than *for* citizens (Junginger, 2014). In Bologna's Participatory Budget and Brescia's Zero Tender project, co-design was a key part of the process, bringing civil servants, citizens, third sector organizations and other experts into the design of the solution. In the first, citizens engaged public technicians in the design of their projects to ensure feasibility. Moreover, through the public assemblies organized before the solution-building phase, dialogue with city officials ensured that the projects were in line with the strategic priorities of the Quarter and the city overall. These strategic lines had also been co-created in an initial political program led by the city's mayor. Here, we can see the engagement of the citizen in each phase, from strategy to implementation. It should be noted that the Participatory Budget program was specifically created to encourage this type of interaction and exemplify the range of possibilities offered by the new organizational arrangement. The program can therefore be seen as a prototype testing the efficacy of the structures. Likewise, in Brescia's Zero Tender project, actors from each sector are included in the building of the accreditation tender. Moreover, through the establishment of Community Points in each of the city's quarters, citizens are able and encouraged to add to the service offering by creating new ones, often in co-creation with other actors in the community, or by institutionalizing already existing, 'informal' activities into the main offer. In both cases, all of the actors in the system – Bologna's "Urban Agenda" stakeholders and Brescia's Welfare stakeholders – and citizens were actively engaged (if not, encouraged to participate) in the entire process. As a result of truly designing *with* citizens throughout the entire process, citizen-centered public value creation was achieved by enabling them to act independently to satisfy their needs and desires. This is largely due to the conditions that regard the set up the design process. This supports the discussion had in Section 5.1 on design for service (Meroni & Sangiorgi, 2011; Katarina Wetter-Edman et al., 2014) – i.e. designing environments and contexts for design and participation – and the value of a customer dominant logic (Heinonen & Strandvik, 2009, 2015) in public value creation – i.e. building service value propositions that are contextually based on citizen needs as they appear and intertwine in their lifesphere.

Another important aspect of creating shared understanding between actors and developing a new, negotiated culture was the act of building in moments of reflection for all the members to think, share and learn as a group. In these moments, which was often vision work, participants reflected on the current state of the project, what was working and what was not, and how to improve things in the future. This is most clearly seen in the La Transfo program, in which the team from La 27eme Région finished each work session with a reflection moment with the *ambassadors* (participating civil servants). One of the main objectives of these moments was to encourage the *ambassadors* to critically analyze the tools and methods and to re-work them to fit into their home organizations so they could be easily integrated into current work practices. Reflection moments also happened in more institutional settings through public assemblies, council meetings, department meetings and meetings with top management – e.g. Bologna's Participatory Budget, Brescia's Zero Tender, Fjord's BAA project, and Muzus' User Research.

A focus on creating a shared language and a collaborative, open culture through the co-design process was seen in many of the cases, especially as a way of bridging silos and emphasizing the value of communication. With its own 'rules' or 'non-rules', design principles provided the space for public value to be co-created through a shared experience that came with its own language and co-created vision. What emerged from the empirical research in this regard is the need to create a group culture that favors horizontal dialogue (avoiding the re-creation of hierarchies) and that fosters mutual recognition of every actor as a contributor of knowledge and ideas. This supports what Newell et al. (2003) found regarding the importance of shifting power and role boundaries to foster knowledge sharing between professional groups. While beyond the scope of the dissertation, the issue of power relations in the co-design of public services and policy and its influence on the process is relevant. An interesting reflection and heuristic is provided by Avelino and Wittmayer (2016), who provide a clear conceptual background of the main issues concerning power in transitions and propose a Multi-actor Perspective. Their work provides interesting correlations with the present research, namely regarding the problematization of co-design's ability to democratize public value creation, i.e. the issue of who is *really* participating, why, how and in what roles. Regarding the latter, Avelino and Wittmayer (2016) discuss the limiting nature of roles as being ideal-type images that are enacted in the process, but also being a resource, and as such a 'vehicle for agency' (Callero, 1994, p. 230 as cited in Avelino & Wittmayer (2016, p.637)). This was clearly seen in the case of Brescia, in which third sector actors, civil servants and also citizens struggled to break out of their pre-defined roles. This was particularly evident in the challenge for third sector actors to own the accreditation process and cooperate rather than compete for public funding. Viewing these roles as resources also connects to the multiple 'triangles' at play as pointed out by Bryson et al. (2017) in today's multi-actor, poli-centric and shared power world. A further point that is interesting to the research is their conceptualization of each sector as a space that harbors internal power dynamics between regimes and niches. They clarify that the 'State' does not refer only to regime elements seen in government departments and politicians, but, also, to the behavior of citizens and voters (Avelino & Wittmayer, 2016, p. 639). Enactive processes in the relationship between the two then shape the sector. The question they then pose is one of empowerment and a transformation in how roles are interpreted and used. This is clearly connected to the current research's study on the role of design in capacitating actors to participate in and lead the co-creation and co-design of public value. It is, moreover, interesting as a framework to see the relationship between the output of policy labs (seen as 'protective spaces' or niches; please see Sections 8.3 and 8.5 of this Chapter and Section 5.4.1) and the transformation of the public sector (the regime) via its organizations.

The case of La Transfo clearly exemplifies the importance of creating a level playing field in co-design activities that remove hierarchies that could impede equal contribution from each actor. In the beginning phases of the training program, it focuses on communication and ensuring that the

ambassadors coming from different public stations could freely communicate and be valued. In terms of creating a shared language, the co-design process allowed for the creation of shared experience and learning (which will be covered in Section 8.4) which helped communication between participants. In fact, basic education of design tools and terms served as a starting point of the process. The 'foreignness' of design terminology was even found to be a barrier to the integration of design in public sector organizations. The last point was pronounced in the work done by Helsinki's CDO who found that the use of the English language in her design work was an obstacle when working with civil servants and top officials (Schwartzmann & Milkowski, 2018). She also found that service design, UX design, etc. needed to be defined in the context of the public sector and be explained to participants in order to engage in a fruitful design process. Furthermore, several cases evidenced the illiteracy of civil servants in reading visualizations. This is interesting, considering the fact that visualization tools were considered a valuable feature of design and was identified as a means to communicate different emotions and experiences in a more immediate way rather than resorting to text-based mediums. In the design work done by Demos Helsinki, for example, as discussed in the cases on Migri's Inland and Experimental Finland, the human-centered model of experimentation in government had to be re-worked from a double diamond to a simplified, albeit text-heavy table (see case study for picture comparison). A more complete discussion of the use of design tools in the co-design process will be made later (Section 8.2). Inland Design also worked on creating design literacy in Migri through the creation of a 'library' that presented the different tools, an amabassador program and other 'soft' activities to make the terms and connecting tools/ideas more understood.

Co-design processes were observed to be an implicit vehicle of organizational change, building *tribes* of ambassadors through the learning process who share knowledge and prepare the context of destination for the innovation (i.e. final design concept). In cases like La Transfo, Servizz Design and Inland Design's Service Ambassador program, one of the main objectives of the design process was to train civil servants in design tools and methods through concrete "project work", with the objective that they would share this knowledge with colleagues and slowly change the organizational culture. In other cases, like in Fjord's BAA project, Turin's TO-HOME, the DDC's Greater Copenhagen project, Lab X's Bereavement Desk and GovLab Arnsberg's chatbot, the objective of creating design ambassadors was less marked and more implicit in the co-design process. In Fjord's work with the BAA, for example, the designers worked with teams of civil servants coming from different units in the agency to work on life stage services. This was a novelty for them and provided them a chance to understand not only the users better, but to understand different processes and services within their own organization and see service overlaps. This gave them a more holistic vision of the service offering and of user needs and slowly changed their working practices. The service designer was also informed that the tools were being used in other projects. Moreover, beyond the need to co-design the solution with all of the service actors to guarantee an effective solution, the engagement of actors from each unit was also beneficial in preparing them to receive the final design concept and integrate it into their services. This was very beneficial to the success of the final digital platform. Similarly, in the DDC's work with the municipalities in the Greater Copenhagen project, time and effort was placed on making the municipalities feel at ease with the design process' iterative and circular nature as opposed to the linear and task-oriented nature of the public sector. As most of the work was dedicated to finding conceptual directions for the digital strategy, engaging municipalities in the design process was crucial towards aligning interests with the regional plan since it would be the municipalities implementing the final strategy. Likewise, in the Death and Bereavement desk prototype, LabX's work with the civil servants from the different service departments in the design of the prototype and during the prototyping phase not only ensured a life-events service that was human-centered

and feasible from the administrative perspective, but also gave the civil servants running the desk the opportunity to understand how the service would work in practice and to prepare their host organization for the change. It can therefore be observed that the co-design process produced both *soft* changes in terms of new skills and a new mentality and also *hard* changes in terms of new operational processes. A larger discussion on the relationship between design and organizational change will be made further on (see Section 8.5).

WHILE THE ADOPTION OF A HUMAN-CENTERED APPROACH THAT INTEGRATES ALL SYSTEM ACTORS IN THE INNOVATION PROCESS IS THE LEADING MOTIVATION BEHIND THE USE OF CO-DESIGN, CITIZENS/USERS ARE RARELY INCLUDED IN THE DESIGN TEAM.

While literature on co-design celebrates its capacity to bring the user into the design process, what emerged from the cases, was that users were rarely involved in the actual design of the solution and were only engaged in the discovery phase (mostly only through preliminary research done by the designers and presented to the civil servants). The voice of users was therefore heard through representation in the majority of the cases. The co-design of the solution rather limited participation in the design team to diverse actors in the public sector. These participants came from different units, departments or ministries, in the aim to break down silos and create integrated services. For instance, in the case on UK's Policy Lab, ethnographic video interviews were presented to policymakers and civil servants in their foresight work on the maritime industry. These videos were useful in bringing the user's voice and perspective into the work sessions. Likewise, in Muzus's work with the city of Rotterdam's transport tender, in-depth user and system research was conducted before starting and in the initial discovery phase. The insights were then used in the co-design of the personas and customer journeys done with the civil servants working in the municipality's program team. In similar fashion, Fjord and the DDC conducted user research before the beginning of the design process and presented insights to the civil servants. Interestingly, in the case of Fjord, the possibility of speaking with actual users was denied due to privacy and data protection laws, leaving them to resort to guerilla research techniques on the streets. In many of the cases (Turin's TO-HOME, Muzus's User Research, GobLab Arnsberg, Fjord's BAA project, Migri's Inland Design, LabX, and Servizz Design), user research involved relying to some degree on the knowledge held by front line staff on citizen needs as inferred from frequently asked questions and constant interaction. The only cases in which we see a real involvement of citizens in the design of solutions are Bologna's Participatory Budget and Brescia's Zero Tender project. In fact, in these cases we even observe citizens leading the innovation and value creation process, which will be discussed further in the next point (see Section 8.2). Regardless, across the cases, the discovery work played an important role in creating a collaborative environment between actors and establishing an awareness of the service system: who the users are; who makes up the service ecosystem; what laws and principles govern the system; the position and "order" of services according to a user's need, particularly in reference to a life event; and the frequent overlapping of public services.

THE SET-UP OF THE CO-DESIGN PROCESS IS KEY. CRITICAL TO THIS IS THE INVOLVEMENT OF LEADERSHIP, OFTEN ACTING AS A GATEWAY TO RESOURCES AND STAKEHOLDER INVOLVEMENT, AND PROVIDING THE FRAMEWORK CONDITIONS FOR THE INNOVATION PROCESS.

An important theme that emerged was the importance of not overlooking the needs of the administration in the process of opening up innovation to external agents and knowledge. In other words, while a user-centered approach is necessary in the public sector, an integrated approach that accounts for top-down and bottom-up needs, constraints and motivations is crucial to implementable innovation in the public sector. One way to frame this is the need for design processes to align and if needed encourage top level "pull" with bottom-up "push". For this reason, having a top-level partner with decision-making power inside the public administration emerged, in many of the cases, as being critical to the design process. In fact, Helsinki's CDO found that even when she knew whom to report to, there were silent managers and leaders that also shaped the organization, which was something that she was not prepared for and made having a mandate from the top important. This was also evident in GovLab Arnsberg's hiring strategy that prioritized civil service, i.e. the presence of a deep knowledge and practical experience of how the public sector works to skills in design and innovation (which were seen as skills more easily acquired through training). In Fjord's work at the BAA, the deep knowledge held by Accenture of the BAA's working process, organizational structure, culture and internal politics was a valuable resource and allowed them to engage people in a timely manner and avoid political hiccups and delays and dive immediately into a fruitful dialogue on how to make the needed changes. Furthermore, having such a willing partner in the BAA itself and an open decision-making board, granted them the possibility of creating a space for the co-design process that united all the actors in one physical room. The case expressly demonstrates the value of partnering with entrepreneurial public agents who possess: a deep knowledge of organizational processes and practices, know the 'right' people to engage, and also have a pro-active and pragmatic attitude, finding ways to make changes and align resources despite constraints. This insight is in line with literature referring to the authorizing environment for innovation and value creation in the public sector (Bason, 2017; Moore, 1995) and was also evident in other cases, namely Brescia's Zero Tender project and GovLab Arnsberg.

Overall, cases that focused on providing life-events services resulted in higher levels of sustained cross-agency collaboration, as seen in Inland Design's networked chatbot, Servizz.gov's one-stop shop, LabX's Death and Bereavement desk and Turin's TO-HOME service. This was also observed in cases that worked to design a strategy of enabling conditions for the development of innovative projects and/or services, as seen in the DDC's work in the Smart Greater Copenhagen project, Bologna's Participatory Budget and Brescia's Zero Tender project. In all of these cases, what can be observed is the intent to create a process that accommodates for both top-down and bottom-up needs to create value for all. The design solutions, in other words, were the best possible and implementable solutions rather than being made for "in the perfect world" scenarios. Particularly evident in Bologna's Participatory Budget and Brescia's Zero Tender project is the setting up of enabling conditions for citizen-led innovation and value creation. In both cases, the interpretation of the legal framework guiding Italy's welfare services led to a new structural framework in the city to create public value through multi-actor collaboration. For Brescia, this led to the creation of a larger welfare offer that institutionalized informal services and also provided the resources for new services to be made on citizen initiative. The intense process of dialogue between the different actors in the city allowed for more ad hoc services tailored to individual welfare needs and for communities to have resources to act on behalf of their own interests. In Bologna, this led to a new regulation on

the management of common goods and the activation of quarter offices as community development centers, allowing citizens to develop community projects that improve their wellbeing. What is really evident is the enabling of the citizen as innovator, leading the process and aligning resources to create the value proposition that he or she seeks. This evidence offers interesting insight to the literature on the customer-dominant service logic (Heinonen et al., 2010, 2013; Heinonen & Strandvik, 2009, 2015) and its application in the public sector, as well as offering support to a Design for Service approach (Kimbell, 2009a, 2011; Meroni & Sangiorgi, 2011; Katarina Wetter-Edman et al., 2014) and the need to account for existing organizational legacies when designing in organizations (Junginger, 2014).

Lastly, the engagement of top management also shaped the freedom of the design process, or rather the nature of the constraints limiting the process. In Muzus' tender project, the city of Rotterdam decided to fix the budget at the current expenditure in order to focus on the best solution for users rather than on best price for offer. This allowed the consortia to really build their solutions on user needs and led to the development of completely different solutions from existing services. Moreover, in the cases working from a life-events perspective, which were organized from the top, design teams were able to really focus on the user's needs and build solutions that integrate all of the correlating factors rather than limit themselves to one particular need, albeit not isolated.

In short, the role that municipalities and leadership plays in public sector innovation is influential. A final observation based on the discussion above is the emerging role of the municipality as a platform organization: promoting and connecting resources, and enabling value creation led by a group of actors in collaboration (a more thorough discussion is made in Section 8.2). Through the discussion of the insights coming from the cases, we can conclude that co-design is being used to open up public sector organizations for the following reasons: (1) to involve system actors in the design process with the intent of creating shared knowledge and a common culture; (2) to promote collaboration and communication between actors and break silos; and (3) to engage in collaborative innovation making use of a wider array of assets across sector divides. While the intent to create citizen-centered services and involve users in the design process is present, it was observed that citizen users are rarely involved in the solution-building process and are not permanent members of the design team, however distributed it may be. Including citizens in these phases represents an opportunity for co-design in the public sector.

8.2 Implicit vs. Explicit use of Design

We can know more than we can tell.

Michael Polanyi (1966)

As discussed, design is emerging as a rich resource to innovation in the public sector, as evidenced in the vast use of design tools and approaches by the growing intermediary system (i.e. government innovation labs, think tanks – e.g. Nesta, Demos Helsinki, etc. – and research centers/consortiums – e.g. EU project consortiums, University research teams, etc.). In parallel with this rise has come a plethora of design toolkits for practitioners. The OECD's Observatory of Public Sector Innovation has curated a list of 213 innovation toolkits (OECD-OPSI, 2019), of which include IDEO and Nesta's Designing for Public Services (IDEO & Nesta, 2016), the City of New York's Civic Service Design Tools and Tactics (NYC's Mayor's Office for Economic Opportunity, 2017), the UK Cabinet Office's Open Policy Making Toolkit (UK Cabinet Office, 2016), and more. Consequentially, many instances can be found of a design approach or process being implemented

without the presence of an expert designer, as evidenced also in three of the cases from the collection (Brescia's Zero Tender Project, Bologna's Participatory Budget and Servizz Design).

The equipping of practitioners with design tools and methods is in line with Manzini's (2015) view of diffuse design, which views everyone as a designer. In his book, *Design, when everybody designs* (2015), Manzini describes the unfolding of an expansive and distributed co-design process on the community scale, in which individual design projects suggest new ways of living and possibly converging with others to generate solutions at a larger scale. While empowering the design faculties of the everyday person, he does not completely ignore the specific expertise of designers and their role. Manzini calls expert designers to create the enabling conditions for more successful and effective diffuse design practice. Inherent to this is the discussion on what can be known implicitly, without any formal knowledge (Polanyi, 1966).

While the idea of providing tools and guidelines that act as conduits for the orchestrated action (enabled by expert designers) of every person's tacit competences to design solutions to their own problems is attractive, what emerged from the cases is the need of expert designers, trained in the craft, to lead the process and execute the profession with the capacities for which a "designerly way of knowing" (Cross, 1982) is irreplaceable, and also tacit. This assertion, however, does not intend to take away from or ignore the value of diffuse and 'silent' designers (Gorb & Dumas, 1987) and their role in innovation process – to the contrary a large part of this thesis is dedicated to them and their role in co-design processes – but is rather a limited attempt to reclaim the value of expert designers in innovation processes and in doing so also acknowledging the responsibility that comes with.

EXPERT DESIGN INTRODUCED NEW PROCESSES, APPROACHES AND COMMUNICATION MEDIUMS INTO THE PUBLIC SECTOR INNOVATION PROCESS.

As an iterative and open-ended process, design runs in stark contrast with the linear operations of public sector hierarchies. It requires a level of trust that despite starting from a position of uncertainty, a solution will be found and that the uncertainty of exploration is part of the process. In fact, in the majority of the cases, it was reported that participants felt uncomfortable with the design process at the start and gaining trust took time. This was particularly evident in the La Transfo program in which participants openly shared their concern and doubts with the team from La 27e Région during the reflection sessions. Likewise, Inland Design spent a lot of effort and time to build organizational legitimacy through various initiatives and project work to get staff "on board" with their processes. This was also observed by the SIC research group in their work with civil servants in Turin on the TO-HOME service. In other words, the set-up of the design process itself is a craft that requires experiential knowledge and expertise. This was clearly seen in the case with Fjord and goes to support the enabling role of designers in co-design processes.

Common to most of the expert design-led cases is a focus on design training and learning-by-doing; in other words, the cases focused on demonstrating the value of design to the organization by involving them in the process itself (this aspect will be covered in more detail later in Section 8.4 and 8.5). The learning-by-doing, experiential nature of the design process allowed participants to learn from each other and build a shared experience base and language, fostering communication, collaboration and trust between actors. In La Transfo, participants came from across the different stations in the civil service and from various departments of the municipality. For this reason, time was spent creating a group culture and establishing horizontal dialogue between members. This required members to see each other as equally capable of proposing ideas and contributing knowledge. Likewise, Fjord gathered staff from different units to bundle the services in life stages

for the new portal. More accustomed to traditional consulting work, co-designing was a novelty for them and allowed them to experience first-hand what the entire citizen journey looked like and where service overlaps occurred between different units. This was also seen in LabX's Death and Bereavement Desk and in Servizz Design. This form of engagement and following the design process from discovery to ideation to protoyping led to a comprehensive understanding of what could be accomplished and with what tools and methods. This was also made clear in an intense one-day workshop in the creation of the LEADER chatbot prototype by GovLab Arnsberg, but was also seen in other cases (e.g. Migri's chatbot and networked chatbots projects, La Transfo, Fjord's work at the BAA, LabX, Turin's TO-HOME, Muzus' User Research). In all of these cases, participants were able to learn not only from each other but also from working in proximity with the designers, in a similar relationship that apprentices learn from master craftsmen. The point being that design is a learned craft and one that requires experience to gain a different way of discovering, perceiving, learning and ultimately knowing.

Lastly, the medium of communication was both a valued and problematic feature of the process. While design is very visual, the public sector is entrenched in a text-based culture and civil servants were observed to have difficulty in reading the visualizations. This was found by Helsinki's CDO and also in the work done by Demos Helsinki. The latter had to transform a double-diamond model into a traditional table for easier comprehension. The text-based culture, in other words, provided an initial hurdle to using design tools. Despite this, the visual nature of design work, especially in rendering the future tangible, was one the most common uses of design among the cases, after user research tools. This was observed in the foresight work done by UK Policy Lab and Anne Stenros' work on Helsinki 2030. The CDO, in fact, found that these visualizations helped create empathy among participants and made space for a conversation on values. The visual language of designers is another important difference from diffuse design. Similar to the discussion above, the visual way of expressing, thinking and processing is part of the art of design and is a competence that must be cultivated. While these examples are not numerous enough to be a generalization, the same conclusions regarding the dominant aesthetic of text in the public sector were also drawn by Bailey and Lloyd's (2016, p. 9) study on the integration of design practice in government via the UK Policy Lab. Regarding the discussion of values, designers working in the public sector should be aware of the role their own values play in the process and how they could impact outcomes.

To conclude, while guidelines and toolkits have provided tools to the diffuse designer, in the cases analyzed, design expertise was seen to be necessary to implement and lead the process and to wield design tools with efficacy and meaning.

AN IMPLICIT USE OF DESIGN LED TO MORE COMMUNITY ENGAGEMENT IN THE WHOLE PROCESS AND THE ESTABLISHMENT OF ENABLING CONDITIONS FOR CITIZEN-LED INNOVATION.

In the two cases in which a design process was followed without the presence of an expert designer, the process was initiated from the top and saw a richer engagement of citizens and/or system actors throughout. In the case of Brescia's Zero Tender project, the entire welfare system was engaged to provide better services in the city. The overall process was based on the one outlined by the legal framework, i.e. to co-design, co-create and co-produce actions of horizontal subsidiarity with citizens. Similarly, Bologna's Participatory Budget is built on the same premise and the vision of its mayor to create a collaborative city. Despite the fact that the projects launched on the Participatory Budget program are defined as being design experiments by the research group in

charge, there isn't a professional designer on the team and the researchers are sociologists. Likewise, the research group following the case in Brescia did not have any designers on the team. Regardless, we can observe a human-centered approach in the process followed, along with the basic outlines of the double diamond process. What is observed in both cases is the establishment of enabling conditions and structures to help citizens and other system actors lead value creation. Working from the inside, tools and methods were organically used and adapted to the context. The processes also gained the advantages of having top-level support shaping, making space and implementing the process. The reflection moments natural to public processes of transparency allowed for more community-level sensemaking around the outcomes of the process. In short, the implicit, more organic use of the design process and tools led to a more inclusive and negotiated process in the cases (acknowledging the important role that leadership played in these cases).

8.3 Internal vs. External Placement of Design Competences: when, where and how design is used

In terms of integrating design in government, it has mainly been done in three ways: ad hoc projects, innovation labs and internal teams. The most popular of the three can be seen in the spread of Public Sector Innovation (PSI) labs. These labs can be considered the recent evolution of public advisory systems or the 'hidden public service' (Craft & Howlett, 2013, p. 188). This form of externalization finds its roots in the New Public Management paradigm, responding to the increased complexity of policy challenges and the opinion that this has undermined the policy capabilities of the public sector (Craft & Howlett, 2013, p. 90). This has led to the establishment of a 'knowledge-for-policy' market (Hart & Vromen, 2008, p. 143) in the public sector. PSI labs stand out in the sense that they work to change and disrupt the public sector with new and innovative ideas and practices, which makes how they are placed respective to government an interesting research pursuit.

Locational models of the policy advisory system generally map actors along two dimensions: inside or outside of government and whether they are subject to high or low government control. These models are based on the assumption that the closer to government actors are, the more influence they have on the policymaking process (Craft & Howlett, 2012). Early literature on the emerging diffusion of PSI labs (Mulgan, 2014), however, propose that these models fail to capture the value that PSI labs bring from their unique and semi-autonomous position within government. This is described by Mulgan (2014) as the radical's dilemma, in which distance provides the space to create frame-breaking alternatives, while proximity allows for more influence but risks being co-opted (as cited in (McGann et al., 2018). On the other hand, questions arise to the use of protection and its possible costs to the organization in terms of knowledge, capacity and agency. In fact, in a study done by Timeus & Gascó (2018), it was found that while PSI labs were observed to increase the innovation capacity of public sector organizations, their isolation from the parent organization limited their overall impact. Likewise, Lykketoft (2014) points out that the implication of creating an innovation lab within an existing organization is that the organization itself is not capable of the desired transformation, alluding to the fragility of the outcomes of the design process in terms of reception by the host organization.

This parallels discussion in Sustainability Transitions literature regarding the shielding, nurturing and empowering of niches (Smith & Raven, 2012) as protective spaces (Kemp et al., 1998; Schot et al., 1994) for the configuration and development of path-breaking innovations. Smith and Raven (2012), however, point out the limited conceptualization of niches as protective spaces, even in response to criticism of protection in innovation (Hommels et al., 2007). The multi-level perspective (Geels, 2002), commonly used in transition literature, is a middle-range framework for

analyzing socio-technical transitions to sustainability on three levels: landscape, regime and niche. It provides a way to analyze how niche-level innovations break free from their protective spaces and interact with wider regime-level changes (Geels, 2002; Smith & Raven, 2012). While Geels (2002) originally described this as a 'nested hierarchy', it was criticized by proponents of flat ontologies (Callon, 2002) and social practice theory (Shove & Walker, 2010), leading him later to consider dropping the "hierarchical" notion in MLP (Geels, 2011). That said, the criticism also shed light on an interesting alternative that does away with the image of a multilevel society, replacing it with "places that are connected and the possibility of actors and information to circulate from one place to another one" (Callon, 2002, p. 293).

Social practice theory understands transitions by analyzing how new practices emerge, stabilize and eventually replace established ones. New practices are characterized as being fluid and unstable, whereas old ones are routinely reproduced with predictable trajectories (Shove & Walker, 2010, p. 475, as cited in Geels, 2011). The theory emphasizes the horizontal circulation of elements (technology, meaning and skills) by actors and the multiple relations of reproduction across different scales (Shove & Walker, 2010, p. 474, as cited in Geels, 2011). The discussion is interesting in light of the need for public sector organizations, entrenched in numerous socio-technical systems, to open up to external sources of knowledge in open (Chesbrough, 2006) and collaborative (Ansell & Torfing, 2014; Bommert, 2010; Sørensen & Torfing, 2011, 2015; Torfing, 2018) innovation processes to face the challenges of the 21st century (see Section 8.1) and to frame the ways in which design-led innovation processes are occurring, in what spaces and the relationship between old and new practices (especially considering the large number of cases focusing on capacity-building and introducing "new ways of doing thing").

The issue of where design is located in the organization is discussed in literature on both private and public sector organizations. Many frameworks and tools have been made to classify the role and maturity of design in organizations, to name a few: the DDC's (2001) Design Ladder, Design Management Europe's (2009) Design Management Staircase, the UK Design Council's (2013, p. 8) Public Sector Design Ladder, the UK Design Commission's (2013) locational model and Junginger's (2009) locational tool. These tools and frameworks are helpful, visual and strategic tools to understand the position of design in the organization and its corresponding role in order to facilitate a larger convergence of design efforts and overall impact in the organization. A common feature of all the models is the final goal of integrating design into the strategic directive of the organization to reach higher impact by really influencing how the organization thinks, acts and learns, becoming the basis of its culture.

THE LOCATION OF DESIGN COMPETENCES RESPECTIVE TO THE ORGANIZATION MATTERS, OFTEN DETERMINING THE BREADTH AND DEPTH OF INVOLVEMENT IN ORGANIZATIONAL ACTIVITIES.

In the cases, the location of design influenced the type of activities that the designers were involved in. Inland Design's location in the Digital Service Department shaped the nature of their project work, focusing it primarily on digitalization and technology projects, even though it was not the mission of the lab. The location had both advantages and disadvantages. Being paired with technological development was in line with how design work was perceived by employees and allowed for organizational legitimacy (Swan, 2018, p. 119). On the other hand, the association with the technological development and service-oriented work created a barrier to the use of design in more strategic level activities and its ability to really impact the organization (Salgado, personal communication, July 10, 2019). Similarly, LabX is located in Portugal's Administrative

Modernization Agency (AMA), which focuses the lab's work on modernization efforts (i.e. digitalization, as seen in many other cases: GovLab Arnsberg, Fjord's BAA, Experimental Finland and GovTech) with different departments across the country. Having such a strong association, however, limits the breadth and depth of the work over time, restricting it mostly to work commissioned by different ministries and departments, as is the case for Policy Lab UK, Experimental Finland and GovLab Arnsberg. The result reflects, on the organizational scale, what is happening on a larger scale in the use of design in policy today, i.e. to find and test solutions (i.e. implement policy) (McGann et al., 2018, p. 14) to existing policy at the risk of designing (great) services that implement poor policy (Junginger, 2013).

Some of the cases, however, demonstrate interesting uses of design in more strategic level activities, providing the material used as the basis for policymaking. Policy Lab UK, for example, is engaged in foresight work, helping provide a strategy for the future of industries and/or the impact of societal challenges on industries and society in the future. Anne Stenros' work with the top city officials in Helsinki, also, worked to provide future-building scenarios to create a common base from which to make policy. Policy Lab UK and Experimental Finland are both hosted in the Cabinet Office and Stenros was the CDO of the city, placing design at the higher levels of decision-making. The DDC, as a national entity, also works on the strategic level, as seen in the Smart Greater Copenhagen case. The risk, however, emerging from this case is that involvement only in this "fuzzy front end" of policy and not in its implementation is that the value of the "final" design is lost in poor implementation. The service designer working with Servizz.gov tried to counter-balance this by building a toolkit meant to help the organization integrate the new service and propose changes. However, as already discussed (see Section 8.2), the efficacy of toolkits is in the "hand" of the beholder. What emerges from this is a gap between ideation and implementation, on the strategic scale, that is bi-directional and with potentially important implications: the development of good strategy (policy) with poorly-implemented solutions or poor strategy (policy) with well-implemented solutions. In other words*, the compartmentalization of design to specific parts of the innovation (and policy) cycle can lead to the siphoning off of value.*

A deviance to this general trend can be seen in the two cases that involved innovative public procurement processes, in which design competences were used in the strategic design, the building of bids and in the implementation. Muzus worked with the municipality to develop personas and user journeys, which were the basis of their transportation tender. The designers also contributed to the dialogue phase, working with the municipality and the three consortia on building user-centered bids by directly engaging the users and partners of the solution. While Muzus was not involved in the actual implementation of the winning bid, the fact that all the consortia partners were involved in the planning of the bid promises easier and more successful implementation of the value proposition designed in the co-design stage. Likewise, in the case of Brescia's Zero Tender project, the requirements of the accreditation process were co-designed by all the actors of the welfare "universe". The co-creation and co-production of the supporting infrastructure (Territorial Service Branches and Community Points) that implements the new services facilitates the integration and positive receival of the services into the service mix and the local distribution points. In these cases, the final solutions can be more easily traced back to the co-designed value proposition of the strategic phase.

Overall, the cases evidenced three general positions of design, which will be explored below: inside the organization, external to the organization and embedded in the system.

INTERNALIZATION ALLOWED DESIGNERS TO BUILD ON ORGANIZATIONAL LEGACIES FROM A POSITION OF TRUST.

Internal design agencies, like Inland Design, LabX and GovLab Arnsberg, all reported benefitting from the organization's resources and from first-hand organizational knowledge of the practices, norms and behaviors shaping the culture of innovation, as situated in the specific organization and public sector context. Inland Design Director reported that being seen as colleagues was a benefit as they were seen to be working with them and helped garner trust in the methods and tools being introduced. GovLab Arnsberg, like the other labs, benefits from the resources of the host organization in terms of funding, office space, program costs, etc. While Fjord was an external agency, Accenture had a long client history with the BAA and was able to provide Fjord with timely knowledge on the culture, working practice and hierarchy of the organization, which was instrumental to the set-up of the design process (see Section 8.1). Starting from an initial foundation of trust was found to be an important driver of positive co-design processes, especially in terms of trusting in the process and its outcomes, as noticed in the specific effort to establish this foundation in many cases (e.g. La Transfo, Brescia's Zero Tender, Inland Design, LabX, Policy Lab UK, etc.).

The issue of trust in multi-actor collaboration, especially between private and public sector actors (e.g. Hyvärinen et al., 2015; Hakio & Mattelmäki, 2011), has also been noted in literature. In the study done by Hyvärinen et al. (2015, pp. 258–259), the authors found the following factors influenced the establishment of trust between actors: (1) prejudice regarding actors' established roles; and (2) project objectives were given from the top rather than being negotiated between participants. Issues of trust also regarded internal dynamics between the design team, for example in each actor's willingness to trust in the competence of another actor (Hakio & Mattelmäki, 2011), especially when the other actor was viewed as coming from the 'outside' or from an 'inferior' position (e.g. a student, citizen/non-expert, lower public station – like green area maintenance in the case of La Transfo, etc.). This was seen explicitly in the case of La Transfo, in which a specific focus of the program was to create a horizontal group culture that valued each actor as a contributor regardless of public station.

From a semi-hybrid position, Policy Lab UK, the DDC, and Helsinki's CDO, operated "at the edge" of government: inside government but positioned partially outside the main structure. This was done to maintain distance from the governing cultural paradigms of the public sector and to be a revolutionary force of change in government. Regardless, they benefited also from the resources and organizational knowledge internal to government and the public sector. These organizations, more emphatically demonstrate the position and role of design in the majority of the cases: to create change in the culture of the organization and its services. To do so, "keeping distance" was seen as an important feature. Despite being an internal agency, Inland Design was given a new font and logo to visually distinguish it from the rest of the organization. While these efforts protect the space from the dominating culture, it also contributed to the view of design as being foreign to the eyes of staff and being an outsider on the inside. As an interesting piece of information to note, the foreignness of design was further exacerbated in Helsinki's CDO's work by the differences in language and terms used in design. She found that the usual practice of designers to work in English provided barriers when working with civil servants. Moreover, the abundance of new terms also needed to be defined in the context of the public sector and even translated. This was true also in other cases, like Inland Design, Turin's TO-HOME, Bologna's Participatory Budget, La Transfo, and others. As a result of this, and regardless of the advantages that working internally can provide, proving the value of design to the organization remains a gateway challenge, best

overcome with the obtainment of top-level buy-in and support. In several of the cases, "quick wins" were useful and necessary to legitimize design activities and gain support. This was observed in the addition of cultural projects in Bologna's Participatory Budget which thanks to shorter realization times provided citizens the reassurance they needed. Likewise, the service designer working with Servizz.gov implemented "easy fixes" to improve citizen experience and gain trust in the system.

A reflection could also be made here on the implications of design work on organizational legacies given their relative impermanence and/or distinction from the organizations. From the perspective of learning, without the integration of the new knowledge into the organization's practices, the risk is that the organization's culture remains unaffected in the long-term. In other words, the long-term impact of the design experiment, as will be discussed below, will be minimal without a constant reinforcement of the learning outcomes. It effectively problematizes the experimentation of design in the public sector by giving it a timeline and limiting its use to specific phases, e.g. only to service design, or only to digitalization projects, etc.

EXTERNALIZATION AND IMPERMANENCE OF DESIGN LIMITS THE LONG-TERM IMPACT OF LEARNING OUTCOMES.

In the majority of the cases, design worked from outside of the organization in some capacity. Cases like, Fjord's BAA project, Turin's TO-HOME, Servizz Design, La 27e Région, Experimental Finland, GovTech Catalyst and Muzus' User Research, are all examples of external design teams working for public sector organizations on a case-by-case fashion. Two factors here emerged from the cases that put at risk the long-term impact of the outcomes of the design process on the organization: (1) the learning and core competences remain outside of the organization; and (2) the permanence of the design competence is limited to the project's timeframe. Even though the goal of many of the cases was to train civil servants in design competences and build the organization's innovation capacity, it remained very unclear, with no clear plans or knowledge transfer devices established, how the competences and knowledge acquired by the group of participating civil servants would be shared with the rest of the home organization, nor how these teams would remain in contact after the project's end. Much was left to the hope that the competences would be transferred by the participants to the organization, perhaps naively underestimating the cultural forces that reject change as discussed above. For instance, the *ambassadors* at the end of the La Transfo process, simply returned to their usual jobs in their home organizations. The final lab hired new people to manage the lab, who were external to the process and were tasked to acquire the learning second-hand. The group reflected on how to continue working with the lab but no concrete implementation plans were built nor were mechanism put in place for the group to continue working together. Moreover, the "sunset clause" on design experiments was seen to limit the opportunities for repeated interactions and the opportunities for designers to propose more radical and transformative projects that require longer timeframes. This was evidenced in the case of Inland Design, whose designers were hired on 2.5-year contracts. In Fjord's work with the BAA, on the other hand, the designers created design principles with the organization at the beginning of the process. These principles were essential to the creation of the new web portal and are still being used to adapt old content to the new concept. The principles can be seen as a knowledge transfer device that retained the knowledge in the organization and guided future work.

As mentioned in the previous section, separating the design competences from the organization was done at times to shield the new culture of the lab from the dominating culture of the rest of the organization and also to create a safe space for experimentation. Policy Lab UK, for

example, experiments new ideas outside government and only after they have been deemed viable do they implement them inside. In a similar capacity, Helsinki's CDO, the DDC, GovLab Arnsberg and LabX are all "hybrid" design structures, in the sense that they are internal to the public sector and benefit from public resources and insider knowledge, but are also external to the organizations they are helping. LabX and GovLab Arnsberg, for example, are both internal agencies but work on commission with other ministries and departments, making them external agencies in their design work. While the learning outcomes do remain in government, the core competences and experiential learning remain with the lab and not with the commissioning organization and the interaction is often limited to the project timeframe.

THE DESIGN PROCESS CAN ACT AS A GUIDING FRAMEWORK TO ENABLE MORE INCLUSIVE AND COLLABORATIVE INNOVATION. DESIGN PERMANENCE AND THE RETENTION OF KNOWLEDGE IS AN ISSUE FOR ADMINISTRATION-LED DESIGN EXPERIMENTS, SUBJECT TO POLITICAL TURNOVERS AND CHANGES IN PARTY IDEOLOGIES.

In some cases, like GovTech Catalyst, Experimental Finland, Brescia's Zero Tender and Bologna's Participatory Budget, the design competence was embedded in the structure of the service. In Govtech Catalyst, Bologna's Participatory Budget, and Experimental Finland, the online competition process was informed by the design process and was complemented by external knowledge support. The Govtech Service Designer for example helped tech companies understand final users through personas and user journeys. Similarly, Bologna's Participatory Budget process includes a co-design phase in which the team from the Office of Civic Imagination supports project teams design the solution through OST and service design tools. On a macro-scale, the use of co-design was built into the city-wide collaborative innovation projects in Bologna and Brescia through the legal framework in Italy – the Constitution and the Third Sector Reform. These cases also show the value of interpretation. Despite the norms being on the national level, the practices found in the two Italian cities are not widespread in the country, which speaks to the importance of the agency and mindset of civil servants and their abilities to build coalitions of the willing or in other words, call a public into existence (Moore & Fung, 2012). Once more, however, the permanence of the design and human-centered approach to innovation is fragile given the unpredictability that surrounds political turnovers. In the case of Bologna, the Office of Civic Imagination team is working hard to build a strong impetus around the project to encourage continuation by a new administration and is also dedicating the last year to leaving a well-documented and functioning program for a smooth transition. This sheds light on the fragility of design experiments that are mandated from the top-down and the retention of knowledge from one administration to the next.

8.4 Design as situated in Argyris and Schön's Theory of Learning

As evidenced in the previous sections, public sector organizations are recognizing the need to open up to new ways of doing things to face the urgent and complex problems characterizing the 21st century. We have observed that exogenous (e.g. political unrest, climate changes, displacement of persons, growing ageing population, etc.) and endogenous factors (e.g. outdated processes, procedures and channels of distribution; siloed organization; lack of communication between actors; service overlaps; etc.) are converging to make transformation in government a timely issue. We have also seen when, where and how design is being used to assist the transformation. What we will begin

to unpack in this section is what role learning, as nested in the design process, plays in setting the conditions for organizational change.

The capacity for organizations to change has been strongly associated with its capacity to learn (Argyris & Schön, 1978, 1996; Hendry, 1996; Huber, 1991; Senge, 1990) and disseminate learning widely (Garvin, 1993; Leonard-Barton, 1992b, 1992a, 1995) and on a continual basis (Ulrich et al., 1994). Inherent to this discussion is the centrality of knowledge creation and knowledge management in organizations and the critical role that innovation plays in creating organizational knowledge (Nonaka, 1994; Nonaka & Takeuchi, 1995). Several learning models have been formulated to frame the process and contextualize the role of learning in relation to change, particularly in the 1990s with the rise of the learning organization (Senge, 1990) (See Chapter 2 for a more detailed presentation).

Owen was perhaps the first to explore the knowledge creating properties of the design process in the late 1980s. He (1998) urged for more attention to research on design, owing to the rising recognition of the value of design in business, and more recently its potential value in the decision-making of government and institutional leaders (2006). His model (1998) captures the alternating phases of analysis and synthesis in the design process. These phases correspond respectively to action in two different realms, that of theory and practice, in which knowledge is generated in both the experience of doing and in reflecting upon the experience. In other words, knowledge is generated and accumulated through action, in the doing and the judging of results (Owen, 1998, p. 2). Owen's model is very similar to Kolb's (1984, p. 41) experiential learning theory, in which learning is defined as "the process whereby knowledge is created through the transformation of experience". Beckman and Barry (2007, p. 30) combine Owen's (1998) model with Kolb's (1984) to create a model of innovation as a learning process.

Likewise, Rizzo et al. (2017) make use of Kolb's (1984) model to understand the learning process in co-design activities. In their view, co-design activates important learning processes around the innovation through the iterative development of prototypes, which can also take the form of small-scale experiments. These learning processes can be defined as experiential learning processes that go beyond improving the service to provide space for reflection (Rizzo et al., 2017). While these models effectively capture the learning processes occurring during the design process, they don't capture the transfer of the learning outcomes into the organization (if this happens at all), which is important for understanding any links of design processes and organizational change.

The link between learning in the design process and organizational change in the public sector will be investigated in a step-by-step fashion, exploring: the learning process analyzed through Argyris and Schön's (1978) learning model, the types of learning activated in the design process, how the organization learns as a result, the impact this has on its absorptive capacity (Cohen & Levinthal, 1990), and finally its role in organizational transformation.

Argyris and Schön's (1978) model defines organizational learning as a process of detecting and correcting error and models two forms of learning: single-loop (adaptive) and double-loop (generative) learning. In single-loop learning (Argyris & Schön, 1996) individuals measure their performance against a set of pre-approved standards that are fixed and not open to debate. Single-loop learning therefore requires the establishment and acceptance of organizational culture (i.e. norms, procedure, standards etc.) and provides no framework for challenging, rethinking or in any way altering the standards (Dodgson, 1993). In double-loop learning, individuals examine the assumptions made on customers, products, services and/or strategies (Argyris & Schön, 1996), thus challenging the status quo of how things are done in the organization. Individuals engaged in double-loop learning are constantly seeking to generate new and better solutions.

With the framework in mind, we will now turn our attention to how these forms of learning took shape in the cases.

THE DESIGN PROCESS IS A PROCESS OF DOUBLE-LOOP LEARNING. CO-DESIGN STRENGTHENS THE FRAME-BREAKING NATURE OF DISCOVERY AND THE QUESTIONING OF UNDERLYING ASSUMPTIONS THROUGH MULTI-ACTOR COLLABORATION.

The cases showed that the discovery and problem definition phases of the design process were extremely useful in bringing the perspective and needs of users and other system actors into the innovation process. Engaging multiple actors allows for information and resource asymmetries to be overcome and for synergistic learning and problem solving to occur that if tackled individually may not have come about (Agranoff & McGuire, 2003, p. 92). Through immersion work and user research tools, the participants were able to understand who their users were and what their real needs were in the context of their own lives (Heinonen & Strandvik, 2009), as well as how they needed or desired for those services to be delivered. This was evident in La Transfo's work on the citizen card and LabX's Death and Bereavement desk protoype. Moreover, in the user research done by Muzus, the designers realized soon after focusing on the users' needs that they also needed to explore the needs and operations of the service providers. Likewise, Fjord's work on the new web portal saw that it wasn't only about user needs but also the administration's and those in its employ. As in the majority of the cases, a human-centered approach integrating both top-down and bottom-up needs was necessary.

In addition to bringing in different perspectives, working side-by-side with colleagues and/or other actors from the service system and looking at the user's service journey, allowed for participants to see organizational practices from a holistic perspective. This mostly took form in the understanding that citizens have multiple needs, especially clear in the context of life events (e.g. death, birth, marriage, unemployment, immigration, etc.) that span across different agencies. It was also seen though that the sheer complexity of public sector processes led to difficult journeys for citizens, for example the case of Bologna and the need to get authorizations from five different agencies to paint a bench. In these processes, civil servants saw service overlaps and how their agencies silently "communicated" with each other through their service offers. In addition, working in proximity with the designers and with each other allowed for tacit knowledge to be shared through close and frequent interactions in the pursuit of a shared goal.

Moreover, in the majority of the cases, the visual tools and nature of design work afforded participants an alternative lens through which to view problems and opportunities and more importantly brought values into focus. The discussion, in other words, was no longer focused merely on how to troubleshoot but went into a discussion of what kind of value was being produced, what values did they want to deliver and how could they achieve this. In other words, thanks to the integration of the user's perspective, the engagement of systems actors in the process and the visualization of the system "as is" and how it could be, the participants were brought to reflect on the assumptions underpinning the current service system and how it could be re-shaped. This questioning is intrinsic to the divergent phases of the design process and the tools, methods and approaches that it relies on. For example, Muzus' work on the Rotterdam transport tender led to a complete change in focus from disability to mobility needs, which led to new user clusters and typologies as seen in the personas. For the cases that engaged in prototyping – e.g. LabX's Death and Bereavement desk, the project work in La Transfo, Fjord's web portal, and Inland Design's and Govlab Arnsberg's chatbots – the participants also challenged the initial assumptions made in the design of the service through the iterative nature of the design process that cycles through convergent and divergent phases. We can, in other words, see the shaping of an inquisitive attitude through the process.

THE RISING URGENCY AND COMPLEXITY OF PROBLEMS PROVIDED THE STIMULUS TO DO THINGS DIFFERENTLY AND TO REFLECT ON THE STATE OF AFFAIRS. IN ADDITION, THE CYCLICAL NATURE OF POLITICS, PROVIDES BUILT-IN MOMENTS OF REFLECTION AND OPPORTUNITIES FOR CHANGE.

What was observed in the cases was the integration of design as a way to approach old (and emerging) problems in new ways. In the majority of the cases, design was employed to help provide new competences and tools to capacitate the organization to deliver user-centered services or in modernization efforts (mostly in the form of digitalization). Linked to this was the focus on changing the organizational culture. In the case of Inland Design, the refugee crisis, in 2015, led to an untenable level of customer (un)satisfaction that forced the organization to re-think how they deliver their services. Likewise, in Brescia, the rise of urban decay due to the de-urbanization of its citizens to the peripherical areas of the city center, led to the understanding that wellness and wellbeing, in the form of welfare services, was crucial towards having a vibrant city center. Likewise, the advances in technology make digitalization an important channel of growth for the public sector as highlighted in the cases.

Moreover, the cyclical nature of the political process was observed to provide moments of reflection on how to change things and to question the current regime. This is supported by literature that found central government policy to be an important catalyst in public organizations for the co-creation of knowledge, the co-production of public services and the construction of new inter-agency organizational and governance structures (Audit Commission, 2007; Benington, 2001; Hartley & Benington, 2006). The Experimental Finland team and the platform were created in response to the then Prime Minister's electoral campaign (which was built off a work group created under the previous administration). In the case of Bologna's Participatory Budget, the call for a collaborative city was also part of the mayor's electoral campaign. Likewise, Servizz.gov and Govlab Arnsberg are both results of the instatement of new political leaders. What the case in Bologna particularly makes clear is that while these moments allow for the deeper assumptions of the system to be questioned, the permanence of these learning outcomes remain fragile precisely for the cyclical nature, making knowledge management ever more important.

THE EXTERNALIZATION OF DESIGN DISCONNECTS THE LEARNING PROCESS, CURBING ITS TRANSFORMATIONAL POTENTIAL.

As seen in the previous sections (see Section 8.3), it was observed in many of the cases that user and stakeholder research was conducted largely by the designers and then presented to the co-design team of public sector actors: policymakers, department heads, civil servants, etc. In doing so, a separation was created between the divergent discovery and convergent problem definition phases (which were seen to promote reflexive thinking), and the solution-building and implementation phases. In practice, the design team carried out the first cycle of exploring user needs and defining the problem, while the co-design team was engaged in the second, building solutions based on the user insights and at times prototyping solutions. While a divergent phase remains in the solution-building, the questioning of the assumptions is more related to the desirability, feasibility and viability of the solution rather than the underlying nature of the problem at hand. The experiential knowledge of discovering user needs, exploring the many facets of the problem and the different actors involved and truly questioning the system to define the problem, however, mostly remains

with the design team. Excluding the organization from this phase limits the learning outcomes of the organization and curbs transformational changes. In other words, there's a risk that despite the integration of the user's input and the multi-actor collaboration found in the co-design sessions, the added insight from the user research and problem definition phases brought in by the designers served only to enhance the observation and feedback, bypassing any change in mental models.

THE CO-DESIGN PROCESS ACTIVATED A MIX OF LEARNING MODES – NAMELY BY-DOING, -REFLECTION, -PROXIMITY AND -INTERACTION – VIA THE CONVERGING AND DIVERGING CYCLES, INTRINSIC TO THE DESIGN PROCESS.

All of the cases engaged in learning-by-doing activities, as well learning-by-reflection and proximity. Moments of formal training were rarely seen and when included were reserved to basic explanations or to provide information on the public service system. As already observed, learning-by-doing was fundamental in providing participants with the experiential knowledge of the problem space in the discovery phase, which in turn was key to engaging in more reflective activities in the converging phases of the design process. Learning-by-doing was seen in all phases of the process and was the principle driver of capacity-building in the participants. In La Transfo, participants worked directly on three challenges, learning, adapting and using design tools to tackle the specific issue. These hands-on activities were followed by reflective sessions in which the participants discussed how they could integrate the new tools in their current practices. In LabX's Death and Bereavement prototype, civil servants co-design the new service and actively implemented it in live prototypes. Likewise, in Brescia, civil servants and third sector actors were involved in planning the accreditation criteria and actors from across the sector were involved in re-structuring the welfare offer of each quarter. This led to a new understanding of who their users were and a re-interpretation of their respective roles and range of activities.

Working in proximity with the designers was also key towards gaining experience in the craft of design. This co-location afforded the participants the possibility to learn directly, through repeated interaction and observation, the craft behind design tools and the methods by working with designers. This goes to support the continuing craft-based nature of design and the important role of expert design in public sector innovation. Through this, they were able to gain experience and competence in the practice of design. Moreover, due to the inclusion of multiple actors from different units across organizational silos and sectors, participants were also able to learn more about the service system and their position in the value supply chain. This knowledge is increasingly important in the networked service environments that public sector organizations operate in today (Agranoff, 2008).

8.5 Meta-learning, Organizational Learning and Organizational Change

Knowledge, in short, runs on rails laid by practice.

John Seely Brown and Paul Duguid (2001, p. 204)

As PSOs seek to renew themselves to better face complex challenges, (new) tensions arise over how to manage best the need to explore new ways of doing things while exploiting existing procedures and knowledge (March, 1991). This is particularly relevant as PSOs rely on networks of cooperating service providers to implement policy (Agranoff, 1991; Alter & Hage, 1993; Jennings &

Ewalt, 1998; O'Toole, 1997), whose competences and knowledge remains external to the "primary" organization. PSOs therefore may not benefit from the feed forward and feedback processes (Crossan et al., 1999) upon which organizational learning hangs, particularly when seeking to remedy the tension between new and established knowledge (March, 1991). Organizational learning happens on three levels: individual, team and organizational; the latter referring broadly to the capacity of an organization to acquire new understanding, know-how, techniques and practices (Argyris & Schön, 1996). Marsick (1994, p. 28) defined it as a process of "coordinated systems change, with mechanisms built in for individuals and groups to access, build and use organizational memory, structure and culture to develop long-term organizational capacity." Crossan et al. (1999) define organizational learning as a dynamic process which occurs over time and across levels, but that also creates tension between assimilating new learning (i.e. feed-forward where new ideas and actions flow from the individual to the group and to the organization) and exploiting or using what has already been learned (feed-back which flows from the organization to the group and to the individual) (March, 1991).

An interesting construct for this type of learning, that doesn't focus on the routinization of knowledge, is a third level of learning, meta-learning (often referred to as the third loop), that builds off of single- and double-loop learning and Bateson's (1972) deutero-learning. It consists of second-order learning of the results of double-loop learning, or simply put, how the organization learns how to learn by reflecting on how it occurred or was hindered in the past and then by building structures and/or strategies for future learning (Romme & van Witteloostuijn, 1999). Flood & Romm (1996) define triple-loop learning as the process of "increasing the fullness and deepness of learning about the diversity of issues and dilemmas faced, by linking together all local units of learning into one overall learning infrastructure, as well as developing the competences and skills to use this infrastructure (Flood & Romm, 1996).

This opens up the discourse on what is intended by knowledge and the variance in value (Weber & Khademian, 2008) assigned by different actors. This is particularly relevant in situations engaging multiple actors, as seen in co-design experiments in the public sector, and is often the case in networked policy and public service environments. Acknowledging the tacit dimension (Polanyi, 1966) of knowledge in organizations and the issue of transferring that knowledge to other parts of the organization is also relevant. In the networked knowledge contexts in which organizations, including public sector organizations, operate, how to manage knowledge is of increasing importance. Communities-of-practice, to this end, have come to the spotlight for their potential for creativity and innovation, in the hopes to "[articulate and harness] the intangible, the tacit, and the practiced" (Amin & Roberts, 2008).

Communities-of-practice have been defined by Lave and Wenger (1991, p. 98) as "a system of relationships between people, activities, and the world; developing with time, and in relation to other tangential and overlapping communities of practice". Research into these communities focus on the role of situated practice in learning and knowledge creation processes and how it is built across a variety of contexts. Considering the impossibility for public sector organizations to respond autonomously to the wicked problems of today, the contribution of communities of practice to organizational learning and change efforts is useful.

Agranoff (2008, p. 320) remarks that the recent focus on emerging forms of governance (Benington & Hartley, 2001; Osborne, 2006) rather than on government "[has shifted] attention from the internal workings of public organizations to the connections among those networks of actors on whom governments now depend". In this shift, public managers are required to activate and coordinate diverse actors from different agencies in the achievement of public results (Salamon, 2002, pp. 16–17) to respond to the increasingly knowledge-oriented work of government. In this changing paradigm, the networking capacity of managers and their ability to connect resources

inside and outside the organization becomes essential to the accomplishment of public value creation. These networks then, if used and with use, have the potential of becoming communities-of-practice (Agranoff, 2008, p. 321).

THE SET-UP OF THE DESIGN PROCESS STRUCTURED ORGANIZATION- AND SYSTEM-LEVEL META-LEARNING. DESIGN OUTPUTS (ARTIFACTS/PRODUCTS/SERVICES) LIVE ON AS EMBODIED KNOWLEDGE TOOLS TO SUPPORT THE ASSIMILATION OF NEW AND TACIT KNOWLEDGE.

As seen in the previous discussions, many of the cases emphasized the importance of the set-up of the design process to the successful implementation of the process. This was seen in the careful staging efforts by Fjord, Accenture and the BAA management in the co-design of the new web portal. Emphasis was placed on who to engage and when and what resources were needed, and the interaction space for the sessions. While the co-design teams were only engaged during the development of the portal and participation was divided by life stages, the process provided the participants a holistic perspective of the services offered and allowed for reflection on how the organization as a whole operates, providing them with a foundation for understanding how the organization can innovate their services. In establishing design principles to guide the development of the portal, Fjord ensured that the digital team inside the BAA could retrofit old content under the new concept. The web portal in itself can thus be seen as an embodied knowledge tool that carries the experiential knowledge acquired in the co-design process. This can be seen in the repeated tasks of integrating old content but also in the application of design tools and the design principles to other projects as exemplified in the case. It, however, remains unclear to what extent the learning outcomes were applied to new projects. While the co-design process provided the basis for meta-learning, it is ultimately up to the organization whether to exploit this or not in future innovation efforts.

Likewise, in the two cases on municipality-led, collaborative innovation processes, the new public leaders put into place a condition-setting process to provide infrastructure to support the new visions for the city. The setting up of new infrastructure to support the innovation goals can also be viewed as the results of meta-learning based on the reflections of what worked and didn't in the previous administration(s). Parallel to the setting up of the infrastructure guiding the process is the building up of the core competences of the participants to enable usability. This can be seen in Bologna's Participatory Budget, which as a program seeks to give citizens the competences needed to make use of the legal framework and service infrastructure around citizen-led, urban regeneration. The need to provide new competences was not limited to the final users but also to the civil servants providing the service. This was also observable in the intense co-design sessions in Brescia's Zero Tender Project, but also in those in Fjord's work with the BAA employees. What we can observe is the creation of infrastructure and the building up of capacity: environment-setting and enabling usability. This is also observable in the tools and documentation left by the La Transfo *residents* and *ambassadors* to transfer the knowledge acquired in the process to the new lab. The artifacts of the design process live on in the physical space of the lab as devices of organizational memory that diverse members can tap into. This was coupled with one of the primary objectives of the program, which was to build up the *ambassadors'* ability to innovate and make use of the lab. What can be observed is the creation of diverse design outputs, ranging from tangible artifacts – e.g. the BAA's new web portal, the physical space of La Transfo's final lab, Experiment Finland's platform, Muzus' transport personas and user journeys, Inland Design's chatbot, Servizz.gov's toolkit, etc. – to intangible artifacts – e.g. the BAA's new design principles, the experiential knowledge resulting from

the design process, new competences and mindsets, etc. – that contribute to the assimilation of new and tacit knowledge, while also preparing the grounds for transformation. The intangible artifacts provide the tacit knowledge needed to receive innovation and accept change, while the tangible artifacts help provide visual aids to remember and implement the new knowledge. This was particularly clear in cases where iteration was seen, as in the BAA's web portal and Inland Design's chatbot but also in non-technological solutions like in LabX's Death and Bereavement Desk.

This relationship between the two types of artifacts, with a certain parallel to explicit and implicit knowledge, can also be expressed in the setting up of learning infrastructures, composed of technical structures and networks of human resources to support innovation processes in the organization or the service systems. This was particularly clear in the cases of Bologna and Brescia. Designers are challenged to leave tangible artifacts to reinforce learning that act as a cognitive device with which to continue interacting with the experience, while also building intangible artifacts that capacitate, empower and enable the interaction and use. While this was not observed to be an explicit intent of the designers nor a specific request made of them, it emerges as an opportunity for designers to help transform the public sector's way of doing things. One such opportunity lies in supporting ways for the participants to remain in contact after the project and in enlarging the user base of the resulting design knowledge and practices. In the cases, the legacies of the project after the project remained quite unclear. Regardless, an interesting possibility emerges for empowering communities-of-practice between participants – who often span diverse silos of the public service system – as a way to encode the learning from the design process. Integrating communication platforms could be one way to institutionalize the learning. In fact, the majority of the cases reported to being engaged in communities-of-practice that extend beyond the organization. Inland Design, LabX, DDC, Policy Lab UK, GovLab Arnsberg, La 27e Région, and Helsinki's CDO were all part of government innovation lab networks, participating in regular conference calls to discuss their work, allowing for shared learning. These knowledge networks are key to learning how others innovated and for learning lessons to be shared and adapted. This was also seen in Bologna's participation in the Cities of Service network, in which the leaders of the Office for Civic Participation take part and benefit from active knowledge sharing and creation that draws on the experience of the entire member base. These networks also work to maintain knowledge from one administration to the next by embedding it into existing platforms and creating legacies around the programs.

Meta-learning was also fostered through informal and formal communication. This was seen in formalized moments between the organizing leaders, for example in council meetings, public assemblies or strategic meetings and presentations between designers and top management, but was also seen in more relaxed settings, for example the exhibitions and festivals in Bologna, the show and tells in La Transfo, and the presentation of the Social Balance in Brescia. This allowed for learning outcomes to be shared with the entire community. In the case of Bologna's Participatory Budget, all of the meetings were documented in minutes and published online, allowing any interested actor to read about the process and the learning outcomes. Moreover, each quarter has a section on the city's platform, Iperbole, in which citizens can find all of the updates on the project and find ways to participate. This type of communication allows for varied participation, even the "silent" kind, i.e. those who are not actively contributing to the generation of knowledge but are actively consuming it and perhaps even applying it in their own working contexts. Likewise, all of the La Transfo sessions were documented as part of their funding agreement with Bloomberg Philanthropies and are available online for practitioners interested in their work and wishing to implement similar solutions. These open access repositories of the collective knowledge built up in the co-design process act as boundary objects (Star & Griesemer, 1989) between communities-of-practice in the public sector innovation space. Once again, the open access to the knowledge

outcomes of the process, as seen in the previous paragraph, helps create and strengthen networks of actors working in the same field and can be seen as learning devices that inform practice.

THE EXTERNALIZATION OF DESIGN AND THE IMPERMANENCE OF ITS POSITION ARE BARRIERS TO META-AND ORGANIZATIONAL LEARNING.

As discussed in Section 8.3 and above, the externalization of design competences often separates the learning journey, impeding a deeper double-loop learning process. Moreover, in cases like LabX, GovLab Arnsberg and Policy Lab UK, the process of "learning how the public sector learns" is acquired through repetitive projects across ministries and departments. In other words, meta-learning and its transformative potential for the context of public sector innovation is being built up in the design team rather than in the organization or the overall system. This is clearly seen in a number of cases. For example, Policy Lab UK has been able to create an iterative model for policy consultations based on their repetitive experiences across government. Likewise, the Intertransfo days dedicated to sharing best practices and problems between the La Transfo programs is a key moment of knowledge transfer between the *resident* teams from La 27e Région, allowing them to build off each other's insight for future work and even changing how things are done from one edition to the next. Another aspect that hinders organizational learning is the position of impermanence that hinders the use of design in more strategic activities and radical solutions that could really impact the organization. Inland Design, for instance, was given a 2.5 year contract (in fact, they are actually no longer hosted in Migri, but in the Ministry of the Interior). Despite becoming a first mover and knowledge leader in the context of chatbot use in the public sector and effectively spreading this knowledge, its role within the organization is more constrained as is the weight of its knowledge contribution. This supports what Brown & Duguid (2001) propose regarding how knowledge leaks where it finds affinity in practice. This is a clear example of one of the barriers to the real transformative potential of design work in public sector organizations: the prescribed position and role of design to one of product/service development without a nod to the intangible artifacts that it produces (which must be nurtured and acted upon). Design is seen to only be 'useful' in certain functional processes, and not as a strategic domain that pervades all organizational aspects. This is also supported by literature that emphasizes the limiting action of design to only services or only policy (Junginger, 2013; Mintrom & Luetjens, 2016). This returns to the challenge to designers to create artifacts that encode design knowledge and act as structures of knowledge participation that invite interaction with, use and continual contribution.

In the case of Inland, while meta-learning is technically taking place internal to the organization, it remains un-exploited knowledge due to the limited range of design work within. This highlights the growing and untapped knowledge bases of public sector organizations that are currently circulating in networks of practice (Brown & Duguid, 1991) found on and across the fringe of government and the protective spaces of government innovation labs. This speaks to another barrier to the transformative potential of design in the public sector: its lack of organizational legitimacy that blocks the uptake of design knowledge. A clear understanding of the value of design remains a gateway challenge for design work in the public sector, which bring us to the next point.

THE TRANSFER OF KNOWLEDGE FROM THE DESIGN EXPERIMENTS INTO THE ORGANIZATION AND THE SYSTEM-LEVEL IS BLOCKED BY THE FAILURE TO RECOGNIZE THE VALUE OF DESIGN.

Another issue that emerged from the cases regarding the recognition and assimilation of the outcomes of the design process by the organization revolved around issues of organizational legitimacy. This can mostly be reconducted to the experiential nature of the resulting knowledge and the non-linearity of the process. In fact, Kimbell (2015, p. 31) and Bailey & Lloyd (2016) point out the difficulties policymakers have in recognizing diverse inputs and forms of expertise, mainly the inclusion of users as experts of their 'lived experience' (Sanders & Stappers, 2008). This was largely due to the perceived non-representativeness of design outcomes, being focused on more targeted users. As already demonstrated, having top-level buy-in was important to the process in many of the cases. In fact, having a willing, public manager pushing the project in Fjord's digitalization project, was key to the set-up of the process and the receival of the new concept. "Quick wins" were also important towards gaining access to more meaningful projects by quickly demonstrating the value of the design process and what could be achieved, as observed in several cases (Bologna's Participatory Budget, Inland Design, Servizz Design, GovLab Arnsberg). What can be noted is the importance of participation, the value of experience and the critical acquisition of practice in the knowledge creation process of design experiments. In fact, the absorptive capacity can be seen to increase only with participating organizational members. It remains an issue of how this knowledge is transferred to non-participating members, owing to the experiential nature of the design process and the tacit dimension of learning outcomes. This dilemma is what problematizes the recognition of the value of design: its dependence on tacit knowledge that comes from experience.

THE DESIGN EXPERIMENTS ARE PAVING THE WAY FOR KNOWLEDGE TRANSFER IN AND BETWEEN ORGANIZATIONS, INCREASING THEIR ABSORPTIVE CAPACITY, THROUGH THE DEVELOPMENT OF PRACTICE. THE CO-DESIGN PROCESS PROVIDES SPACE FOR NEGOTIATION BETWEEN DIFFERENT COMMUNITIES-OF-PRACTICE, OR NETWORKS OF PRACTICE, WITHIN AND BETWEEN ORGANIZATIONAL AND SYSTEM-WIDE SILOS.

The cases demonstrated haphazard and non-strategic means for transferring the knowledge into the organization, seen mostly in the hope that the capacity-building efforts in the participating members would "rub off" on non-participating members and embed themselves in the organization. This was quite evident in La Transfo, especially given that each member returned to their home organization and the management of the lab was done by new employees who were not a part of the development process. The collaboration of multiple actors from different parts of government was in fact intentional to the service design but also to building up the innovation capacity of civil servants and policymakers. We saw this in Turin-s TO-HOME project, which engaged different public agencies around the problem of unemployment; likewise, the BAA encompasses several public functions dealing with unemployment and engaged several departments in the re-design of their portal on life needs. The same intent was seen in several other cases, e.g. LabX's Death and Bereavement Desk, Servizz.gov, Brescia's Zero Tender, and Policy Lab UK's foresight work.

While implicit, a potential for knowledge transfer through these processes can be observed through the diffusion of design practice. As observed in the case of Fjord and the BAA, the formation of *tribes* of ambassadors was key in preparing the internal context of destination for the

design concept. Through participation, the civil servants had the experiential competences to recognize the value of the final concept and its connecting practices and assist colleagues in assimilating the new system of content organization. In fact, what can be observed across the cases, is the growing absorptive capacity of organizations through the *tribes* of design ambassadors that participated in the process. Similarly, the participation of design teams in networks of practitioners provide other routes of knowledge transfer guided by the designers. This is observed mostly clearly in Inland Design's work on the networked chatbot, in which we see knowledge transfer on chatbot development assisted by other networks of practice, namely the technology and R&D units of the other public agencies. Networks of practice between the different silos and between different actors can be seen to take form, but a structured approach by organizations to manage the knowledge from these networks and communities is still lacking.

The design experiments, as seen in the cases and the above discussion, acted as learning vehicles, in which the designers introduced design tools and methods to the participants in a learning-by-doing process, in which fundamental assumptions were questioned in an experiential learning process (Beckman & Barry, 2007; Kolb, 1984; Rizzo et al., 2017). From a practice perspective, following the work of Brown & Duguid (2001), we can observe the design activities as paving the way for new knowledge to enter the organization through the embedding of design practice. As exemplified by the authors' (Brown & Duguid, 2001, pp. 203–204) discussion of the tacit dimension of knowledge, the mobility of explicit knowledge is tied to the spread of practice, or in other terms, only through previous experience does explicit knowledge make sense. Following this argument, we can see design experiments increasing the innovation capacity of public sector organizations by giving the participants an experience of innovation and the practical tools and methods to bring this knowledge into their work practice and possibly engage in future, similar activities.

In Fjord, we can see this in the creation of a set of design principles that informed future work on the platform. It was also reported that the tools were used in other project work in the organization. The participation in the co-design process also helped ease the integration of content into the new platform, thereby preparing the context of destination for the innovation. In Inland Design, we can see that the softer measures, seen in the Design Ambassadors program, the tool library, holiday calendar, etc., helped spread design knowledge and awareness and provided the experiential base from which to understand the value of the innovation. This was evident also in the increasing use of the chatbot seen in the increased 'office hours' and in the increased request for new content by staff. Likewise, the civil servants engaged in the citizen-led urban innovation projects in Bologna became more equipped to interact with citizens and vice versa, citizen users were more aware of how to engage with the public infrastructure.

DEVELOPING A CULTURE OF DESIGN WAS A GENERATIVE TOOL FOR CHANGE IN THE ORGANIZATION.

While none of the cases have measured the impact of their work, the majority reported that changing organizational culture was one of the founding motives behind the integration of design. Inland Design was created to bring a human-centered approach to the organization and to change their way of doing things. Despite this, the lab struggled finding organizational legitimacy. The Director of the lab reported that while no real measures were taken, the continuous and increasing engagement in new projects, however, speaks to the cultural change taking place. This was not only done through project work but also through softer initiatives, like a training program, a tool library, lunches, brochures, office hours, and more. Likewise, Fjord co-designed a set of design principles

with the BAA's digital team, building off of already existing (design) legacies while also forging a new one to inform their current practice and shape their service offering. Overall, importance was given to adopting a human-centered approach that accounted for both the administration and the user's needs, rather than solely focusing on the user. Here, we can see the co-design process as mediating between both worlds: the provider's and the user's/citizen's. Moreover, as explored above, the co-design process provided the experiential knowledge base and competences for participants to recognize, assign value to, assimilate and apply new and different forms of knowledge. Through the experiential nature of the process, design mediates between the production of knowledge and its consumption, by contextualizing and orchestrating external knowledge and enabling consumption through practice. While no tangible, organization-level change was observed, assuming the 'flatter' perspective and viewing public sector organizations as situated in their networked environments, a slow and quiet revolution can be seen to take shape through the emerging networks of practice, engaged in molding a transformative design culture in the public sector.

Chapter 9: Proposal for a Design-based Learning Framework for Public Value Creation and Organizational Transformation

In this chapter, I propose a framework seeking to model the role of design in public value creation activities in the sector's innovation efforts, as emerging from the comparative review of the case collection that was discussed in the previous chapter. The framework will be explained through the discussion of three main conclusions in response to the initial research questions, namely: the contribution of design to the innovation efforts of public sector organizations, the link between design practice and organizational transformation and the role of design culture.

The theory building work to answer the initial research questions and support or negate the starting propositions was done via working insights that emerged from the comparative review of the case collection compared with those coming from the review of literature. This process helped capture the nature, extent, variety and complexity of public sector innovations as portrayed in the relationship between the many actors and social structures that make up the policy ecosystem. While many insights were drawn from the process, an overall theory of how design culture contributes to innovation in the public sector and to organizational transformation is reached, mainly resting on the dual dimensions of knowledge. Design was seen to provide new forms of knowledge to policymakers and public sector organizations, namely regarding user and systemic needs and also the underlying values. The 'designerly way of knowing', however, was observed to contrast with the evidence-based and data-driven culture of the public sector. This was particularly evident in the struggle for design knowledge to find recognition and reception in the more strategic levels of the sector. This owes to the experiential nature of design knowledge, which makes transferring what is tacitly known difficult. This supports the seeming futility of the mass production of design toolkits that attempt to transfer design knowledge and competences through explicit means (i.e. tools), without taking account of the cultures and practices that underpin them. Following this argument, participation is key to the absorption of design knowledge, which further stresses the importance of engaging leaders in the process. This naturally complicates the integration of design knowledge into organizations and hinders organizational change. In spite of this, the emphasis on training and capacity building in design experimentations in the public sector and the establishment of networks of design practice point to more promising possibilities of how design culture is paving the way for innovation knowledge to be received through practice and also sheds light on future avenues for designers to engage in to promote transformation in the sector.

9.1 Design for Public Value Creation

As discussed in Chapter 4, Moore's (1995) strategic triangle provides a useful heuristic for the creation of public value by providing a simple framework to guide activities that concern the public. Put simply, it focuses on the need to: define what public value might be in a given context or situation, create the authorizing environment to support it, and ensure there is the operational capacity to produce it. Moore's (1995) model focuses on the strategic role of public managers, who need to manage 'upward' to find legitimacy and support for the activity, manage 'outward' to the public and other stakeholders and manage 'downward' to make sure the organization can deliver it (Bryson et al., 2017, p. 641). Recently, Bryson et al. (2017, p. 641) have extended the strategic

triangle to accommodate for the multi-actor, multi-logic, multi-practice, polycentric and complex place in which public value creation takes place today. Bryson et al. (2017, pp. 646–647) define their adapted triangle to be a framework to guide developing models to be tested.

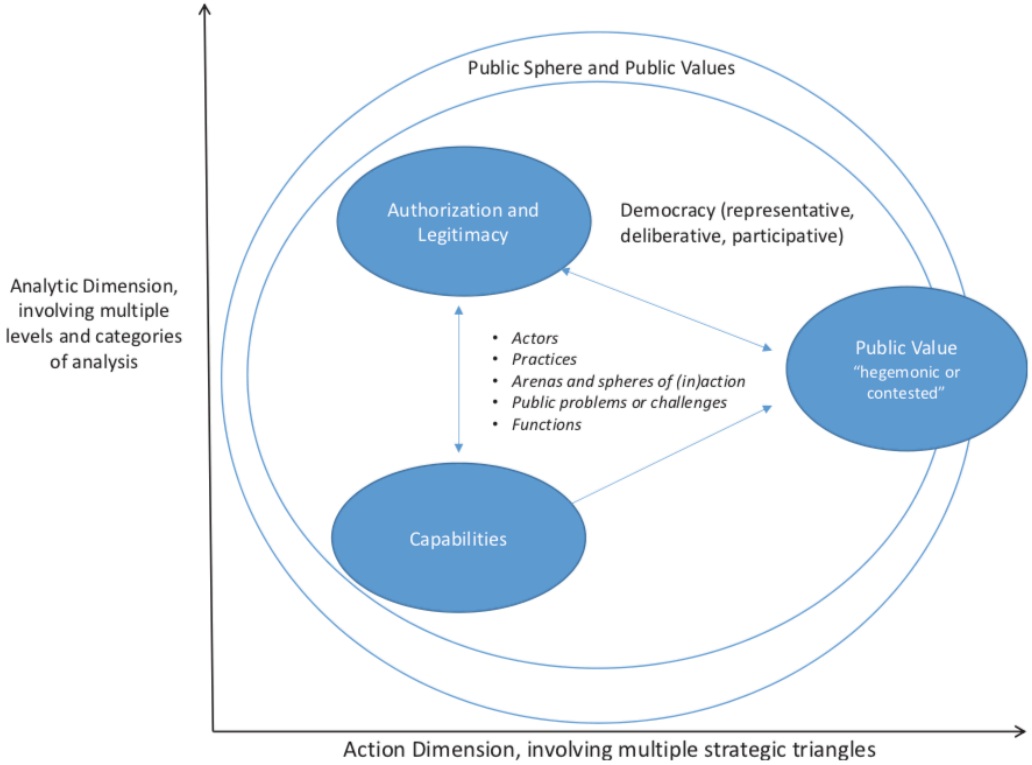

FIGURE 65. ADAPTED STRATEGIC TRIANGLE FOR A MULTI-ACTOR AND SHARED POWER WORLD (BRYSON ET AL., 2017, P. 647)

The framework that I propose builds on this adapted triangle by placing design practice at the center of the triangle, experimenting how it contributes to public value creation, and testing it with the results coming from the comparative analysis.

Firstly, the definition of public value selected was the one proposed by Meynhardt (2009, p. 212), which for clarity will be repeated here:

> *Public value is value for the public. Value for the public is a result of evaluations about how basic needs of individuals, groups and the society as a whole are influenced in relationships involving the public. Public value then is also value from the public, i.e., "drawn" from the experience of the public. […] Any impact on shared experience about the quality of the relationship between the individual and society can be described as public value creation. Public value creation is situated in relationships between the individual and society, founded in individuals, constituted by subjective evaluations against basic needs, activated by and realized in emotional-motivational states, and produced and reproduced in experience-intense practices.*

According to the aforementioned definition, public value is therefore subjective, experiential, relational, (possibly) repetitive over time and rooted in the evaluation of the satisfaction

of basic needs. According to Meynhardt's (2009) definition, public value is therefore both created for citizens and drawn from citizen experience. As such, design potentially has much to offer public value creating activities. An assumption that the thesis takes is that any innovation effort taken by the public sector is an effort to maximize public value, which strongly resembles the maxim informing Moore's (1995) intent to model public value creation after the private sector's goal to maximize profit. Based on this assumption, the cases were analyzed for their ability to generate public value through innovation.

By placing design practice in the center of the triangle, we observe that a focus is given to the public challenge, which in the majority of the cases, was wicked in nature. The focus on the issue dictated who needed to be involved and when. These were choices that were made by the designers, at times autonomously and at times together with the public sector leaders in charge. Two things emerge. On the one hand, we can see the public problem (and later the design experiment) as a boundary object (Star & Griesemer, 1989) that gathers the different participants to co-design the solution and work to find a shared solution. By gathering actors around the problem, a shared starting point for discussion is provided to which each actor can share their accumulated knowledge and experience with. This also allows for trust to be built between participants, both in the relevance of the objectives (co-definition of resulting public value), in the process itself and in each other (as contributors of ideas and knowledge). On the other hand, the key role of the designer in building this environment can be observed. For example, in the case of Fjord, 'who' participated and 'when' was orchestrated by them in terms of project need, but was also heavily informed by Accenture and the BAA lead who had the organizational knowledge to know which person needed to be involved and in what phase to prevent organizational hiccups and political problems. This emphasizes the power that designers, and other organizational leaders, hold in deciding who participates and who doesn't, which is a limiting factor to the democratic aspects of the co-design process, as discussed in literature (Blomkamp, 2018; Fung, 2006). Moreover, it was evidenced in the cases that citizen users often weren't involved in the design team; rather, users were engaged in user research and often, only the designers conducted these activities, reporting the insight to the co-design team composed of diverse public sector figures. This responsibility of inclusion and voice ties into the growing discussion around the (returning) political nature of design, as starkly presented in Manzini and Margolin's (2017) open letter to the design community to stand up for democracy. In a paper on the introduction of design in the UK Government, particularly through Policy Lab UK, Bailey and Lloyd (2016, pp. 11–12) ask if "design, with its capacities to expedite solutions, to make new things knowable and therefore governable, have a special responsibility[.] At the very least, we cannot possibly continue to see design as a 'neutral' or value-free set of practices. The very act of defining a user involves political reasoning" (Stone, 1988; Wilkie & Michael, 2009).

In addition, through the engagement of multiple actors in the co-design process, a diverse set of organizational practices from across the public sector is mobilized on the problem. The presence of these diverse perspectives is both an asset but also an obstacle in terms of communication, making the creation of a group culture very important to the initial stage of the process, as evidenced in the La Transfo program. Through the co-design process and the definition of the public value to be produced, actors are engaged in a double-loop learning process that promotes shared reflection of the underlying assumptions behind the problem (i.e. Discovery) and how to best solve it (i.e. Defining the public value proposition) with the resources at hand. Through the tools and methods used at each stage, the designer helps to 'harmonize' the practices of each participant through a human-centered approach that gives value to the 'lived experience' (Sanders & Stappers, 2008) of each actor, both user and provider. In so doing, the knowledge of each actor finds its relevance in the process; in other words, the experience each actor has of the problem in their own life/work sphere comes to the surface. The civil servants coming from across the BAA's

silos, each brought to the table their own specific expertise and knowledge of the problem, derived from numerous interactions with it in the context of their work lives. Likewise, in LabX's Death and Bereavement desk prototype each representative from the different agencies brought in their own specific knowledge and experience. This is also seen in the policy consultations done by Policy Lab UK and in the collaborative innovation efforts in Brescia and Bologna, and others. Through the process, a specific, group knowledge is collectively generated, which is more than what any one individual actor knows (Carlile, 2002; Powell & Brantley, 1992; Weber & Khademian, 2008, p. 340). The risk, however, presented in the cases is the impermanence of design in public sector organizations and systems, which endangers the relevance of the knowledge generated to the organization and the system overall. One possible 'solution' to this is the creation of networks of practice as will be explained in the next section (8.2). Public value, in the framework proposed, is thus not only a part of the design process but is also the desired outcome, that, like every design outcome, is never 'finished' but rather constituted through practice (Kimbell, 2009b).

In terms of operational capacity, design practice provides the participants with a new approach to service design and delivery. While design doesn't presume to provide all the necessary skills, competences and knowledge to deliver the service, it provides the participants with the tools and mindset to understand what is needed, for whom, why and how to satisfy it. This is accomplished in part by the multi-actor collaboration explored above but also through the different diverging and converging phases of the design process. In these diverging phases, the participants are encouraged to explore every aspect of the problem and to collect evidence to support the problem definition. Through this, they come to value different forms of knowledge. Moreover, through the iterative cycles of reflection, the tools and methods are adapted to the context and the existing working practices. This was evident in La Transfo but also in Fjord's BAA project, and the tools used in Policy Lab UK's consultations. In addition, the visual nature of design was seen to be a competence that was acquired during the process and that was particularly valuable in creating empathy for the users and the actors engaged, as well as starting discussions on the values that should guide the design and that should be produced. This was seen in the vision work that Helsinki's CDO's did with the top city officials, as well as in the comparison of the customer journey maps in several cases (e.g. Fjord's BAA, Muzus' user research, Servizz.gov, LabX, and others) and Policy Lab UK's foresight work. The visual nature of design practices embodies a material form of designerly ways of knowing (Cross, 1982) that was novel to civil servants and provided them with experiential tools they needed to feel the unknown and uncertain; often times in the cases, this was related to the future, but was also observed in work investigating the underlying assumptions on the public problem which often remain hidden or taken for granted by the service system. This was particularly evident in the user journey maps done by Fjord that evidenced that bundling services by life stages was more effective for user needs; likewise, through the persona work and the visualization of their transport journeys, Muzus was able to see that focusing on providing services to meet disabilities was counter-productive respective to focusing on mobility needs.

In the discovery work, as well as during the co-design process, the designers also guided the participants in creating new linkages and ways to relate with users, colleagues and other system actors. These relational skills were not immediate and required that each actor understood the perspective of the other person. For example, in Bologna's Participatory Budget, public technicians struggled understanding the projects since they were narrowed in on feasibility issues rather than looking at it from the perspective of public value. Likewise, citizens had to understand the administration's perspective and learn what is possible and within what timeframes. Likewise, in La Transfo the participants took time to understand how to communicate with each other in a horizontal manner, viewing each other as contributors of knowledge and ideas. What we can

observe is the construction of a new form of communication that is both linguistic but also material, embodied in the artifacts of the design process. Design practice can therefore be seen to prepare the members to both produce and receive innovation.

One aspect that clearly emerged from the cases is the importance of leadership in legitimizing the outcomes of design, which is important both in activating projects but also in ensuring the proper implementation of the value propositions designed during the process (as evidenced in the DDC case). The legitimacy and support in the cases came mostly from the public administration (at times from different levels, like in La Transfo), but also from the private and third sector and civil society, in some cases (Brescia's Zero Tender; Experimental Finland; Muzus' tender work). Legitimacy also had to be found with citizens in the design process. This was made clear in the addition of cultural projects in Bologna's Participatory Budget. This was needed to demonstrate the value of the project and gain trust in the process. These 'quick wins' were seen to be important in legitimizing the design process to actors and demonstrating its value. Moreover, the creation of government labs and innovation spaces can be seen as government support to innovation.

In conclusion, design can be seen to 'call publics into existence' (Moore & Fung, 2012), acting as a boundary object for the gathering of multiple actors around the design object, the public problem. The process, in other words, engaged members in "informational and relational work that [brought] people together from different perspectives in ways that [allowed] them to appreciate one another's perspectives and potentially work together to address problems" (Feldman & Khademian, 2007, p. 320). Through a human-centered perspective and by thoroughly exploring the problem space, diverse actors gravitating around the problem are included in the process and contribute to defining and producing public value. This means going into user needs, system actor needs and setting up the conditions for (citizen-led) public value creation (thanks to the careful planning of institutional conditions, establishing the authorizing environment and the engagement of actors). Citizen-led value creation (Heinonen et al., 2013; Heinonen & Strandvik, 2015) in cases like Bologna and Brescia, offer interesting insights into the emerging role of municipalities as a type of platform organization (Ciborra, 1996) that could inform future research.

In sum, returning to the definition of public value given by Meynhardt (2009) above, design can be seen to generate public value by gathering actors around the resolution of a need and seeking to satisfy it. Moreover, in its focus on citizen experience through user research and prototyping, design also influences the shared experience between citizens and the service provider through improved service interactions (as observed, for example, in the improved customer service performance of Inland Design's chatbot, Kamu). What, also, emerged from the cases is the key involvement of civil servants in the design process and the importance of accounting for administrative needs in the process. To use the same example of Inland Design's chatbot, the designers took account of the users experience but also that of front line staff. In doing so, the experience of providing and consuming the service improved, resulting in a more positive shared experience of the interaction. Moreover, through the design process, the actors experienced different aspects of the service system, on top of the user's perspective, and through these '*experience-intense* practices the civil servants' own perceptions of their roles and influence in relation to whom and with whom shifted, thereby creating value for the public by improving the conditions for public value creation. Design practices thus emerge as potentially powerful methods to generate public value. Here we can see design's role in mediating between production and consumption of value but also knowledge as explored below and the promise that design culture holds for organizational transformation in the public sector.

9.2 Design Practice as a situated and implicit agent of change

9.2.1 The relevance of the 'who' behind design, 'where' it happens and 'for how long'

Design is being integrated into the public sector in different ways, the most popular of which is through creation of 'safe spaces' (Kemp et al., 1998; Schot & Geels, 2008; Smith & Raven, 2012) for innovation, shielding the processes from the dynamics that govern the larger system. As seen in the cases, government innovation labs are being created to: (1) change the organizational culture by introducing new ways of doing things and a human-centered approach; (2) help in modernization efforts (e.g. digitalization); and (3) bring the citizen-user to the center of public service design and delivery. As observed in the cases and discussed in Chapter 8, the location of design competences respective to the organization matters and often determined the breadth and depth of involvement. A range of locations were investigated from internal labs to external support, and emerging from the research is a third category that is a sort of hybrid form, working from the both inside and the outside. The benefits of being inside the organization was seen in having access to organizational knowledge and a fuller understanding of the culture binding practices and routinized behavior. Moreover, in the case of Inland Design, the advantage of working from the inside was the possibility for repetitive experiments, which allowed learning outcomes from the design process to be applied to future projects. Despite working from a position of equality, being civil servants themselves and colleagues, the designers struggled finding organizational legitimacy and were unable to reach the more strategic level activities, which prevented them from proposing real, radical changes. In addition, the impermanence of the labs provides an obstacle to the impact of design on the organization in the long-term. In the two cases of implicit design use at the municipal level, while integrated in the system, the linking of the projects with specific political platforms destabilizes the long-term impact of the projects. In the case of Fjord (and Muzus), we observed the complete externalization of design. Pivotal to the design process in the case of Fjord was the long working history that Accenture had with the BAA, privileging the design team with critical knowledge about the organization's political and working structure. Moreover, the active engagement of the BAA lead was important for accessing organizational resources and 'getting things done'. Likewise, Muzus, also, benefitted from a willing partner in the municipality who initiated the process and provided support in development. In many of the cases, the design competences were observed to be in a hybrid position: internal to the organization or public system but working from the outside. This was the case for the DDC, Policy Lab UK, LabX, and GovLab Arnsberg, that benefitted from organizational resources and 'insider' knowledge of the public sector, but worked from a centralized position in partnership with different departments and units across the civil service. This allowed the lab to learn from repetition and therefore learn how the sector innovates/learns, but the diffusion of this knowledge in different units separates it from really impacting the organizational structure itself.

What can be observed is the fragility of the legacy of the design experiments irrespective of location, mostly due to the difficulties in gaining legitimacy and transferring the resulting knowledge to the organization/system, making it a problem of the absorptive capacity (Cohen & Levinthal, 1990) of public sector organizations. What is instead emerging is the role of the design experts, teams, labs and studios as holders of knowledge, learning through the repetition of projects across the service system on how the sector learns and innovates. The meta-learning process, crucial to truly transforming the public sector, is not happening in the organization, but rather in the intermediary system. In other words, knowledge from the process is not entering the organization in permanent ways, nor were any legacy or 'exit' strategies observed to be put in place to foster the transfer of knowledge.

An alternative viewpoint, however, emerged from the analysis that positions design practice as a conduit for knowledge transfer between networks of practice. Several of the cases evidenced the participation of designers in networks of government innovation labs to share projects, best practices and other pertinent information coming from their work. In these exchanges, we can see the building of a collective knowledge base on public sector innovation, in which members share reflections on what worked and what didn't, how to do things differently the next time, etc. Muzus fostered knowledge sharing between two cities, clearly shows the knowledge transfer possibilities that design teams can play in the growing networked knowledge community around public sector innovation. Moreover, their role in building the capacity of the civil servant workforce is likewise setting the scene for the positive reception of new knowledge and new practices in support of innovation. Designers can be seen to be building networks of practice inside the public administration in the diverse silos. In this network setting, designers can be positioned as network brokers, bypassing the hierarchy of government organizations, through the 'rails laid by practice' (Brown & Duguid, 2001), as will be more clearly explored below.

9.2.2 Design practice: the tacit dimension to innovation efforts and organizational change

As discussed above, the separation of the design process from the organization, puts at risk organizational learning which depends on feed-forward and feedback processes (Crossan et al., 1999). This intensifies the tensions resulting from exploring new ways of doing things, as seen in the sector's innovation efforts, and exploiting existing knowledge and practices (March, 1991). This is particularly relevant to the networked policy environments (Agranoff, 2008) in which PSOs operate today. In consequence, understanding how knowledge is managed by these organizations becomes an important matter, defining its absorptive capacity (Cohen & Levinthal, 1990).

The design experiments observed in the cases are quite young, making any true measurement of the impact of the activities premature. In fact, none of the cases reported any systematic impact measures. What was observed were 'softer' ways to evaluate the impact being made – e.g. the number and continuity of new projects, the diversity in participants, numbers regarding user satisfaction, etc. As change and culture are slowly developed, it is too early to make any real observations. What was observed, however, is the contribution that the learning process inherent to the design process made towards fostering organizational learning and change.

As discussed in sections 8.4 and 8.5, the design process can be seen to catalyze a double-loop learning process in which the fundamental assumptions underpinning the public problem are questioned and researched. This goes beyond looking into the root of the social need to investigating also the elements of the system that influence the experience of the service. Moreover, the involvement of multiple actors was found to increase the frame-breaking potential of discovery activities. A critical assumption that emerged regarded positions of power and who was considered to be a knowledge holder, supporting Bailey and Lloyd's results from their analysis of Policy Lab UK (Bailey & Lloyd, 2016, p. 7). In addition, the co-design process was observed to activate a mix of learning modes – namely by-doing, by-reflection, by-proximity and by-interaction – via the converging and diverging cycles, intrinsic to the design process. All of these learning modes helped participants become acquainted, first-hand, with not only new practices but new ways to learn , to know and to collaborate. Furthermore and as discussed, the visual nature of design, along with the ethnographic elements of the process, led to discussions over the values that the organization(s) hold(s) and the public value to be delivered. These visual tools, mixed in with other ethnographic tools, introduced participants to a new (and also collective) way of 'knowing' the problem and the service system. This new way of exploring concepts and values, however, was not easily adopted, as exemplified in the transformation of a visual representation of Demos Helsinki's experimentation

framework to a text-based table to make it more accessible (and ultimately, more usable) for policymakers. What is evident is the marked clash between different forms of 'knowing' and 'doing'. In going forward, designers will have to know when to sacrifice aesthetic of form for functionality in the slow march towards cultural change. Finally, through the design process, artifacts are created that carry the knowledge generated and serve as embodied reminders for organizational memory of the experiential knowledge accumulated through the process. In these ways, the design process can be seen to touch upon the three levels of organizational culture defined by Schein (2004): the creation of artifacts that embody learning and new cultures; discussing and defining values in the design process with all relevant actors; and uncovering underlying assumptions through the iterative diverging and converging cycles of the design process. Schein (1988b) has attributed the failure of planned organizational change programs to the failure of the organization to effectively unfreeze and prepare for the change ahead. In other words, the organization fails to create readiness. Moreover, successful change implementation is often attributed to the organization's culture and capabilities as they relate to change (Cummings & Worley, 2001; Detert et al., 2000; P. Jones, 2015; Paton & McCalman, 2000). What we can observe in the cases, is the implicit role of design in organizational change, following Deserti and Rizzo's (2014) proposal, as it quietly influences the organization's culture through the design process by changing mental models and work practices and building new capabilities with which to adopt and apply the knowledge in practice. Designers, in other words, can be seen to be leading 'a silent revolution' even at the ignorance to the organization at large (similar to how Helsinki's former CDO, Anne Stenros, often viewed her work in the city (Alonso, 2017; Stenros, 2016)).

Focusing our attention now on the role of design practice, we touch upon the issue of knowledge management and creation in the design process. Firstly, by gathering multiple actors in a participatory process, issues regarding the variance in value (Weber & Khademian, 2008) assigned to knowledge must also be accounted for. This is because the relevance of information depends on the experience and expertise that participants bring and their interpretation of the problem to be solved and what might be accomplished (Weber & Khademian, 2008, p. 338). Considering the multi-faceted nature characterizing wicked problems – unstructured, cross-cutting and relentless (Rittel & Webber, 1973) – each actor engaged in the co-design process brings a certain experience with the problem as discussed above that shapes how they view the problem and its solution. Each actor thereby contributes knowledge to the co-design process, as defined by their own relationship with the problem and the context that informs its meaning and value. Knowledge, as argued by Weber & Khademian (2008, p. 338), is socially mediated information (Berger & Luckmann, 1967) and cannot be separated from the application, use and development of information (Lave & Wenger, 1991). From this vantage point, knowledge is therefore "localized, embedded, and invested in practice" (Carlile, 2002). This was observed in the cases, particularly those that engaged actors from different organizational silos, in which different perspectives of the problem were shared, insights were gained on how services overlapped and knowledge about the user was given based on frequent interaction. This was accompanied by user research that brought in insight from the citizen's life sphere and how they interact with the problem and the service structure. Through a human-centered approach, designers give value to all forms and sources of knowledge in their quest to generate new concepts, and in this equality of value, mediate the use of different forms to create new knowledge that is unique to the specific setting. In other words, through the process, a new, situated form of knowledge is created. In this role, designers must pay attention to the influence of their own values on the process and acknowledge this.

Secondly, the issue of how the knowledge is transferred back to the organization arises, or rather how to engage in the 'feed-forward' and feedback mechanisms (Crossan et al., 1999), pivotal to organizational learning and change. There are three primary issues that emerge here, of which the

first two have already been discussed: (1) the failure to recognize the value of design; (2) the externalization of design competences in 'protective spaces'; and (3) the tacit dimension of knowledge. In Nonaka and Takeuchi's (1995) spiral model of knowledge creation, the authors made the distinction between explicit and implicit knowledge, transforming the race for survival in the knowledge community to one of uncovering and harnessing the tacit (Amin & Roberts, 2008). Brown and Duguid (2001), however, remind us that Polanyi (1966) wasn't referring to two distinct forms of knowledge but rather to two interdependent dimensions; even the explicit, in use, "possesses this other, implicit dimension" (Brown & Duguid, 2001, p. 204; Polanyi, 1966). This distinction is also reflected in Ryle's (1949) distinction between 'know how' and 'know that'. While 'know that' can be transferred freely though rules and explanations, 'know how' is acquired through practice, as demonstrated in his famous example that knowing the rules of chess doesn't imply you know how to play. Practice therefore gains an important position for the circulation of knowledge, highlighting the promising role that communities-of-practice (Lave & Wenger, 1991), networks-of-practice (Brown & Duguid, 1991) or knowledge collectivities (Lindkvist, 2005) can play in innovation.

Based on this premise, the research focused to uncover the link between design practice and organizational change in the public sector. Two aspects were found, which will be explored as follows: (1) the lingering connection to craftsmanship in design even in the new areas of application; and (2) the transformation of organizations through the creation of networks of practice in design. To address the first, while design has been characterized as moving away from craftsmanship towards more knowledge-oriented work, I would sustain that, as pointed out by Kimbell (2009b), the vast use of elements (human, technological, material artifacts, discourses, emotions, values, etc.) in design work highlights the remaining quality of craft in design, being a learned skill that cannot be reduced to a DIY toolkit and a formula for the generation of creative and innovative solutions. In other words, the creativity to which design has been attributed, cannot be reduced to formula despite efforts to make explicit that which is implicit and built through experience.

In fact, the majority of the cases focused on training civil servants and participants in the 'craft' of design, by engaging them in the design process. The design experiments observed in the cases can be seen as temporary communities-of-practice in which civil servants and other actors were both "resources" engaged by the expert designer, but also, novel designers entering the design community, contributing knowledge and practices to the final design. By involving participants from across the service system and the different organizational silos, as observed, diverse (occupational) networks-of-practice were engaged (van Maanen & Barley, 1984). As explored above, this contributes to providing different perspectives on the public problem, and also, different practices on how it is being solved by each actor; all of which provides materials for the design process. By working in proximity with the designers, the actors learn how to use the tools and gain an understanding of the process and the importance of the various phases. We can, in other words, see them as apprentices learning the craft of design from the experts through co-location and frequent interaction. In the large majority of the cases, however, the co-design teams gathered to work on temporary projects, and therefore possess many of the features described by Lindkvist (2005) in his collectivities of practice. While the dispersion of the participants back to the organization poses a risk of the diffusion and eventual loss of the knowledge built in the process, an alternative emerges from the cases with a more optimistic perspective.

This perspective sees the design experiments as vehicles for the creation of networks-of-practice in design, paving the way for knowledge transfer in and between organizations, increasing their absorptive capacity, through the development of practice. For example, in the case of Fjord, we can see the formation of *tribes of ambassadors* who prepare the context of destination for the final concept. In other words, what was observed is the creation of a network of civil servants able to

receive the learning outcomes, helping the transfer of the new concept and connecting knowledge into the different silos. The development of practice through the process allowed for the new way of doing things to resonate with the individual units of the organization and be understood by way of experience, as acquired through the co-design process by the represented colleague. This was also observed in other cases, like in LabX's Death and Bereavement desk, Brescia's Zero Tender, Bologna's Participatory Budget, Inland Design's chatbot, and others.

In conclusion, we can see design practice as an implicit and situated agent of change in public sector organizations, building a networked layer of *experience-intense* practices that links internal units and external actors, in a shared effort to increase public value.

9.3 Design culture as a generative tool for change in the organization

In the discussion so far, we have therefore seen designers mediate between the production and consumption of public services. One of the leading insights of the comparative analysis was the need to adopt a human-centered approach that doesn't stop at focusing on user needs but also extends to the needs of the administration and other service system actors. This owes mainly to the complex and wicked nature of the problem. Moreover, designers were also observed to mediate between the production and consumption of knowledge, or rather provide the experiential knowledge that enables the recognition of new knowledge, the assimilation of it and application of it. Designers thereby contributed to increasing the absorptive capacity of the individuals participating in the co-design process. While no strategies were observed of transferring this to the organizational level and therefore increasing the absorptive capacity of the organization, as discussed above, the embedding of design practices in the participants was seen to create the premise of networks-of-practice with the capacity to receive innovation and prepare the context. In addition, thanks to international networks-of-practice that bring together different designers working in public sector innovation, designers were also observed to act as knowledge brokers, providing external knowledge acquired through repetitive experimentation to new projects, effectively learning how to design in the public sector by learning how it learns.

We have also seen how designers in public sector innovation efforts are contributing in terms of public value creation; how through the design process, the practices of each actor, including the user, both contributes and influences the final design; and finally, how the embedding of design practice through the experiential learning process circulates the knowledge acquired from the process and prepares the receival of innovation. In conclusion, what we can observe is the emergence of design culture as a generative tool for organizational transformation. Where on the one hand, we can observe the design experiments, as they are being managed at present in protective spaces, to be failing to really create any impact on the sector, we can also see the optimistic buds of potential for a quiet revolution, a trojan horse if you will, entering organizations on the networked roads of design practice.

9.4 The Design-based Learning Framework for Public Value Creation

The two models I propose are a synthesis of the insights gained during the comparative analysis and the initial models coming from the literature. The two conceptual models proposed were developed by following these steps: (1) definition of scope; (2) data analysis; (3) conceptualization and (4) validation.

In the first step, the scope and purpose of the models, as well as the scenarios of use were established. This was naturally guided by the research questions and the sub-questions emerging

from the literature review. The main objectives of the research were two-fold: (1) to clarify design's role in public sector innovation and (2) to trace its contribution to the transformation of the sector. The scope of the models is to provide a guide for practical reasoning and discussion; in other words, the models seek to encourage reflection and further action by framing the current state of affairs.

In the data analysis phase, the insights coming from the review of literature were analyzed to pinpoint relationships between conceptual domains and the initial conclusions being formed in response to the research questions. Two models were identified as particularly useful for exploring design's role in public sector innovation and its contribution to transforming public sector organizations, namely: the double diamond design process and Bryson et al.'s (2016) updated strategic triangle for public value creation. Both frameworks provide a starting point to explore how design practice advances public sector innovation efforts through the co-creation of public value and how the resulting knowledge is managed at the end of the process. The double diamond shows the design process as it is being used in design experiments across Europe (as evidenced in its popularity in design toolkits and its diffusion by the UK's Design Council). It was useful in demonstrating the limits of the model in terms of capturing the transfer of knowledge post-design. Bryson et al.'s (2016) model was useful as a framework to begin delving into how and if design practice is contributing to public value creation and thereby innovation. The framework's authors, in fact, define it as not being a model but a starting point for others to conceptualize models for testing. Finally, in order to understand the learning process and the transfer of knowledge, Argyris and Schön's (1996) learning framework and their conception of meta-learning formed the starting point of modelling how design knowledge can be transferred post-PSI experiment and its potential effects on the organization.

The frameworks have only been initially validated through discussions with my supervisors, peers and other scholars in the Design Department at the Politecnico di Milano. Both frameworks could benefit from further and diversified feedback for refinement.

Based on the frameworks coming from the literature review, the empirical findings led to the conceptualization of the two models that the dissertation proposes as follows.

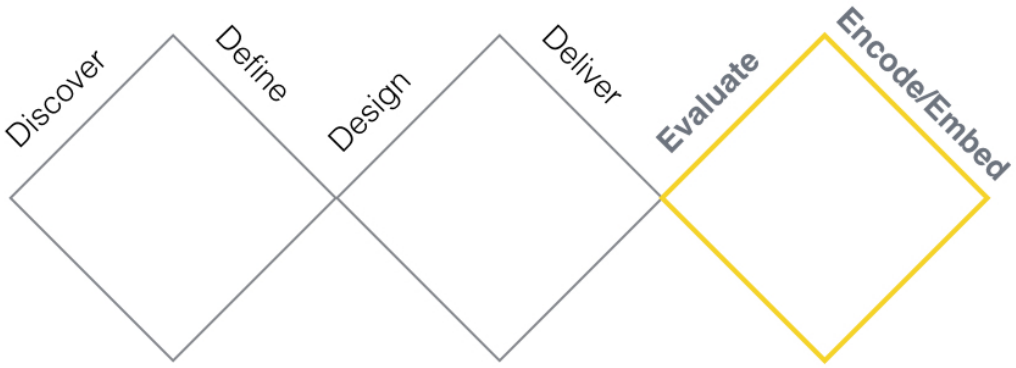

FIGURE 66. TRIPLE DIAMOND DESIGN PROCESS FOR ORGANIZATIONAL TRANSFORMATION

The Triple Diamond Design Process for Organizational Transformation clearly builds off the double diamond by adding a third diamond (in similar fashion that a third loop was added to Argyris and Schön's double-loop learning model) that encourages designers to reflect on the design process and codify and encode the resulting knowledge in the organization. It, in other words, pushes designers to engage in meta-design or designing for the design-after-design (Ehn, 2008). While reflection-in-(design)action (Schön, 1983; Yanow & Tsoukas, 2009) should be a regular practice throughout the design process, especially when designing organizational processes in collaborative settings (Wegener et al., 2019) such as those found in co-design activities, when

discussing values (Yoo et al., 2013) and in terms of creating a context for learning and viewing practice (Loughran, 2002), the model seeks to create a deliberate phase for reflecting and unpacking the knowledge resulting from the design process to support organizational transformation through the structuring of mutually supportive components: encoding the knowledge into an organization's knowledge infrastructure and empowering its use through capacity-building.

As has been made clear in the discussion so far, organizational transformation by design is not an explicit task or objective the design process. It is rather an implicit agent of such change, quietly suggesting and nudging changes in ways of doing and knowing things. The model encourages designers to engage in meta-design, designing for the after-design, to help organizations reflect and participate in meta-learning. This phase can see designers reflect with participants on the design process and the tools, methods and approaches used: what worked, what didn't work, what could have been done differently, how to adapt the process or the tools, how to apply the knowledge in other areas, etc. Beyond reflection, the phase challenges designers to leave artifacts that encode this knowledge into the organization, fixing it into its memory to live on as an embodied and tangible form of the participants' experience of the knowledge, i.e. their intangible artifacts. As suggested by the empirical research, this could be in the form of tangible artifacts (e.g. a space/lab that shows design outputs like personas, customer journeys, scenarios, etc.) or intangible artifacts in the form of design principles or communication structures to allow for participants to continue interacting and sharing – i.e. building networks-of-practice.

Accompanying the creation of a knowledge infrastructure comes the need to provide the ability to interact with it and exploit it. Here, designers are challenged to focus on building the capacity of participants to develop their own design craft, specific to their working area of expertise. This involves training non-designers the craft by engaging them in actively doing design. In this last phase, the model suggest designers take time to reflect with participants on the activities and to help them absorb the knowledge, adapt it and apply it in their work. This dual role and its connection to organizational transformation becomes more clear in the framework presented below, in which the Triple Diamond is embedded.

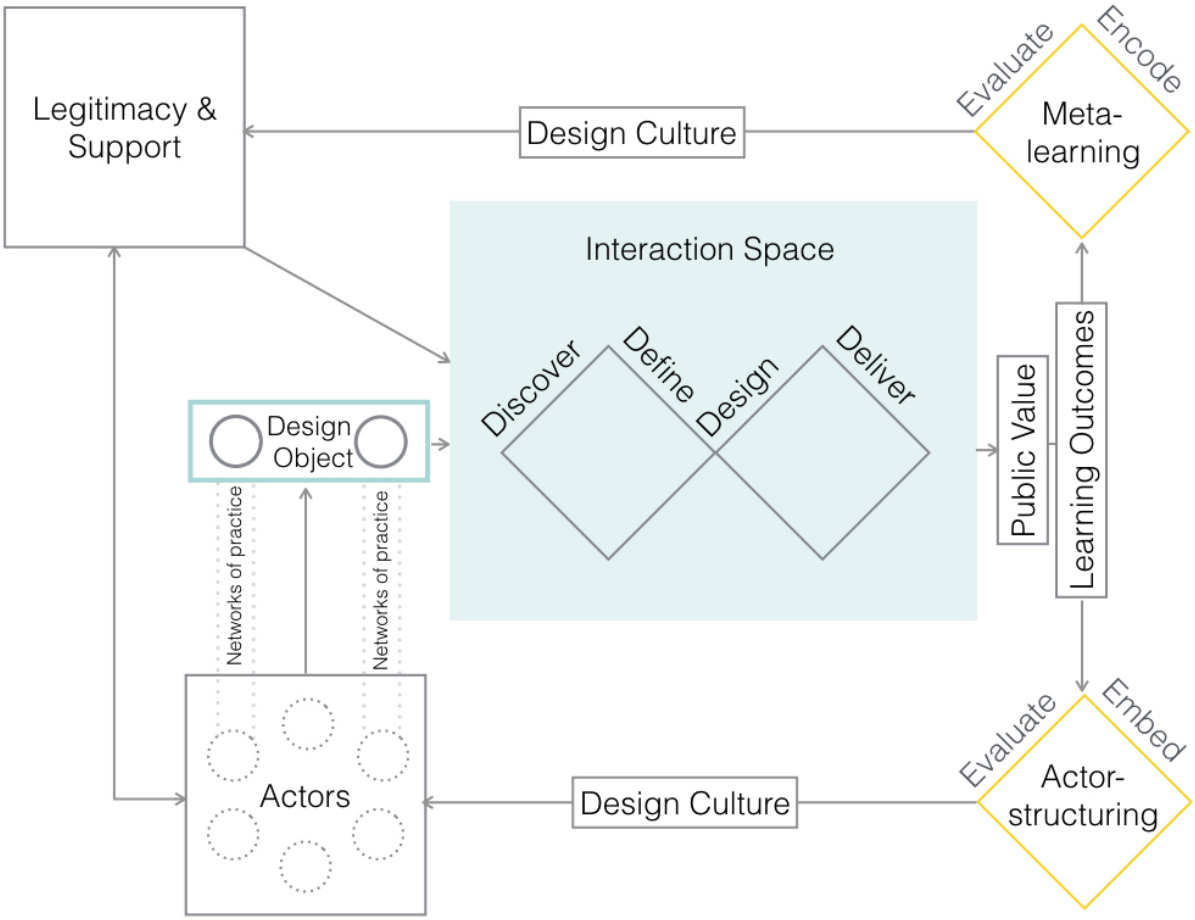

FIGURE 67. DESIGN-BASED LEARNING FRAMEWORK FOR PUBLIC VALUE CREATION AND ORGANIZATIONAL TRANSFORMATION

The Design-based Learning Framework for Public Value Creation and Organizational Transformation includes not only the Triple Diamond Design process but also Moore's (1995) strategic triangle. The empirical research found that design is being used to co-define and -create public value. It also found that capacity-building was a big focus of these projects as a means of changing the working practices, mentality and culture of the sector and all its actors (citizen users alike), but to also prepare the receival of the innovation (the context of destination, which at times was within the same organization). For this reason, the operational capacity part of Moore's triangle has been deconstructed to show the role of design, while in action and after.

The framework starts by defining the object of design, or rather the public value to be created and setting up the design process/learning context. As explained in Section 9.1 By placing design practice in the center of the triangle, we observe that a focus is given to the public challenge, which in the majority of the cases, was wicked in nature. The public problem was then seen to act as a boundary object gathering the different system actors around the co-design of the solution. These actors often came from different government silos, different sectors and with different backgrounds, knowledge of the problem and concepts of how to solve the problem (i.e. the kind of public value to be produced). The actor box refers to all the actors from the service system engaged in the co-design process. These actors are, in turn, each part of a network-of-practice, mostly coming from their occupational role but also from their role as citizens, that shapes the contribution they make to the process and the perspective of the problem they bring.

What emerged as crucial to the success of the experiment at this stage is the ability of the designer to properly set up the environment for the design process, which often meant gaining the support of leaders and building an authorizing environment for the project that includes creating a group culture that values diversity in experience and knowledge. In terms of the authorizing environment, similar to the work done by Bryson et al. (2017), legitimacy and support can come from actors other than the public administration. However, in the cases observed, it mainly came from top public officials or through legal frameworks.

In the interaction space, set up by the designers and the co-design team, the public value to be pursued is defined and the solution to the public challenge is built. In terms of public value, Meynhardt's (2009) definition was adopted but work could be done to include other definitions (Benington, 2011; Bozeman, 2007; Bozeman & Johnson, 2014; Moore, 1995). In this space, the traditional double diamond is used to represent the co-design process and its diverging and converging cycles and its underlying double-loop learning process. Through the tools and methods used at each stage, the designer gives value to and integrates the practices of each participant through a human-centered approach that acknowledges their lived experience and in so doing accounts for top-down and bottom-up needs. In other words, each actor's knowledge of the problem finds its relevance in the process. In the diverging phases, participants are challenged with opening up to new forms of knowledge and in the converging phases, a shared and experiential knowledge base is formed. In other words, through the design process, experiential learning outcomes allow new information to be converted into an 'emerging knowing' through the co-production of knowledge. This was observed to further capacitate actors in receiving the innovation and the correlating knowledge through a process of actor structuring (as described above); and on the other hand, to enable meta-learning in the design team who were supporting the process. While the empirical research demonstrated a critical lack of meta-learning and encoding of knowledge into organizational processes by the public organizations themselves, the model encourages designers to address this through the production of design artifacts that embody the resulting knowledge.

In the end, through the process, we can see design culture develop in the unique combination of elements that inform the innovation process and the networks of practices working to solve the public problem. What we can observe is the production of new sensibilities, approaches and ways of knowing as a result of engaging in design practice, and thus its mobilization as a generative tool, as suggested by Julier (2006, p. 76); in the context of the research, for generating organizational change through the experimentation process of creating public value. The design cultures being cultivated are specific to the individual experimentation and are thus situated in the context of the network of actors, structures, rules, existing practices and technology that make up the innovation contexts. We can therefore see, in the model, design culture as being a product of the process, on both the actor and organizational level, while also fueling iterations of further use in different projects and fields of application. We can then recognize Deserti and Rizzo's (2014) definition of design culture as a situated system of knowledge and competences that mediates between the world of production and consumption to develop new products and services. What this research adds to this is its mediation between the production and consumption of knowledge. What was observed in the research was the role of design practice in preparing contexts to receive innovation through the development of a (new) culture of design. This is the unifying contribution that design brings to transform the public sector through innovation.

Chapter 10: Conclusion and Recommendations

In concluding, I will briefly summarize the results of the research in response to the initial questions and sub-questions.

10.1 Design's role in Public Sector Innovation

1: Design contributes to innovation in the public sector by focusing on the experience of both producing and consuming public value, mediating between the different practices, needs, expectations, interpretations, capabilities (human, technological, and financial) and ultimately, knowledge, that underpin the value creation process.

2: Design fosters innovation in the public sector by focusing on the user (citizen) and other system actors in the exploration of the problem and its solution-building. In doing so, design legitimizes different sources of knowledge, acknowledging citizens as experts of their own lives. Through the experiential learning process, the value of the 'designerly way of knowing' is recognized, as is the value of different forms of knowledge. This recognition, however, hangs on participation, pointing to the fragility of design outcomes. Built on 'lived experience', the outcomes are potentially powerful, yet very difficult to transfer. This highlights the tacit dimension of design knowledge, as situated and embodied and dependent to an extent on experience.

3: Design tools help make the 'intangible' tangible. Visualizations are powerful design tools that force civil servants to understand problems differently. Coming from a text-based culture, the visual nature of design introduces a different conversation, one that allows values to be discussed and for assumptions to be more clearly identified and questioned. Needfinding tools, moreover, create empathy for users. Design tools act as 'boundary objects' that allow different networks of practice to challenge each other's assumptions, engage in double-loop learning and promote shared learning.

4: Design contributes to innovation in the public sector by preparing the context of destination. Through the experiential learning process of the design process, participants acquire the tacit knowledge base to receive change measures.

10.2 Design and Organizational Transformation in the Public Sector

5: Design practice goes beyond the process and tools to focus on transferring knowledge through experience and culture.

6: Leadership is important in legitimizing and supporting design efforts.

7: Learning outcomes from the design process stay with the design team and are rarely transferred to the organization(s). This is often due to the externalization of the design competences and the ephemeral role given to design. This problematizes the value of design in the public sector for

several reasons: (1) the lack of iteration thwarts the uptake of design practices and culture on the organizational level; (2) the 'designerly way of knowing' remains in contrast with that of the organization, preventing its recognition, assimilation and absorption; and (3) the potential for transformation is lost to a perspective that views design as tools and loses sight of the experience-intense practices that ground change processes.

8: Transferring design outcomes and knowledge to the organization is problematic, owing to: the experiential nature of design knowledge, the episodic nature of design use and the separation of the process from the organization. As a result, knowledge stays with the participants and the designer(s). Often times, the designer or design team work across public ministries and agencies and are connected to networks of other similar teams. Consequentially, it is the designers who are building up a knowledge base on how the public sector learns (innovates). This is strengthened by networks of practice that effectively allow knowledge to 'leak' out of the organization. The spread of design practice, however, offers encouraging opportunities for knowledge to 'stick'.

9: Due to the fragmentation of design efforts and the participants involved (from across government silos), design culture is emerging in pockets or in individuals, but remains weak organizationally, due to the "one-shot" nature of design experiments and the externalization of the processes.

10: Design culture holds potential as a generative asset for innovation and change in the public sector by mediating between the production and consumption of public value and innovation knowledge.

10.3 Recommendations

1: Design experiments in the public sector should adopt a human-centered approach that integrates provider and user needs; in other words, it needs to account for outside-in and inside-out linkages in the design process.

2: Designers in the public sector have the possibility of establishing the enabling conditions for innovation and organizational transformation through the construction and empowerment of networks of practice.

3: Designers need to focus on the "design after the design" and build devices and artifacts that allow knowledge outcomes to be produced and re-produced post-project.

4: Similar to the design for services approach, a design for organizational change approach could focus on the conditions that allow organizations and their networks to learn. The possibility of strengthening networks of (design) practice emerged as a promising pathway for design to prepare the organization for change measures and innovation.

10.4 Future Research

The research provides interesting avenues for future research in the areas of design and public sector innovation and design and organizational change. For example, studies conducting research through design could be made that follow public sector organizations from the beginning to the end of the design process. These studies would benefit from baseline studies regarding the level of design awareness, the context of origin of the innovation as well as the destination, the design principles informing working practices previous relationships between actors, and an understanding of the citizen's perspective, among other factors to be able to better view changes in the actors' sensibilities and attitudes. Moreover, if granted time, these studies could also contribute towards understanding if the organizations were more receptive to innovation after the process, whether in terms of the innovation that was the object of the design process or other future innovation projects. Future studies could report on the extent to which design knowledge was able to prepare the context to receive innovation based on specific measures and if the organizations engaged in more effective innovation efforts as a result. This would require time and a close relationship with the organization in question.

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Annex:

Design Case Study Template:

Project Name
Location
Design Location (Design Commission's locational model):

Abstract
Organization X is…..

I. Organization (300-500 words)

Describe briefly the nature of the organization and how and on what principles it operates.

1. What is the mission of the organization?
2. What are the main activities?
3. What is the governance model? Who are the contracting authorities?
4. Who is their actor network composed of? What is their role in/rapport with the organization?
5. Who makes up the team? What competences are present?
6. What approach, principles and structure guide the organization's work?

II. [Organization X]'s Design Culture

a. Object of Design: role of design in the organization

7. What does the organization design and why?
8. What solutions does the organization develop most?
9. Who is involved (e.g. employees, users, suppliers, top management)? When and why are they engaged? What relevance do certain actors play in the process?
10. What process and approach are followed?
11. Where is design located in the organization (i.e. which department/group/branch, etc.; Design Commission's locational model)? Where is it located spatially?

b. "Title of Project": an Example of [Organization X]'s Design Process

12. What was the object of design (a policy/a service, a process…..)?
13. What need was addressed?
14. What was the solution?
15. Was the design process initiated by the political level (top-down), or did the request originate from the bottom-up? At which governance level was the action realized (Municipal/local; Regional; National)?
16. In which policy phase can the process/solution be placed?
17. When were design approaches and tools engaged and why?
18. What was the role of the designer(s) and how embedded were they in the organization?

19. What kinds of actors (individuals and organizations) were involved in the process and what was their role in different stages of the process?
20. Was the solution implemented? Was design used during the implementation? Who was involved in the implementation process?
21. Was the design evaluated and critiqued?
22. What kind of value was generated by the design process and for whom?

Design Biography Template:

Project Name
Location
Design Location (Design Commission's locational model):

Abstract
Organization X is…..

I. Case Description

a. Context (300-500 words)

Discuss briefly the socio-economic context and policy framework under which the organization operates and the initiative developed.

23. What socio-economic factors and policies influenced the development of the initiative and/or support or hinder the organization's development?
24. Who are the main players with whom the organization interacts and what are their roles?
25. Under what circumstances did the organization and the specific initiative develop?

b. Organization (300-500 words)

Describe briefly the nature of the organization and how and on what principles it operates.

26. What is the mission of the organization?
27. What are the main activities?
28. What is the governance model? Who are the contracting authorities?
29. Who is their actor network composed of? What is their role in/rapport with the organization?
30. Who makes up the team? What competences are present?
31. What approach, principles and structure guide the organization's work?

II. Design Process

a. Object of Design

32. What need was addressed?
33. What was the solution?
34. Was the design process initiated by the political level (top-down), or did the request originate from the bottom-up? At which governance level was the action realized (Municipal/local; Regional; National)?

35. In which policy phase can the process/solution be placed?
36. What was the role of policy-makers in triggering, supporting and disseminating the product/service?

b. Design Process

37. When were design approaches and tools engaged and why?
38. What was the role of the designer(s) and how embedded were they in the organization?
39. What kinds of actors (individuals and organizations) were involved in the process and what was their role in different stages of the process?
40. What was the role of target groups during the development and implementation stages (idea provider, participation etc.)?
41. Which relationships between individuals and/or organizations were created or strengthened during the process?
42. Where was the design process taking place?
43. What artifacts were developed and used in the process? Did any remain after the "end" of the project?
44. Was the process iterative?
45. Did the process have clear divergent and convergent phases?
46. Was the solution implemented? Was design used during the implementation? Who was involved in the implementation process?
47. Was the design evaluated and critiqued?
48. Were constraints considered during the process? If so, what were they and at what point in the process were they considered?
49. What kind of value was generated by the design process and for whom?
50. What challenges were faced during the generation and implementation of the solution?
51. Were results shared with the organization periodically? If so, how and how often? Was corrective action taken upon these reflections?

c. Learning Process

52. Could the learning be defined as single or double loop learning?
53. Did deutero-learning occur?
54. Did the organization learn?
55. How was knowledge encoded? What mechanisms/devices were created to encourage knowledge transfer?
56. Was knowledge about the design process itself encoded?
57. How did the learning occur?

(Describe the learning processes and cite events, activities and tools).

a. Through concrete experience (by doing)
b. Through observation (by reflection)
c. Through formal knowledge transfer (by training)
d. Through tacit knowledge transfer (by proximity)
e. Through interaction (by collaborating, co-designing and co-creating)
f. Through imitation (by replication and adaptation)
g. Through a mix of the above-mentioned learning processes

58. Which were the drivers and barriers of the learning processes? How were they exploited/overcome?
59. What was learned? (Vertical knowledge on the problem to be solved? Transversal knowledge meant to sustain the innovation processes?

Examples of transversal competencies:

- Organisation and HR management
- Marketing and Communication
- Design and R&D
- Examples of skills:
- Networking
- Team working
- Creativity
- Leadership

60. Which knowledge gaps emerged during the innovation process?
61. Did cross-sector knowledge transfer mechanisms emerge?
62. Did learning occur before the innovation process? (Proactive learning)
63. Did learning occur in the innovation process? (Reactive learning)

d. Organizational Change

64. Were implicit "theories-in-use" made explicit through the design process? How did this change the way things were perceived? And then done?
65. What was the organizational goal behind the design project?
    a. Create (Innovation)
    b. Collaborate (Human development)
    c. Control (Stability)
    d. Compete (Fast change)
66. Were there any signs of new ways of doing things post-project? Or new ways of thinking about things?
67. Were any new relationships, structures, groups, etc. created during the process? Did they continue afterwards?