

Design Research and Practice for the Public Good: A Reflection

Abstract Public sector managers and policymakers have begun to work with design researchers and design practitioners in an effort to create citizen-centric polices and user-centered public services. What role can design play in the approach taken by the public sector in organizational development and innovation? This paper reflects on an innovation project at a Brazilian Ministry where human-centered design was chosen as an approach to integrate innovation efforts among different government agencies and ministries. It offers an example of how human-centered design approaches can support efforts by civil servants to change their own design practices.

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Email

Sabine Junginger
(corresponding author)
sabine.junginger@hslu.ch

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People, Products, Change

Organizational change remains a key issue for management and a challenge for leadership. Richard J. Boland and Fred Collopy¹ position managing as a design practice, while scholars like Richard Buchanan² demonstrate why management theories constitute design theories. Their insights are relevant not only for the private sector – they are increasingly relevant for public administration and management. Design research and design studies offer a new path to organizational change and development by shedding light on organizational design practices, principles, and methods across all organizational forms.³ A deeper understanding of design is beginning to inform public organizations and governments looking to change the way they go about their business.

Both our notion of design and our understanding of its role and relevance to organizational change continue to advance. Even though researchers approach these issues from different disciplinary perspectives, there is increasing agreement on the need for research into the relationships between people, processes, structures, and purpose. Some are asking what constitutes a resource and what makes a product a product.⁴ Others are looking into organizational development methods that will lead to innovation and cultural change and enable organizations to remain afloat in the uncharted waters of ongoing digital transformations and global and local challenges.⁵ Consider engineering researchers Rodrigo Magalhães and Henderik Proper, who seek to integrate the social and technical architectures in sociotechnical systems, and overcome

“the ongoing divorce between people who develop and maintain the technological architectures, those who develop and maintain the social architectures, those who make the associated investment decisions, and the social actors that (are to) play a role in the resulting ActorWebs.”⁶

A close read reveals a call for more human-centered design approaches. Many people now understand that technological applications and systems can only fulfill their promises to contribute to a sustainable environment worthy of human living when they pay attention to human experiences and human interaction. This in turn requires us to begin with an inquiry into human situations and people’s life experiences. As one of my colleagues at the i-homelab (Lucerne University of Applied Sciences and Arts) put it,

“In my work, I am conceiving technological applications for the home, for independent living for other people to use. When I had to care for my elderly mother over the past months – who is living on her own – it was obvious that she should be wearing one of the emergency call buttons around her neck, like the ones we have developed. But she won’t. It was then that I realized I would never wear one of these things myself and that we need to come up with better ways to develop stuff people can and want to use.”⁷

This is in line with the writings of Donald A. Norman and Pieter-Jan Stappers,⁸ who say that the shortcomings of people expected to benefit from a technology are not the reason a technology fails.

“There is a tendency to design complex sociotechnical systems around technological requirements, with the technology doing whatever it is capable of, leaving people to do the rest. The real problem is not that people err; it is that they err because the system design asks them to do tasks they are ill suited for. Unfortunately, there is a tendency to blame people for the error rather than to find the root cause and eliminate it. On the whole, complex sociotechnical systems are poorly designed to fit the capabilities and powers of the people who must operate them.”⁹

1 Richard Boland Jr. and Fred Collopy, eds., *Managing as Designing* (Stanford: Stanford University Press, 2004).

2 Richard Buchanan, “Worlds in the Making: Design, Management, and the Reform of Organizational Culture,” *She Ji: The Journal of Design, Economics, and Innovation* 1, no. 1 (2015): 5–21, DOI: <https://doi.org/10.1016/j.sheji.2015.09.003>.

3 Sabine Junginger, “Organizational Design Legacies and Service Design,” *The Design Journal: An International Journal for All Aspects of Design* 18, no. 2 (2015): 209–26, DOI: <https://doi.org/10.2752/175630615X14212498964277>.

4 Examples include Jay Kandampully, “Innovation as the Core Competency of a Service Organisation: The Role of Technology, Knowledge and Networks,” *European Journal of Innovation Management* 5, no. 1 (2002): 18–26, DOI: <https://doi.org/10.1108/14601060210415144>; and Richard Buchanan, “Human-Centered Design: Changing Perspectives on Design Education in the East and West,” *Design Issues* 20, no. 1 (2004): 30–39, DOI: <https://doi.org/10.1162/074793604772933748>.

5 For example, see Robert G. Fichman, Brian L. Dos Santos, and Zhiqiang Eric Zheng, “Digital Innovation as a Fundamental and Powerful Concept in the Information Systems Curriculum,” *MIS Quarterly* 38, no. 2 (2014): 329–43, DOI: <https://doi.org/10.25300/MISQ/2014/38.2.01>; or Jeanne Liedtka, “Learning to Use Design Thinking Tools for Successful Innovation,” *Strategy & Leadership* 39, no. 5 (2011): 13–19, DOI: <https://doi.org/10.1108/10878571111161480>.

6 Rodrigo Magalhães and Henderik A. Proper, “Model-Enabled Design and Engineering of Organisations and Their Enterprises,” *Organizational Design and Enterprise Engineering* 1, no. 1 (2017): 2, DOI: <https://doi.org/10.1007/s41251-016-0005-9>.

7 Comment made during a team meeting for another project I am involved in, March 29, 2017.

8 Donald A. Norman and Pieter-Jan Stappers, “DesignX: Complex Sociotechnical Systems,” *She Ji: The Journal of Design, Economics, and Innovation* 1, no. 2 (2015): 83–106, DOI: <https://doi.org/10.1016/j.sheji.2016.01.002>.

9 Ibid., 87.

10 This is not the place to expand on the notion of the five Ps in design, but I want to call readers' attention to the fact that "Principles, Practices, Processes, Products, and People" is distinct from the four Ps in marketing, namely "Product, Price, Place, and Promotion." For more on this, see Rachel Cooper, "Design and the Customer Experience," *New Product Development and Innovation Marketing* 1, no. 1, (1999): 91–99, available at <http://eprints.lancs.ac.uk/id/eprint/39890>.

11 The March 2017 report by the OECD Observatory Platform for Public Sector Innovation calls for systemic changes and addresses design issues for the first time. Jocelyne Bourgon, former Secretary to the Canadian Cabinet, calls for a new synthesis and has founded the *Public Sector Innovation Group* to promote an integrative approach. For more information, see Jocelyne Bourgon, *Public Innovation and Public Purpose: A Follow Up to the OECD Conference, Innovating the Public Sector: From Ideas to Action* (Ottawa: Public Governance International, 2015); Jocelyne Bourgon, *The New Synthesis of Public Administration* (Copenhagen: Dansk Psykologisk Verlag, 2017).

12 Buchanan, "Human-Centered Design."

13 Omand Adebowale and Ken Starkey, *Engagement and Aspiration: Reconnecting Policy Making with Frontline Professionals*, report commissioned by the UK Cabinet Office (Sunningdale Institute, 2009); Jesper Christiansen, "The Irrealities of Public Innovation" (PhD dissertation, Aarhus University, 2013).

14 Relevant work includes Matt Andrews, Lant Pritchett, and Michael Woolcock, "Escaping Capability Traps through Problem Driven Iterative Adaptation (PDIA)," *World Development* 51 (2013): 234–44, DOI: <https://doi.org/10.1016/j.world-dev.2013.05.011>; Sabine Junginger, "Towards Policy-Making as Designing: Policy-Making beyond Problem-Solving and Decision-Making," in *Design for Policy*, ed. Christian Bason (Aldershot: Gower Publishing, 2014), 57–69; and especially the range of work by B. Guy Peters and Nenad Rava, including "Policy Design: From

The experience of my colleague in computer science suggests that designing for human capabilities and empowerment is not enough. Rather, we have to address individual, social, and cultural issues that may deter a person from using a tool from which he or she can benefit – in his example, an emergency button that could save his mother's life.

People, Products, Change, Public

The ability to integrate product, process, and service systems with people's needs, capabilities, powers, and values is of essence to policymakers and public managers who work at all levels of government. It is their responsibility to conceive, develop, and deliver public services that achieve desired social outcomes. The availability of digital technology is a significant factor here. For bureaucracies that have been built around paper forms and documents, the shift to electronic files and online services, for example, presents both opportunities and challenges. But that shift always involves a reevaluation of existing relationships that institutions, agencies, and governments have – and want – with citizens. Each project provides a concrete opportunity – and often exposes the need – to revisit the principles, practices, and products that an organization pursues. Each project is a chance to realign an organization with its mission and fulfill its mandated purpose to contribute positively to people's lives and society as a whole.¹⁰

Among civil servants, too, there is a growing recognition that the complexity of the problems they are coping with can no longer be addressed in isolation. Solutions to these problems demand cross-ministerial, cross-governmental, and cross-organizational collaborations, and new methods for these (separate) entities to design and develop together.¹¹ In line with the notion that management theories and management practices are a matter of design, these government employees have started to inquire into their own design principles and reflect on their own practices to transform how they go about generating and developing the kinds of solutions that lead to desired outcomes. Central to these efforts are the ideas of human-centered design, which manifest themselves in interaction pathways into organizational life,¹² but also in the novel recognition that insights into human experience and human interaction can reduce disconnects between civil servants, public managers, and frontline workers.¹³ And many are also beginning to understand that generative and iterative design processes long employed by product design can aid the integration of policymaking and policy implementation, as well as foster innovation.¹⁴ There is now a call for new forms of design leadership and design management in the public sector.¹⁵

This burgeoning area of design practice and design research challenges us to find out how design research may inform and initiate changes in the practices of people working towards the common good. How and why can a design focus aid public managers in their quest to conceive of, plan, develop, and deliver the kinds of products and services that support their mission and allow them to fulfill their mandates? What might design research and design practice look like within a public body? Where are the boundaries for design research and design practice in the public realm, or in public administration? The list of questions is long. By offering a reflection on my work with the Ministry of Planning in Brasilia from January 2016 to May 2016, I hope to shed some light onto how such work may take place, what it may involve, and how learnings and insights gathered in this process can find their way back into design research – both to inform future design practice and point to future design education needs.

Project Set-Up, Questions, and Approach

The EU-Brazil Sectorial Dialogues Program provided funding for the project. My official role was that of Academic Senior Expert in Design. Broadly, my assignment was to support the ministry's effort to foster public sector innovation. In particular, I would be helping the ministry to establish a government innovation network. The network was expected to integrate individual innovation efforts by public servants across Brazil's national government, and unite projects and programs both within and across various departments and ministries.

Innovation networks that facilitate technological advances are common in the IT industry. They are typically built around a single subject matter and often concern a specific, existing problem. But what would an innovation network that fosters public sector innovation have for its mission? How best to define its relevance and its meaning? Different government agencies and ministries have different innovation needs and interests. Each innovation challenge is unique because different laws and regulations apply to each agency. Both the technical systems and the audience for a given innovation (stakeholders, users, staff) tend to vary from one agency to the next. How, then, can a unified innovation network add value? Which configuration would best attract, engage, and support volunteers? What might be the role of the network? Who might be part of it and what might each participant contribute?

My work on this project began in January 2016 with a videoconference and ended with the delivery of the final output in May 2016. The formal outputs I agreed to produce and deliver included a report on government lab innovation networks in the EU (Output 1, February 2016); a workshop with forty civil servants working on innovation projects within twenty Brazilian government agencies and ministries (Output 2, April 2016); and a report and reflection on the workshop (Output 3, May 2016). I visited Brasilia twice. My first visit was in February 2016, when I presented Output 1, met the team, and co-developed the first rough concept for the workshop. I returned to Brasilia in April that year to finalize and run the workshop while working with the innovation team at the ministry at two further workshops. All communication between those two visits was by e-mail, as the connection was not good enough for videoconferences – an issue we discovered during the first videoconference session, when I met the team.

I pursued the project as a participant-observer so I could capture the challenges and opportunities for design research and design practice in public management, public administration, and policymaking. As participant-observer, I took notes on meetings and conversations, and carefully observed the contexts in which people sought to develop new and innovative practices, processes, products, and services. I conducted this research as part of my ongoing study of how human-centered design contributes to citizen-centric policies, organizations, and services. For this, I have looked into forms of participation in the public sector¹⁶ and design processes in policymaking and implementation.¹⁷ I have also researched policy studies, public administration, design management, and design leadership, and compared and contrasted the literature with insights and experiences gained in seminars, workshops, and discussions with policymakers and public managers over several years.¹⁸

Designing an Innovation Network

Above all, I was – and remain – interested in what designers can contribute to public sector innovation within government organizations. How can we encourage, engage, and enable public managers to use methods that require different forms of engagement and interaction with colleagues, senior managers, and staff from

Technocracy to Complexity, and Beyond,” available at <http://www.ippapublicpolicy.org/file/paper/5932fa23369d0.pdf>.

15 Christian Bason, *Leading Public Design* (Bristol: Policy Press, 2017).

16 Junginger, “Organizational Design Legacies and Service Design,” 209–26.

17 Junginger, “Towards Policy-Making as Designing,” 57–69.

18 This includes a seminar on participatory government and interaction design at the Israeli Prime Minister's Office in 2012 with a group of senior policy-makers; an advisory role at the Mexican Centro de Investigación y Docencia Económicas assessing the Mexican President's Office's program “Agentes de Innovación” in Mexico City; and work with NESTA, the OECD Observatory Platform for Public Sector Innovation, and involvement with a public sector innovation lab (for anonymity reasons details removed from this version).

19 Sanderijn Cels, Jorrit de Jong, and Frans Nauta, *Agents of Change: Strategy and Tactics for Social Innovation* (Washington, DC: Brookings Institution Press, 2012).

20 Comment by Professor Jorrit de Jong (Harvard University) at the OECD Conference titled “From Idea to Impact: Public Sector Innovation,” OECD Headquarters, 2014, Paris (via Skype).

21 Image available at <http://www.8linden.de/themakueche/frankfurter-kueche-einst/>, under a Creative Commons Attribution-ShareAlike 3.0 Unported license, <https://creativecommons.org/licenses/by-sa/3.0/legalcode>.

other ministries and departments? What is the value and relevance of design here, and how can we convey and clarify both to people who, traditionally, have not seen themselves in the business of designing, and for whom – according to innovation experts like Jorrit de Jong¹⁹ – innovation too often is synonymous with implementing new technologies rather than changing organizational structures, processes, and attitudes?

“For too long, the innovation dialog has been dominated by technical foci. We have to be careful how we approach a topic that has been abstract for so long. We also need to remember that problem solving in situ is more important than innovating. The discourse has been too casual, and often technocratic and instrumental. Innovation for public value ... this implies value trade-offs and politics as societal choice. We need to embrace ‘messy practices,’ ‘situated problem-solving,’ and ‘wicked problems’ as the context for public sector innovation.”²⁰

The desire to establish a cross-ministerial innovation network defied any technical solution – and thus opened the door to messy practices, situated problem solving, and wicked problems. But early conversations with the group at the ministry revealed that they saw a network as a kind of object or thing. With that, the expectation was for me to design this “network thing” – a task as simple as identifying the appropriate elements and fitting them together in the right shape and form – *et voilà!* Understandably, and naturally, the group applied its own design understanding, its own version of design thinking, to the task. Yet the group’s design approach was deeply rooted in management thinking and practices. A managerial mindset is great for directing operations, but not so conducive to developing a network that people would not only want to belong to, but also feel like they could actively engage with and contribute to.

My first challenge was, therefore, to articulate, communicate, and illustrate how the group’s design thinking, design practice, and its development process were driven by their understanding of management. My second challenge was to help the group understand that a network is a dynamic, self-organizing, interactive, and living system. Both issues would be central to achieving the project’s objectives: bring people interested and engaged in government innovation together to generate deeper insights and set up collaborations.

I decided to challenge both notions visually. I wanted to demonstrate how design thinking ties in with management thinking, and also show how and why networks are distinct from objects, and what that meant for the ministry’s objective to set up an innovation network. To do so, I chose two images of kitchens in family homes from two different time periods. Using kitchen stories, I sought to illustrate the relationship between design thinking, management practices, and work process. A third image depicted a carnival down the river Danube in my hometown in Germany. Although I did not expect that anyone in Brasilia would know the German town of Ulm, I knew that Brazilians could connect to the concept of a carnival – Rio de Janeiro is world famous for its annual event.

Connecting Management Concepts and Practices with Design: Kitchen Stories

The Frankfurt Kitchen, by Margarethe Schütte-Lihotzky, has its roots in scientific management and the rationalization of workplaces (Figure 1).²¹ It was designed to enable effective work practices in the kitchen. A woman – because at the time, there was no question that the person in charge of the kitchen would be a female – should be able to find everything she needed at her fingertips. The design enabled her to quickly and efficiently prepare and cook the family’s meals, and easily preserve and store food for the household. The cupboards and shelves were arranged



Figure 1 Reconstruction of a Frankfurt kitchen at MAK Museum, Vienna. Photograph courtesy of 8linden Frankfurter Küche, Christos Vittoratos.



Figure 2 B2 Bulthaup Kitchen (2008). Copyright © 2008 Bulthaup GmbH & Co KG.

22 Schütte-Lihotzky actually was aware of this problem and created a little window for the woman to watch her children while she was busy in the kitchen. This was an interesting nod to multi-tasking in a design that was driven by scientific management and marked by the division of labor! Such windows were never planned for men's workspaces. To this day, more women tend to work in spaces accessible by all kinds of people while more men have control over their office doors.

to reduce the number of steps needed to walk from one end of the kitchen to the other. And the design put as many drawers and shelves within her reach as possible. At the same time, each cupboard and shelf was covered or closed, so that everything remained clean and orderly. The Frankfurt Kitchen design made the woman the kitchen expert – she knew better than anyone else what was inside each cupboard and was in complete control of her kitchen stores. She worked behind a closed door – shut off from the remainder of the house – creating dishes with secret ingredients and using processes she did not wish to share or make public.²² Her individual responses to situated problem solving – quickly adding a potato to an overly salty soup, or scraping off the burned side of the toast – remained well out of view of guests and others in the family. After all, they were messy. When she finally emerged from the Frankfurt Kitchen, it was to show off the perfect dish and be the perfect host.

By 2008, cooking was no longer the sole responsibility of women, and people who cook no longer needed to do so in isolation. The design of Bulthaup's B2 kitchen aptly demonstrates this (Figure 2). All the cupboards are open. The island in the center allows visitors, guests, kids, and family to watch, observe, and comment on the food preparation. They can join in and even take the lead. The space is open – the area where food is being produced is shared and common. In management terms, this also means that it is no longer clear who the expert is, what expertise the person doing the cooking needs, or even what counts as expertise. In fact, the notion of the expert may change as the host discovers that one of the guests just completed a cooking class about how to cook and carve a chicken, and another person in the room announces an allergy to garlic. The design of the B2 supports participatory and co-designing activities. It embraces messy practices, and allows in situ problem solving to become a shared and agreed-on component of an emerging design process. This is rather different from the Frankfurt kitchen, where in situ problems – a burned turkey or a vital ingredient dropped on the floor, for example – called on a lone expert protect her status as expert by either hiding her mistake, improvising a solution, or finding a way to present a blunder as an intended outcome.

These two images serve two key purposes. Each nicely illustrates how the form we give to our work environments already implies and conveys certain kinds of designerly and design thinking. Moreover, the images allow us to see how organizational forms reveal and reflect our values, and suggest or even ascribe how we move and act in a workspace. Broadly speaking, both kitchen images effectively illustrate the changes that are currently happening in the public sector – especially within government agencies. In government, we also find structures that have been built around the nineteenth century ideals of rationalization, scientific management, and a concern for productivity, just like the Frankfurt kitchen. And in government, new collaborative practices are now calling for new designs.

From Object to Action: Reconceiving an Innovation Network as a Carnival

Figure 3 shows a picture of my hometown and its annual river carnival *Nabada*, which means “bathing down the river” in my regional German dialect (Swabian). The idea – though on a significantly smaller scale – echoes that of Brazil's annual Carnival in Rio: organized professional groups (football clubs instead of Samba schools, music bands, and other performers) join with everyday citizens to form a jolly parade down the river. The familiarity of the carnival concept allowed me to hone in on the aspects that might have relevance for an innovation network. While some carnival groups plan far ahead, and spend their weekends designing and building their themed vessel throughout the year, individual citizens and families may grab rubber boats on the spur of the moment. They may fetch a bucket, a



Figure 3 The Nabada Carnival, Ulm, Germany. Copyright © 2018 Sabine Junginger.

water pistol or something else they can quickly get their hands on to participate in the water ride and the spraying action. There is no barrier to entry. A basic organizational structure is provided. Yet, the final form depends on those who participate and engage with it, which makes every year's carnival unique. It is an example of a network that lives off the people who bring it to life.

Looking at an innovation network through the lens of a carnival offers a different perspective on the concept, structure, and process of an activity-based network. My hometown carnival was not unlike what this ministry hoped to achieve by setting up an innovation network: people passionate about innovation working together to create something bigger than what they could achieve on their own. A carnival is creative, and allows for new ideas and experimentation. And yet, a carnival still needs structure and some kind of guidelines. If someone falls into the water, an emergency crew has to be there and know what to do. The police must manage traffic and crowds. But these are supporting, background roles that allow people to come together, have fun, and create something together that they value and remember.

Reframing the Innovation Network through a Design Inquiry

I included these three images in my initial presentation to the project team at the Brazilian Ministry of Planning when I delivered 'Output Number 1' – a research report on the current state of European innovation networks in the public sector. Showing the Nabada Carnival as the opening slide, I encouraged the team to think of a carnival in terms of a network. What kind of network would that be? We quickly agreed that such a network would be based on people. Moreover, it would be a network that allowed people from different walks of life to contribute and join in, and one where the organizers would have a role different from the one the ministry currently envisioned for itself. In the following two slides, I presented the two contrasting kitchen images and began to talk about kitchen stories and current challenges of public sector innovation: to shift from design principles and practices that served the era of industrialization to ones that support the development of

23 Donald Schön and Martin Rein conducted valuable research into reframing policy problems in the 1970s. For example, see Martin Rein and Donald Schön, "Problem Setting in Policy Research," in *Using Social Research in Public Policy Making*, ed. Carol H. Weiss (Lexington: Lexington Books, 1977), 235–51; Martin Rein and Donald Schön, "Reframing Policy Discourse," in *The Argumentative Turn in Policy Analysis and Planning*, ed. Frank Fischer and John Forrester (Durham: Duke University Press, 1993), 145–66; as well as Martin Rein and Donald Schön, *Reframing: Controversy and Design in Policy Practice* (New York: Basic Books, 1994). This work is significant for design research—particularly in the public sector. The topic has been picked up in design research more recently, for example in Kees Dorst, *Frame Innovation: Create New Thinking by Design* (Cambridge, MA: MIT Press, 2015).

24 The carnival metaphor was especially powerful, so much so that there was a suggestion that the government innovation network should be called "carnival." For good reasons this idea was later dismissed, but the characteristics and qualities of a carnival remained anchor points in the preparation for the first innovation network workshop.

citizen-centric policies and services. We then discussed the implications for networks. Through this discussion it emerged that the design thinking expressed and manifested in the Frankfurt Kitchen had indeed framed the ministry's thinking about its own innovation network. Examining the open and collaborative space the Bulthaup kitchen provided allowed for an inquiry into the kind of network the ministry had in mind. It emerged that the current design approach for the network was based on the design principles and methods illustrated by the "old kitchen," but that the ministry was actively trying to work towards new ways of engagement and collaboration. The conversation identified the need for different design capabilities, different design principles, and different design methods to achieve this goal. Only after this initial inquiry into what the participants considered a network to be did I begin the formal part of my presentation. A key finding of my research for Output Deliverable Number 1 was that the majority of European Innovation networks originated in the technology context around one specific issue. The characteristics of these networks had only limited relevance for the kind of network the ministry sought to create and for which there did not exist – at least not yet – a commonly shared, specific problem. Instead, the ministry was at a point where it wanted to support and connect various innovators within Brazil's government so everyone could share their experiences and challenges and together identify how their individual and group work in these different ministries and government agencies could turn into "*Inovando juntos: innovating together because the sum of government is greater than its parts.*"

Moving from network-as-object to network-as-action challenged the ministry to rethink its own role in a future innovation network. Under its former definition of a network, the ministry would have taken on a traditional management and leadership role. With its new understanding, the ministry had yet to find its place. The carnival emerged as a vehicle to reframe the notion of a network from one that is static to one that unleashes the energy of all the other innovators and becomes a platform for sharing and generating insight. This was a radically different proposition than their original idea to set up an innovation network – which implied creating something new on top of everything else that already existed. Now, new questions formed, among them: what is the unique contribution of the ministry's innovation group to an innovation network? How can it support the innovation efforts of other, already existing innovation groups across government?²³ It was a welcome inquiry for a project group that was sincere in its effort to support public sector innovation across government agencies and ministries.²⁴

Inquiring into the Need for an Innovation Network

Once there was clarity within the Ministry of Planning about the kind of network they were looking for, I requested meetings with some of the external innovation teams at other Brazilian ministries that we hoped would join the future innovation network. I was able to engage in conversations with the innovation group at the Brazilian Ministry of Justice, the Federal Court of Accounting, Caixa Bank – Brazil's second largest bank, and a major actor in the government's social programs – and the Ministry of Education. My aim was to learn as much about their respective motivations, specific projects, aims, resources, and challenges as possible. Once again, here was an opportunity to be amazed about the initiative and inventiveness of public servants who had often made do with very little. When I felt I understood what they were doing, how they were going about it, and why they were undertaking their efforts, I asked about their relationship to the Ministry of Planning and how these innovators viewed the role of that ministry in light of their own innovation efforts.

During each of these conversations, I was accompanied by at least two members of the project team from the ministry that had contracted me. Knowing that they were already in contact with the innovation groups we were visiting, I worried after each hour-long meeting if I had simply wasted their time. But when I asked, “Did you learn anything new and valuable?” the answer was always, “Yes.” I learned that, during previous meetings, the members of the Ministry of Planning would simply share their own intentions and plans but failed to inquire what the other teams were working on or concerned about. “So we would come in and say, ‘This is what we want to do, would you like to join us?’ We did not ask them what they were doing.”²⁵

It was during a meeting with an external innovation team that the Ministry of Planning began to discern its potential role in the future innovation network. In response to my question about how the Ministry of Planning could support the external team’s work within their own (separate) ministry, the head of external innovation team turned to the accompanying project team members from the Ministry of Planning with a specific request. “Could you change the way we have to submit our annual reports to your ministry?” It was the first time the Ministry of Planning had heard a concrete suggestion about how they could fill their own role as an innovation partner. It also clarified that to foster change, there would have to be some changes within the Ministry of Planning as well. They, too, would have to be willing to join in some of the projects to earn the respect and acceptance of their innovation partners.

The First Innovation Network Meeting: Mapping and Connecting

This research into the needs of those who were supposed to benefit from a new innovation network generated the content and purpose for the first innovation network meeting I was responsible for. We agreed to name this workshop *Inovando Juntos – Innovating together because the sum of government is greater than its parts*.

Co-developed with the team at the Ministry of Planning, this workshop sought to foster new collaborations among people within different ministries and government agencies who were actively working on public sector innovation in one way or another. My research with the various innovation groups at the ministries revealed that some people struggled to engage with others they had not been introduced to or met previously. One of the first stated objectives of the workshop was therefore to ensure that participants would get to know new people from different ministries and departments. Upon entering the room, participants received a card with a handwritten task asking them to engage with another person in the room.²⁶ For example, one card read, “Find a person in the room who cycled to the event today.” During the morning coffee break, that participant had to circulate and ask people she usually did not speak to or engage with about the way they had travelled to the meeting. Another person was asked to ask someone “two meters away from you” if he could get that person some coffee. This initial round of tasks turned out to be very successful, and shortly thereafter, the room was abuzz with conversation. In the next step, participants were asked to find a seat at one of the tables next to someone they had not spoken to yet. Again, I presented the two kitchen stories to illustrate the key challenge for public sector innovators: overcome departmental and agency silos to develop new integrated processes and services. This time, I provided a theoretical foundation as well and discussed how public organizations go about designing.²⁷

For the second workshop task, each participant shared information about the kinds of networks they engaged with individually, using templates that I had prepared based on the conversations with the ministry’s innovation group and the

25 Comment made by senior team member from the Ministry of Planning after visiting an innovation group in February 2016.

26 Task 1: Look, Listen, and Learn. The core objective was for attendees to engage on a personal level.

27 See Sabine Junginger, *Transforming Public Services by Design: Re-orienting Policies, Organizations and Services around People* (Abingdon: Routledge, 2017), 51, fig 5.1, “Common organizational design practices in government.”

28 **Task 2: Discovering Existing Networks.** Participants individually mapped their own personal networks they are involved in or have access to.

29 **Task 3: Connecting and Building Networks Together.** Participants at each table created a common map based on their individual networks from Task 2.

30 **The Ministry of Planning, Budget, and Management** had previously identified these four areas (government, business, academia and civil society) as relevant, and had actively sought to reach out to all four sectors.

31 **Norman and Stappers, "DesignX,"** 87.

innovation groups we had visited together.²⁸ The template classified networks into four category areas: networks in government, business, academia, and civil society. After this, each table used a second, larger template to collectively represent their respective, existing networks.²⁹ This activity produced the first finding from the workshop: each of the forty participants reported several connections within government, a few connections to business, but hardly any to academia or civil society. To achieve the kind of public sector innovation they were all striving for and working towards, we realized that the engagement and participation of all four sectors was necessary.³⁰

For the innovation team at the Ministry of Planning, this insight clarified the need to expand the innovation network. As a consequence, the plan for the follow-up workshop was to include experts from academia and civil society. The workshop reaffirmed that, rather than creating something new on top of everything else that already existed, the task for the ministry was to connect all innovators and enable collective sharing of insights and challenges so these could be addressed conjointly.

On a side note, I should mention that the innovation group at the Ministry of Planning, participated hands-on in the preparation for the workshop. We knew early on that, with so many key staff members linked to the highest government offices at an extremely turbulent time in Brazil, many participants would be distracted by their mobile phones. We conceived of mobile phone parking slots attached to a wall, so 'nervous' people could always be close to their phones. To reduce anxiety, "stress reduction bottles" were available at the mobile phone parking area – an idea one of the civil servants had borrowed from her childcare drop-off area. To reduce people's anxiety when they have to let go of their mobile phones, the childcare center hands each parent a bottle filled with beautifully colored sand and water to look at, shake, and squeeze! And so we did the same.

During the afternoon portion of the workshop, the innovation team had prepared several topic areas that required the collaboration of various innovators from across the government. The ministry hoped for new projects to develop during this part of the day. Participants were encouraged to join any one of the topic areas, explore the issues, and develop action plans by the end of the day. In exit video interviews, this second part of the workshop was not received with the same enthusiasm as the morning session. Teams were left to their own devices, and, in retrospect, I realized that more guidance and coaching would have been helpful. In fact, few actionable items emerged from the afternoon session. However, participants did get to know each other better, and the foundations for new relationships among innovators across government ministries and agencies were laid.

Developing Theory and Practice in Design Research

This project demonstrates the value and relevance of theory and practice in design research. Moreover, it underlines that theory and practice go hand-in-hand. Without a design theoretical analysis of networks – here specifically looked at from a human-centered design perspective – I would have produced a simple report on European public sector innovation networks, and I would have missed the chance for the project team to engage in high-level design issues that were relevant to their own design activities. Leaning and building on theories in different fields of organizational development and management (as stated above) enabled me to identify and articulate key differences in design thinking and design doing. It seems that, at least in the context of public sector innovation, Norman and Stappers' observation that "complex sociotechnical systems are poorly designed to fit the capabilities and powers of the people who must operate them" needs to be expanded.³¹ While this

notion may explain why public organizations (sociotechnical systems) struggle to attract a young workforce (because they are poorly designed to fit the capabilities and powers of today’s youth who grow up with team work and flattened hierarchies through social media) it fails to address situations where staff lacks the capabilities and power to make necessary changes to their own organizational system. When an organization has neither the structure, processes, and products nor the expertise it needs to meet the demands of the people it serves, then the principles and practices of human-centered design can make a significant contribution to its evolution. In fact, human-centered design can be used to weave together the disconnect – the divorce – “between people who develop and maintain the technological architectures, those who develop and maintain the social architectures, those who make the associated investment decisions, and the social actors that are to play a role in the resulting ActorWebs” that Magalhães and Proper speak of.³²

Findings and Outcomes

On a project level, this project shows that design research and design methods can contribute to public sector innovation in significant ways – not only by reframing concepts, but also by opening up new avenues for management thinking and practice. In this case, a major ministry reconceived the purpose of its innovation network from that of an object or a thing to be controlled and managed, to one of action and communication, where the ministry became an equal partner and contributor. In this process, several high-level government employees developed new forms of interaction with their colleagues, subordinates, and others across some twenty ministries and government organizations.

Network participants conducted a preliminary analysis of the strengths and weaknesses of their network. The workshop revealed that the network lacked contacts with civil society organizations, business, and academia, and realized that these were needed to accomplish many of the targeted public innovations.

Design leadership and design research played a role from the beginning to the end of the first innovation workshop. This research demonstrates, among other things, how design research and design practice might tie into public management, and how design research and design methods can support the objectives for integrated innovation shared by different ministries and public organizations. More specifically, I found that

- Visual conversation pieces and storytelling are useful tools for high-level public employees and policymakers.
- Facilitating and enabling real human interactions is a central task and opportunity for designers.
- Sustainable efforts to change design practices have to account for minimal resources – don’t introduce anything people cannot recreate on their own. We used brown paper and flip charts. All but one of the templates was hand-written. The phone parking spaces were made of foam, cut by hand, and attached to the wall with tape.
- Small steps and incremental approaches can make a big difference.
- Human-centered interaction design principles that invite, engage, and enable are relevant to the public sector.
- The dedication and inventiveness of public staff working with minimal resources cannot be underestimated.

Conclusion

Scholars in policy studies and in public administration are in the process of

33 Aside from work by Martin Rein and Donald Schön, Michael Howlett, M. Ramesh, and Guy Peters have also written recently on the topic. For example, see Namrata Chindarkar, Michael Howlett, and M. Ramesh, “Introduction to the Special Issue: ‘Conceptualizing Effective Social Policy Design: Design Spaces and Capacity Challenges,’” *Public Administration and Development* 37, no. 1 (2017): 3–14, DOI: <https://doi.org/10.1002/pad.1789>; or Peters and Rava, “Policy Design: From Technocracy to Complexity, and Beyond.”

34 For example, see work in Mexico by CIDE and the President’s Office’s Project Agentes de Innovación, in Chile by the Laboratorio de Gobierno, or in the US by the US Office of Personnel Management, and also at iLabs for NESTA in the UK.

35 Sandford F. Borins, *The Persistence of Innovation in Government* (Washington, DC: Brookings Institution Press, 2014).

36 Mariana Mazzucato, *The Entrepreneurial State: Debunking Public vs. Private Sector Myths*, rev. ed. (London: Anthem Press, 2015).

37 George Nelson, *Problems of Design* (1957; New York: Whitney Publications, 1965), 76.

revisiting design.³³ In many public sector innovation labs, human-centered design now receives explicit mention.³⁴ Methods like design thinking or customer journeys have entered into the vocabulary of civil servants. “Innovation in government is persistent,” insists social scientist Sandford Borins.³⁵ Economist Mariana Mazzucato supports this view with data and facts, effectively debunking public vs. private sector myths in regards to innovation and entrepreneurship.³⁶ This underlines that designing is an ongoing practice in the public sector.

The case study presented here shows how design research and design methods can support the efforts of public officials to identify new ways of working and to aid in the implementation of new thinking and doing. Many questions remain in terms of design management and design leadership – two concepts that originated in the context of consumer goods and markets. This case study exemplifies a new kind of design leadership suitable to navigate the many constraints of the public sector. Though not nearly as salient as, say, design leadership at a company like Apple, such leadership is neither silent nor invisible. This form of design leadership re-orientes products, processes, and systems around people. It gains visibility via changes of thought and action. The designer George Nelson recognized early on that

“One of the most significant facts of our time is the predominance of the organization. Quite possibly it is the most significant. It will take time to realize its full effects on the thinking and behavior of individuals. In this conditioning process, few escape its influence.”³⁷

Nowhere do we grasp Nelson’s meaning more than in the public sector, where organizations, institutions, and agencies dominate. We are just beginning to grasp the consequences of that dominance on the thinking and behavior of individuals, and what it means for design, design research, design practice – and design leadership.

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