Australian Journal of Public Administration, vol. 75, no. 3, pp. 391–402 doi:10.1111/1467-8500.12211

Practice Insights

Design Thinking in Policymaking Processes: Opportunities and Challenges

Michael Mintrom
Monash University

Joannah Luetjens
Australia and New Zealand School of Government

Design thinking has the potential to improve problem definition and mechanism design in policymaking processes. By promoting greater understanding of how citizens experience government services, design thinking can support public managers who desire to enhance public value. In Australia, as elsewhere, design thinking currently remains separated from mainstream policymaking efforts. This article clarifies the essence of design thinking and its applicability to policy development. Five design thinking strategies are discussed, all of which have lengthy histories as social science methodologies. They are (1) environmental scanning, (2) participant observation, (3) open-to-learning conversations, (4) mapping, and (5) sensemaking. Recent examples from Australia and New Zealand are used to illustrate how these strategies have been incorporated into policymaking efforts. The article concludes by considering how design thinking might be more broadly applied in policymaking, and the training and resourcing requirements that would entail.

Key words: *design thinking*, *policymaking*, *policy analysis*, *problem definition*, *stakeholder engagement*

Design thinking is now considered essential to product development (Brown 2009; Brown and Wyatt 2015; Martin 2009). In the tradition of public policy theory and teaching, design has long been seen as a component of policy development (Howlett 2010; Lynn and Gould 1980; Schneider and Ingram 1997). Policy implementation depends on the design of products and services (Alford 2009; Lipsky 1980; Wilson 1989). Whilst policymaking constitutes a design activity, it is yet to be explicitly discussed in design terms. We know too little about the design activities that bring policies into being – of how policy designers identify problems and design criteria, about the methods employed in the design process and whether 'design thinking' is translated into policy action.

Design thinking should matter to governments because many gaps exist between the services governments deliver and what citizens want. In a recent review of government processes, Peter Shergold (2015:17) states 'good policy should harness the views of those likely to be impacted by the proposal'. Scope exists for governments to better design their processes to become more responsive to citizen expectations. This is crucial for enhancing public value (Moore 1995).

The Australian Tax Office (ATO) was the first Australian government agency to incorporate design thinking as currently understood (Preston 2004). In the late 1990s, the Ralph Review identified that ATO operations could be improved by better joining of tax policy development, legislative design, and

administration. It recommended 'an integrated tax design process'. This prompted major redesign of the ATO's organisation. In the 2000s, the ATO consciously placed taxpayers at the centre of its operations and improved interaction design (Body 2007). Rather than redesigning tax forms or improving communication, the ATO decided to begin redesigning the tax system from its very foundations, using clarity and ease of use as core design principles. Attention was paid to how citizens experience their personal pathways through the tax system. Accordingly, various taxpayer-focused reforms occurred. The ATO story exemplifies government efforts to improve citizen engagement (D'Ascenzo 2004). Around the globe, governments are establishing innovation labs where methods and principles of design are being explored and applied to complex policy problems.

Policymaking practices evolve. Over time, various research and analytical techniques are incorporated into the frameworks that inform policy analysis. The embrace of better evidence offers a salient recent example, as does the focus on behavioural insights (see, e.g. Argyrous 2012; Shafir 2013). Design thinking could likewise inform policymaking more broadly. For example, governments have long recognised the value of public input in policy development (Rosener 1975). The difference between what has always been true of the best policymaking processes and design thinking is a heightened emphasis on the user perspective. Design thinking argues for greater empathy for the service user.

The Nature and Appeal of Design Thinking

The origins of design thinking lie in Simon's (1969) *The Sciences of the Artificial.* Simon observed that 'the intellectual activity that produces material artefacts is no different fundamentally from the one that prescribes remedies for a sick patient . . . or a social welfare policy for a state' (p. 55–56). The ability to iterate, test, and incrementally improve designs is central to Simon's model and is the 'core of all professional training; it is the principal mark that distinguishes the professions from the sciences'. Simon subsequently extended his design focus to social planning. For him, such planning ideally aimed to help decision makers 'evaluate alternatives better' and 'experience the world in more and richer ways' (1996:130).

Design thinking emphasises the importance of problem definition. The inclusion of citizen or 'end-user' perspectives in problem definition is said to enable a richer understanding of the problem and direct attention to more nuanced solutions (Chambers 2003; Fung 2006). Similarly, design thinking encourages end users, policy designers, central departments, and line agencies to work in a collaborative and iterative manner. The most important skill for a design thinker is to 'imagine the world from multiple perspectives – those of colleagues, clients, end-users, and customers (current and prospective)' (Brown 2008:87). This is where greater empathy for different perspectives emerges. Design thinking does not start with a presumption of a known answer, or even a well-defined problem. Through iterative ethnographic methods, such as those mentioned in the specific strategies section, design thinking holds the promise of bridging the common gap in public administration between the goals of policymaking and the experiences of citizens as they interact with government services.

To date, no single definition has emerged of what constitutes design thinking. Clarification is in order. Design thinkers exhibit curiosity and empathy in their efforts to interpret how target populations engage with their world. They deploy various investigative techniques that have the potential to illuminate problems in new ways and indicate effective client-focused solutions. The benefits derived from design thinking depend on how it is understood and put into practice in each setting. Minimal value will be realised if one or two techniques are 'cherry-picked' and inserted into mainstream policy processes. We concur with Geoff Mulgan's (2014) observation that design thinking is 'a synthesis of methods drawn from many fields . . . that together helpfully mitigate the traditional limitations of public policymaking' (p. 4). Those traditional limitations emerge from a lack of appreciation for how citizens

and service clients make choices in specific contexts.

Design thinking raises interesting questions regarding legitimacy. Taken at face value, its methods promote input-oriented legitimacy and democratic participation. However, there is a question regarding the representativeness of the input as it is not yet clear who actually participates in the design thinking process. Although some such as Fung (2006) and Habermas (1984) articulate the value of citizen participation, a legitimate outcome is contingent on the knowledge and willingness of an active citizenry. If design thinking is to become part of the policymaker's toolkit, serious consideration will need to be given to issues of trust, efficiency, democratic representativeness, and effectiveness.

Figure 1 sets out the stages in design thinking and the key design thinking strategies discussed in this article. Design thinking can assist in problem definition, mechanism design, and program implementation. Its broader adoption could transform several traditional stages of policymaking.

Applying Design Thinking in Policymaking

Traditionally, policymaking has been characterised as an intendedly rational process involving a linear path from problem definition to the analysis of options and development of policy solutions. Increasingly, this view is being contested due to the inherent complexities facing the public sector. In complex systems, well-intended interventions often have unintended consequences (Shergold 2015). It is in this space that design thinking emerges as an approach to navigating and making sense of complexity. It may also present a means by which the imagination and creativity that Ministers say is missing in the contemporary public service could be engendered (Rhodes and Tiernan 2014).

Often, policymaking incorporates consultation with stakeholders late in the process, after problem definition has occurred, options have been analysed, and broadly acceptable ways forward have been explored. Consulting at this later stage reduces the risk of policy work being subjected to major challenge and being sent back to the drawing board. At the same time, this raises the risk of consultation being construed as a formality, intended to limit the ability of stakeholders to seriously inform mechanism design.

Design thinking highlights the value of early engagement with stakeholders. Various academics and public commentators have highlighted the use of design thinking as a way to inform problem definition (Buchanan 1992; Dorst and Cross 2001; Liedtka et al. 2013; Rowe 1998). This could challenge some current mainstream policymaking styles, although conflict is not inevitable. The managerial brief is to manage policy development and policy consultation so that everyone involved understands why they are being consulted and how consultation is being sequenced.

Design thinking calls for specific skills that are not always present in public sector environments. This barrier to its greater use could be addressed through training. The requisite skills are well understood and their transfer has been codified in diverse disciplines, including anthropology, psychology, sociology, communication, and design and architecture. It may not be necessary – or desirable – for everyone to have these skills. However the scaling up of design work in the public service would undoubtedly contribute to the diversity of skills required to more adequately acquire and analyse policy-relevant information. This has been observed as a significant current gap (Shergold 2015).

Design thinking also encourages the transcendence of organisational and procedural silos, established hierarchies, or bureaucratic categories. Again, such activity might initially take those involved in policymaking out of their comfort zone, but this need not present a major barrier to greater adoption. Many public service delivery projects applying design thinking have been carried out at the local level, and have therefore involved efforts to transcend jurisdictional boundaries among governments.

Design thinking cannot be simply slotted into existing modes of policy development. But

Figure 1. Design thinking and policymaking

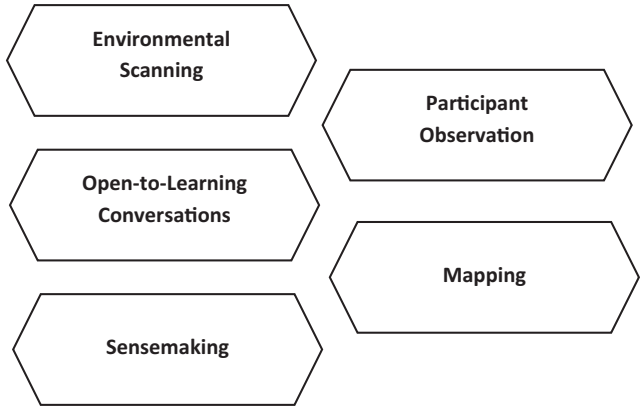
A. PHASES IN DESIGN THINKING

Design thinkers empathetically observe target groups to define problems and canvas possible solutions. Prototype development and testing are done iteratively in collaboration with the target group to ensure the devised solution is fit for purpose.

1. **Empathetically observe target group**
2. **Explore the problem**
3. **Canvas possible solutions**
4. **Develop a prototype solution**
5. **Test the prototype with the target group**

B. KEY DESIGN THINKING STRATEGIES

Design thinking strategies can be combined to strengthen the targeting, development, and implementation of public policies.



C. POLICYMAKING PROCESSES

Design thinking can assist in problem definition, mechanism design, and program implementation. Its broader adoption could transform several traditional stages of policymaking.

Problem Definition	Agenda Setting	Policy Adoption	Program Implementation	Program Evaluation

incorporation can occur, and has occurred. We next offer some examples.

Specific Design Strategies and Their Potential Uses in Policymaking

The claim for greater application of design thinking in policymaking is that it will increase the likelihood that public policies will have intended effects. Focusing on the lived experiences of citizens and service users is expected to promote better policymaking. In the best cases, such policies should lead to implementation of programs that enhance public value and represent good return on the investment of public funds.

Suppose a government had the goal of improving delivery of support and advisory services to unemployed youth. A design project intended to inform such an effort would start by seeking to identify regularities across individual behaviour that suggest the need for more worthy forms of mechanism design and service delivery than currently exist. Such a project might work through questions of this sort:

- Where are the highest areas of youth unemployment at present?
- What factors appear to engender youth unemployment?
- Where is youth unemployment likely to emerge as a problem in the coming years?
- How are job-seeking strategies of the long-term unemployed different from those of the short-term unemployed?
- Under what circumstances does youth unemployment lead to other problems, such as teen pregnancy, substance dependency, or criminal activity?
- What do unemployed youth want from service providers?
- What are some success stories of interventions that have assisted youth to gain stable, long-term employment?

This set of questions specific to youth unemployment could be readily adapted to prompt design thinking across a broad range of areas where some form of government support is considered necessary to improve social outcomes.

The application of design thinking – tapping the knowledge of targeted individuals, creating opportunities for significant public engagement of diverse perspectives, and prototyping interventions – would require reinvention of key aspects of policymaking. Here we provide a non-exhaustive but illustrative list of specific design strategies and their potential use in policymaking. These are (1) environmental scanning, (2) participant observation, (3) open-to-learning conversations, (4) mapping, and (5) sensemaking. Our examples suggest design thinking can indeed be incorporated into policymaking processes, to good effect.

Environmental Scanning

This strategy explores present behaviours of individuals and groups in given localities and the outcomes resulting from those behaviours. It also seeks to identify trends that may influence future outcomes (Fahey and King 1977). It requires taking stock of a particular situation and scanning for new inputs, materials, influences, and technologies applied in other fields that may be relevant (Etzioni 1986). Used appropriately, it creates an evidence-based method of gathering, synthesising, and interpreting information that can shift the attention of an organisation toward new opportunity areas, threats, and potential blind spots. Environmental scanning is intended to fill knowledge gaps and develop holistic understandings of systems. It must include user perspectives. This opens the possibility for the strategy to raise the empathy of policy developers towards end users of government services.

Environmental scanning casts a wide net, exploring things in different ways, and absorbing knowledge from areas not necessarily considered in traditional policymaking processes. Questioning the data and evidence helps policy developers revisit longstanding assumptions, and review current policy settings. Information acquired in a scan can be used to create an initial analysis and generate hypotheses about the road ahead. The strategy can be used when considering a new policy area, or improving a policy that is currently in place.

The Australian Centre for Social Innovation (TACSI) was established in Adelaide, South Australia in 2009. It was tasked with developing new ideas on assisting families in difficult situations and preventing them from coming into contact with crisis services. In 2013, the Victorian Department of Health (VicHealth) partnered with TACSI to explore alternative approaches to grant funding to improve fruit and vegetable supply and access in Victoria. VicHealth understood that for this initiative to gain traction, it would have to find a way to foster innovation amongst NGOs and businesses already providing services to the department. Through the partnership with TACSI, VicHealth was able to reach and speak with a whole new range of potential suppliers across the nutrition sector that agreed to support their approach. Tapping TACSI's ethnographic methods and approaches, VicHealth received advice from people including representatives of the fruit and vegetable industries, researchers, and social entrepreneurs. Evidence and data clarified direct links between poor food choices among citizens and the burden of preventable ill health. The issue, however, was that messages about healthy food choices were not getting through to service users. By partnering with TACSI, VicHealth was able to test and challenge some of its most basic assumptions regarding access to healthy food in the community and identify strategies to overcome these.

Participant Observation

Observation refers to the ability to notice significant and seemingly insignificant details to gather information. In developing a framework for understanding information processing in problem solving tasks, Newell and Simon (1972) strongly emphasised the importance of task effects on decision behaviour. They contended that a theory of problem solving cannot predict behaviour unless it encompasses both an analysis of the task and the limits of rational adaptation to task requirements. Although environmental scanning facilitates the broad exploration of an issue, observation requires engaging with people encountering specific problems. It can access tacit, otherwise difficult to capture knowledge from subjects (Polanyi 1966).

Design thinking applies observation to understand people and their behaviour in the context of their lives. This can involve observing someone complete a task or engage with a service. The observer accompanies the subject through the steps, and may ask the subject to explain what they are doing at each step. Some of the most powerful realisations come from noticing discrepancies between what someone says they are doing and what they are actually doing. Others come from a workaround someone has created but would never think to mention in an interview situation as the process has become normalised. Identifying and understanding user needs can serve as a quick route to efficiency. By designing a policy around the people who will ultimately be service users, policy developers can eliminate extraneous elements. Observation is particularly useful for understanding the effect that a policy has on marginalised people. In this context – as in many others – empathy is critical to effective observation (Wagenaar 2014).

In 2011, the former Australian Department of Education, Employment and Workplace Relations launched 'Home to Work' (H2W), a 1-year place-based pilot program designed to integrate support and employment services for the most disadvantaged jobseekers in Canberra. Non-governmental project brokers engaged in intensive community consultation to identify common individual and group needs. The participants were drawn from marginalised groups that had experienced consistent difficulties in securing long-term employment. Observation enabled the project brokers to learn about the participant's activities and needs, rather than make assumptions. The methodology of H2W informed development of a tailored menu of assistance options, including monthly counselling, initial employment assistance, mentoring programs, and social networking and inclusion activities. On conclusion of the pilot, 64% of H2W participants were placed in full-time employment, approximately twice the number normally achieved through traditional methods of service design (Evans 2012). Participants were also significantly more satisfied with their

engagements with government than had been the case in the past.

Open-to-Learning Conversations

The tendency of most service-producing organisations is to limit choices for consumers and make incremental adjustments. Problems are addressed using standard operating procedures that attempt to maintain predefined notions of order. This is true in all sectors of society, including the public sector. Argyris (1982, 1991) explores this phenomenon in the context of single- and double-loop learning. Single-loop learning suggests that when something goes wrong, people seek alternate strategies that will address and work within present constrained choices. In double-loop learning, the alternate response is to question the existing choice set. Double-loop learning, or divergent thinking, is the route to innovation.

To achieve divergent thinking, it is important to have a diverse group of people involved in the process. Open-to-learning conversations encourage divergent thinking (Martin 2009; Neumeier 2009). Such conversations are less about analysing existing options and more about the creation of new options and questioning the fundamental basis of existing structures. Although this process is non-linear, initial research and exploration is required to provide a structure that enables the facilitator to dig deeper and capture findings from the group. The key to facilitating conversations is to attempt to define and redefine the problem statement, based on the feedback and insights drawn from the group. This allows for the challenging of assumptions and preconceived ideas.

One way to facilitate open-to-learning conversations is to ask: 'How might we . . . ?' 'How' assumes that solutions exist and provides the creative confidence needed to identify and solve for unmet needs. 'Might' says that we can put ideas out that may or may not work – either way, there is a learning opportunity. 'We' signals collaboration and building on each other's ideas to find creative solutions together (Martin 2009).

Earlier, we noted the work of the Australian Centre for Social Innovation (TACSI). In 2009, TACSI was tasked by the South Australian Government with developing an approach to assist families in difficulty and prevent them from coming into contact with crisis services, such as child protection interventions. The result, the Family by Family program, emerged from a co-design process with hundreds of families, framed by the question: 'How can a new service enable more families to thrive and fewer to come into contact with crisis services?' (TACSI 2012). Family by Family is a peer-to-peer learning model that pairs families in need with families who have overcome hardship. The model puts families at the centre and offers something that professional services cannot: human connections and relationships. Following initial success in Adelaide, with an unprecedented return on investment estimated as $7 for every dollar spent, this program has been extended to New South Wales (TACSI 2014). The peer-to-peer learning model is now being considered with respect to refugees and migrant resettlement, domestic violence, social isolation and exclusion, substance use, disability, and dealing with behavioural issues.

Mapping

Mapping can be used to understand how different ideas relate to one another. It has long been used in policymaking to explore the links between mechanism design and implementation (Elmore 1979). A concept map can be used to develop a conceptual framework to guide evaluation or planning (Trochim 1989). Such a framework can organise some of what has been learned during previous phases of design processes. Mapping allows the designer to visualise how things connect, and spot emerging patterns. This can be done by putting one idea, or user, at the centre and then mapping how the other ideas and insights play off it.

Mapping can be used to systematically visualise human experiences and think about steps or 'touchpoints' of a process. Often in traditional policymaking, problem statements are considered in isolation from relevant contextualisation. Journey mapping communicates the user experience from beginning to end and offers broader, sophisticated and holistic

knowledge of user experiences. It can reveal problems and help suggest alternate pathways forward. This can be a very powerful antidote to complacency and a good way to challenge conventional thinking. There are many ways this can be done. For example, if a hospital wanted to improve patient through put, it would be useful to know the steps involved between when the patient leaves their house, enters the hospital, speaks with the triage nurse, speaks with additional people, or hospital staff. Visually mapping experiences such as these can help identify areas where services or processes can be eliminated, streamlined, enhanced, or changed. This does not need to be an in-depth, detailed representation, but rather a rough sketch of how a process unfolds.

This aspect of design thinking has proved integral to the NSW Health's Clinical Services Redesign Program (CSRP). The CSRP sought to analyse and identify problems in the health system from the perspective of the patient's journey, that is, the end-to-end sequence of all the steps required to provide clinical care for a patient. Following a successful pilot, this approach received funding from the NSW Government to roll out a 3-year, statewide program. At its peak, the CSRP included 75 separate redesign projects in 60 hospitals (Ben-Tovim et al. 2008). The process began by focusing the scope of the overall project and the make-up of the redesign team. All key individuals and groups were involved in the mapping process. It was understood that mapping must engage staff, management, patients, and other forms of external care that patients may receive. The initial mapping session recorded the process, not what people thought it was. Recording the patient journey in this way demonstrated the complexity of the situation and subsequently acted as a catalyst to promote systems change. The redesign of the planned patient journey in NSW promoted the expansion of the extended 'day-only' model of care, reformed the waiting times policy, standardised patient pre-admission and preparation, and the targeted operating theatre use. The results of the CSRP have been impressive, including a 97% reduction in the number of patients whose surgery was overdue, and a 99% reduction in the number of patients waiting more than a year for surgery (MacLellan et al. 2008). These are significant returns on investment. Mapping the service-user journey could be broadly applied across many areas of government activity.

Sensemaking

Weick (1995) defined sensemaking as an ongoing social retrospective process grounded in identity construction, driven by plausibility rather than accuracy. It is an action-oriented process that people automatically go through to integrate experiences into their understanding of the world around them. The sensemaking perspective suggests that in organisational settings much latitude exists in the interpretation of situations and events. Sensemaking requires connections to be forged between seemingly unrelated issues through a process of selective pruning and visual organisation. Dialogue is critical to sensemaking. Once data and insights have been externalised, say in the form of post-it notes on the wall, designers can begin the more intellectual task of identifying explicit and implicit relationships, physically drawing out these content affinities through the process of organisation. The designer begins to move content around, physically, placing items that are related next to each other. All of the content is related in some way, but the important connections are frequently those that are multifaceted and complex.

Once the groupings begin to emerge, they can be labelled and understood. One of the most basic principles of making sense out of data is to externalise the entire meaning-creation process. Content can then be freely moved and manipulated, and the entire set of data can be seen at one time. Implicit and hidden meanings can be revealed by relating otherwise discrete chunks of data to one another, and positioning these chunks in the context of human behaviour. Sensemaking requires perception, judgement, and flexibility.

The Auckland City Mission launched The Family 100 Project in an attempt to understand the complexity of the repeating cycle of poverty. Over a 12-month period, the team worked with 100 families who were long-term

users of the Mission's foodbank. Team members sought to gain a deeper understanding of the lived experiences of families in poverty. One key focus of the Project was to map participants' interactions with a range of agencies to reveal how people navigate a complex service landscape to get their needs met (Hodgetts et al. 2013a). The Project unleashed a range of insights into justice, debt, health, education, employment, housing, food and services, and how these areas relate to one another. The Project also gained traction within the judiciary, resulting in a workshop between the project authors and judges (Hodgetts et al. 2013b). With the family as the focus point, the team were able to use these interactions to make sense of the poverty cycle and to recognise areas that could be strengthened to assist them in breaking the cycle. As insights and connections merge, it is critical that these ideas be captured and developed into small-scale prototypes that can be tested early. This iterative process enables stronger solutions to form as ideas can be refined, tested, trialled, and refined again.

Key Considerations

As an evolving concept, design thinking is not without its critics. As with most forms of social innovation, it is a concept that relies on practice to give it meaning. This aligns with Buchanan (1992) who states that 'design has no special subject matter of its own, apart from what a designer conceives it to be' (p. 16). It is 'potentially universal in scope'. Concrete descriptions of the concept are of limited value, because the tools, practices, and cognitive processes are not used in a vacuum. As such, the value of the approach is difficult to measure given that the benefits of using it depend on how the concept is understood and put into practice in each setting.

There are few empirical studies on actual use of design thinking, either in the private and public sphere. This limited understanding can lead to implementing design thinking for the wrong reasons, or with unrealistic expectations. Similarly, evaluation of implementation efforts from a short-term perspective can result in their being considered a failure as many intended effects are realised in the long term. Design thinking requires time, space, and authorisation to operate. As such, questions have been raised regarding its applicability to the public sector. But such questions are misguided because they imply that the public service is not open to change. In Australia, and particularly since the Coombs Royal Commission in 1976, the public service has undergone significant change. In the process, it has adopted many new frameworks, models, and practices based on international trends and experiences. Design thinking, in its purest form, does not fit with mainstream policymaking processes. However, aspects of design thinking are already occurring within the public sector context – and quite successfully.

The effectiveness of design thinking will depend on the users' understanding and intent. It is a time-consuming process and should not be undertaken for gains in efficiency. In the case of NSW's Clinical Redesign program, the key performance indicators were framed in terms of access to services and efficiency, rather than a balance between performance, quality, and safety (Eagar et al. 2008). Although improvements were achieved within certain aspects of the system, they were not sustained. For change to occur, design thinking requires leadership and commitment. There is a danger that agencies seeking to develop and adopt more citizen-centred approaches to policymaking will use design thinking simply as a short-term means to an end. Although design thinking does sit within the broader gamut of citizen-centred approaches, it is more about empowering passive citizens and understanding their experiences of government policy and services.

Where Next with Design Thinking and Policymaking?

Design thinking holds the promise of assisting policymakers to create interventions and services that improve the user experience and enhance public value. It is not a panacea. Nor does it seek to displace or override existing

forms of policymaking. The success of the approach is contingent on the diversity of skills and abilities sought within a specific project. It requires curiosity and openness. There are certain instances where traditional approaches to the design and implementation of public policy are necessary and preferable (see, e.g. Rhodes 2015; Tiernan 2015). However, design thinking offers an alternative view of how government might interact with and include citizens in its decision-making processes.

At present, design thinking in the public sector is varied and scattered. It is at risk of not being taken seriously. The global rise of design, innovation, and change labs represent one response. There is no doubt, however, that labs represent a paradox: They are created as part of a system but are there to challenge it. For instance, Lykketoft (2014) points out that creating an innovation lab within an existing organisation implies that the organisation as a whole is not yet capable of the wanted transformation. In that sense, the role of labs is to create motivation and commitment to design thinking for policymaking. This could also be achieved by partnering with existing co-design organisations or boundary spanning organisations, committed to ensuring best practice in policymaking. A key question remains: How design processes and capabilities might be more integrated into policymaking processes.

Given its potential benefits, we see value in cataloguing best practice in the integration of design thinking into policymaking processes. We have offered a step in that direction. Efforts are needed to determine the conditions under which design thinking seriously improves policymaking. We need to understand when early engagement with end users is most likely to enhance policy design, program development, implementation, and social outcomes. To fully institutionalise design thinking in policymaking processes, among other things, careful consideration should be paid to the skills this would require of policy analysts, and how cross-agency and cross-jurisdictional relations could be more effectively managed to support policy development.

Acknowledgements

We wish to thank Jim Scully, Nina Terrey, Sally Washington, and Alex Roberts for their inspiration and insights as we studied design thinking and its applications in policy development. They were very generous with their time. We are also grateful to Anne Tiernan and the anonymous referees for their encouragement and advice. Of course, we accept full responsibility for any limitations or errors in the final manuscript.

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