Policy Instrumentation: The Object of Service Design in Policy Making
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Policy innovation has gained momentum in recent years, with service design practices and methods at the forefront of these debates. Recent studies have explored service design as a means to drive public sector efficiency and address the growing complexity of public service delivery.[1] Managing this complexity requires governments to take an integrated approach and to create new institutional forms that are sufficiently adaptive to changing circumstances.

Service design is known for its ability to work with ill-defined problems, or wicked problems, thus creating opportunity spaces and platforms for action to address these problems[2] and improve public services.[3] Despite this, service design practice is often located at the transactional spectrum of policy delivery—or at a micro layer of policy making—which focuses on improving service delivery and making overall service experiences more accessible.[4] This has been paramount in the efforts of digital transformation programs in government to digitize public services and transactional service exchanges. Design activity in a public context is not new, however. If we consider the universality of design capacity is present in every human being, whoever is involved in devising new courses of action to change existing situations, is also involved in the activity of designing.[5] Therefore, it follows policy making is, in fact, also a design activity—albeit one carried out by silent designers who create systems, policies, and institutions that fundamentally shape our experiences of public services and governments.[6] Policy making involves a myriad of design decisions across several layers of governance—from implementing policies to selecting services, to setting goals. A critical part of policy making involves the design of policy instruments; the legal, fiscal, administrative, and informational tools at the government's disposal which are used to implement policies and deliver services. Policy instruments are enshrined in legislation, and they exist as part of the organizational mandates and practices that frame, translate, and enable the delivery of policy goals. Policy instruments define how public services are implemented, they

1 See, e.g., Christian Bason, "Introduction: The Design for Policy Nexus," in *Design for Policy*, ed. Christian Bason (Dorchester: Gower, 2014), 11–22; Laura Bunt and Jesper Christiansen, "Innovating Public Policy: Allowing for Social Complexity and Uncertainty in the Design of Public Outcomes," in *Design for Policy*, ed. Christian Bason (Dorchester: Gower, 2014), 41–56; Christopher Ansell and Jacob Torfing, eds., *Handbook on Theories of Governance* (Cheltenham: Edward Elgar Publishing, 2016); Jocelyne Bourgon, "The Future of Public Service: A Search for a New Balance" (keynote address, IPAA National Conference, Sydney, NSW, June 2008); and Jocelyne Bourgon, *A New Synthesis of Public Administration: Serving the 21st Century* (Kingston, Ontario: Queen's Policy Studies and McGill-Queen's University Press, 2011).

2 For ill-defined problems, see Sabine Junginger, "Towards Policymaking as Designing: Policymaking Beyond Problem Solving and Decision-Making," in *Design for Policy*, ed. Christian Bason (Dorchester: Gower, 2014), 57–69. For wicked problems, see Richard Buchanan, "Wicked Problems in Design Thinking," *Design Issues* 8, no. 2 (Spring 1992), 5–21, doi: 10.2307/1511637. For moving from problem to action, see Ezio Manzini, "Making Things Happen: Social Innovation and Design," *Design Issues* 30, no. 1 (Winter 2014), 57–66, doi:10.1162/DESI_a_00248.

3 Christian Bason, "Introduction," 11–22.

4 Christian Bason, *Leading Public Design: Discovering Human Centred Governance* (Bristol, UK: Policy Press/Bristol University Press, 2017).

5 Herbert A. Simon, The Sciences of the Artificial (Boston, MA: MIT Press, 1996).

6 See, e.g., Peter Gorb and Angela Dumas, "Silent Design," *Design Studies* 8 no. 3

ultimately shape interactions between governments and citizens. Policy practice often approaches instrument design only with an evaluative perspective, which thereby limits instrument design to a set of predefined options.

Service design offers more than a set of tools and methods for policy instrument design; it offers a way of creating knowledge through projective inquiry and experimentation. This perspective moves policy design beyond an evaluative, problem-solving activity to a design activity that focuses on understanding the interaction between artifacts and people as a starting point for practice and research. In this article, I analyze the application of service design to policy making to situate service design at the intersection of research on public services, design, and policy design. Furthermore, I explore how conceiving of policy instruments as design artifacts might provide a way to think about the object of policy design and government action as design practice.

Service Design as a Tool for Policy Making
In this section, I consider the application of service design to government services and some of the key concepts that support its evolution as an approach to policy making and policy implementation.

The Challenges of Policy Innovation through New Service Models
Service design, as a practice and an area of research, has been at the forefront of the debates on innovation, technology, and organizational change.[7] Services are open-ended, heterogeneous, based on relational exchanges, and reliant on human interaction rather than embodying purely technical processes.[8] They are broadly defined as:

> …complex, hybrid artefact[s]. They are made up of things—places and systems of communication and interaction—but also of human beings and their organisations. Permeated with human activity… they can never be reduced to the simplicity of mechanical entities. Like all complex entities they are largely undesignable.[9]

A defining feature of services is the centrality of the user in co-creating service experiences.[10] The centrality of the user is reflected in how user-centered design (UCD) practices have become synonymous with service design in government in the UK. The ability to design for the human experience is a blind spot in current policy practices, as is the ability to forecast possible futures through

(1987), 122–84; Sabine Junginger, "Public Foundations of Service Design," in *Service Design with Theory: Discussions on Change, Value and Methods*, ed. Anu Valtonen and Satu Miettinen (Vantaa, Finland: Lapland University Press, 2013), 57–69; and Anne Schneider and Helen Ingram, *Policy Design for Democracy* (Lawrence, KS: University Press of Kansas, 1997).

7   See Daniela Sangiorgi, "Value Co-Creation in Design for Services," in *Service Design with Theory: Discussions on Change, Value and Methods*, ed. Anu Valtonen and Satu Miettinen (Vantaa, Finland: Lapland University Press, 2013), 95–104; and Paul Maglio and Jim Spohrer, "The Emergence of Service Science: Toward Systematic Service Innovations to Accelerate Co-Creation of Value," *Production and Operations Management* 17, no. 3 (2008): 238–46.

8   See Carla Cipolla, "Relational Services: Service Design Fostering Sustainability and New Welfare Models," Proceedings of the 2nd International Symposium on Sustainable Design (II ISSD: 2009); Anna Meroni and Daniela Sangiorgi, "Design for Services, from Theory to Practice and Vice Versa," in *Design for Services*, ed. Anna Meroni and Daniela Sangiorgi (Farnham, UK: Gower, 2011), 9–35.

9   Ezio Manzini, "Introduction," in *Design for Services*, ed. Anna Meroni and Daniela Sangiorgi (Farnham, UK: Gower, 2011), 1–6.

10   Bo Edvardsson, "Quality in New Service Development: Key Concepts and a Frame of Reference," *International Journal of Production Economics* 52, no. 1–2 (1997): 31–46.

11 See, e.g., Sabine Junginger, "Towards Policymaking as Designing: Policymaking Beyond Problem Solving and Decision-Making," in *Design for Policy*, ed. Christian Bason (Dorchester, UK: Gower, 2014), 57–69; and Klaus Krippendorff, *The Semantic Turn: A New Foundation for Design* (Boca Raton, FL: CRC Press Taylor and Francis Group, 2006).

12 Christian Bason, "Introduction," 11–22. The challenge of how to frame policy problems is well-documented in the policy studies literature. Accuracy in problem definition alone is insufficient in diagnosing policy problems because accurate definition depends on the ability of policy makers to transform social problems into political ones. Problem diagnosis requires not only the establishment of a firm evidence base, but also a process for consensus building, agenda setting, and negotiation for how these problems are legitimized and translated into policy goals and how they become operationalized into services.

13 Sabine Junginger, "Product Development as a Vehicle for Organizational Change," *Design Issues* 24, no. 1 (Winter 2008): 26–35, doi: 10.1162/desi.2008.24.1.26.

14 See, e.g., Johan Redström, "Towards User Design? On the Shift from Object to User as the Subject of Design," *Design Studies* 27 no. 2 (2006): 123–39, doi: 10.1016/j.destud.2005.06.001; and Mike Erlhoff and Timothy Marshall, *Design Dictionary: Perspectives on Design Terminology* (Basel, Switzerland: Birkhäuser, 2008).

15 See Marc Steen, "Human-Centered Design as a Fragile Encounter," *Design Issues* 28, no. 1 (Winter 2012): 72–80, doi:10.1162/DESI_a_00125; and Nathan Crilly, "The Design Stance in User-System Interaction," *Design Issues* 27, no. 4 (Autumn 2011): 16–29, doi:10.1162/DESI_a_00102.

16 Elizabeth Sanders and Pieter Jan Stappers, *Convivial Toolbox: Generative Research for the Front End of Design* (Amsterdam: BIS Publishers, 2012).

17 Carla Cipolla, "Solutions for Relational Services," in *Service Design with Theory: Discussions on Change, Value and Methods*, ed. Anu Valtonen and Satu Miettinen (Vantaa, Finland: Lapland University Press, 2013), 34–40; and Johan Redström, "Towards User Design?

speculative practices.[11] A UCD approach to policy making helps with problem diagnosis and to address the ill-defined nature of interdependent problems by bringing to the fore the human experience.[12] A UCD standpoint, forces organizations to reframe internal processes around users and for organizational change to occur from the outside in.[13]

Despite its pervasive use, UCD remains a poorly defined concept, and, as a result, it has taken on a variety of applications and meanings.[14] The concepts of human-centered design (HCD), participatory design, co-design, ethnographic research, and empathic design break away from the more technical interpretations of usability and ergonomic user-centred assessments.[15] Instead, they explore sensemaking and how people create mental models of the world.[16] Researchers have documented some of the challenges involved in service design practice, given that relational interactions and experiences cannot be easily programmed or designed as products.[17] Some suggest HCD avoids the over-idealization of the end user in that it aims to consider the full range of stakeholders in the design process.[18] However, in government contexts, the broader HCD approaches have had less influence in how service design practices have evolved and are understood by a non-design audience.

An important aspect of the centrality of the user is the concept that services co-create value. Value co-creation of services occurs "within a socio-material configuration involving…people, technologies and artefacts."[19] Under a "service-dominant logic," services come to represent a higher "conceptual framework within which to think in a different way of value creation."[20] The concept of "value in use" marks a fundamental shift away from value being derived through the exchange of products toward value being created through users' interactions with a service.[21] Thus, under a service-dominant logic, value comes into existence when it is offered as part of a wider value proposition in a service system that "connect[s] internal and external service systems and shared information" as "value in context."[22] This shift has profound implications for service design, given that the co-creation of value defines design practice in the context of services.[23] Despite the potential offered by an interactive and situated view of value, value co-creation tends to be referred to less explicitly in a policy context. Perhaps this omission is not surprising, given that this shift is less pronounced, as services—not products—are, historically, at the core of what they deliver.

On the Shift from Object to User as the Subject of Design," *Design Studies* 27, no. 2 (2006): 123–39, doi:10.1016/j.destud.2005.06.001.

18 Klaus Krippendorff, *The Semantic Turn*. Most importantly, HCD acknowledges the position of the designer as one who cannot escape his or her situatedness and biases when seeking to understand the position of others in the world.

19 Lucy Kimbell, "Designing for Service as One Way of Designing Services," *International Journal of Design* 5, no. 2 (2011): 41–52, http://www.ijdesign.org/index.php/IJDesign/article/view/938/345 (accessed August 13, 2013).

20 Rafael Ramirez, "Value Co-Production: Intellectual Origins and Implications for Practice and Research," *Strategic Management Journal* 20, no. 1 (1999): 49–65. See also Stephen L. Vargo and Robert F. Lusch, "Service-Dominant Logic: Continuing the Evolution," *Journal of the Academy of Marketing Science* 36, no. 1 (2008): 1–10, doi:10.1007/s11747-007-0069-6.

21 Emma K. Macdonald et al., "Assessing Value-in-Use: A Conceptual Framework and Exploratory Study," *Industrial Marketing Management* 40, no. 5 (2011): 671–82, doi:10.1016/j.indmarman.2011.05.006.

22 Paul Maglio and Jim Spohrer, "Fundamentals of Service Science," *Journal of the Academy of Marketing Science* 36, no. 1 (2008): 18–20.

23 Daniela Sangiorgi, "Value Co-Creation in Design for Services," 95–104.

24 Hillary Cottam and Charles Leadbeater, Open Welfare: Designs on the Public Good (London: Design Council, 2004). Michael Harris and David Albury, *Why Radical Innovation Is Needed for the Recession and Beyond: The Innovation Imperative* (London: NESTA, 2009).

25 Sabine Junginger, "Public Foundations of Service Design," 57–69.

26 Eduardo Staszowski et al., "Reflections on Designing for Social innovation in the Public Sector: a Case Study in New York City," in *Design for Policy*, ed. Christian Bason (Dorchester, UK: Gower, 2014), 155–66.

27 Christoph Knill and Jale Tosun, *Public Policy: A New Introduction* (Houndmills, UK: Palgrave Macmillan, 2012).

Instead, design practice in government has focused on co-creation as a participatory method for consultation and decision making.[24] Researchers warn that one challenge in applying co-creation to policy design is the tendency to unintentionally equate co-creation or democratic practices.[25] In a policy context, co-creation as a form of collaborative decision making, interoperates with other forms of political engagement and action:

> Designing for social [or public service] innovation cannot be merely an exercise of consultation or placing the user at the center of the design process. Designing in this context is mostly about creating meaningful mechanisms of public participation. As a result, designers must acknowledge the complex political environment in which their work is situated.[26]

Even well-designed mechanisms for value co-creation and participation do not mean there is equity of representation or a level playing field for those taking part.[27] The imbalances in these interactions inevitably affect the efficacy of co-creation as a method to systematically support policy making and create a policy's evidence base.

Despite these challenges, both UCD and co-creation practices have been integral in highlighting system failures and opportunities for reconfiguring existing networks of value that policies create and support.[28] Social innovation practice has been at the forefront of these attempts, demonstrating how the co-created nature of services pushes toward designing more sustainable patterns of human interaction and more distributed forms of social organization.[29] Design practice in the context of social innovation, involves identifying and connecting existing resources to design better models for collaboration.[30] In its aim to create "enabling eco-systems"[31] social innovation practice moves away from "projecting" onto artifacts and toward "infrastructuring things."[32] These approaches design new socio-technical infrastructures and systems to support new types of social interactions and emerging organizational forms.[33]

Socially innovative service models and the collaborative organizational arrangements that accompany them substantially challenge the models of public governance and democratic participation that typically are used in the policy design process.[34]

28 See Simon Parker and Joe Heapy, *The Journey to the Interface: How Public Service Design Can Connect Users to Reform* (London: Demos, 2006); and Simon Parker and Sophia Parker, *Unlocking Innovation: Why Citizens Hold the Key to Public Service Reform* (London: Demos, 2007).

29 John Thackara, *In the Bubble: Designing in a Complex World* (Cambridge, MA: MIT Press, 2006); and Manzini, "Introduction," 1–6.

30 Stefan Holmid, "There is More to Service than Interactions," in *Design for Services*, ed. Anna Meroni and Daniela Sangiorgi (Farnham, UK: Gower, 2011), 89–96.

31 Ezio Manzini, *Design When Everybody Designs: An Introduction to Design for Social Innovation* (Cambridge, MA: MIT Press, 2015).

32 Erling Björgvinsson et al., "Design Things and Design Thinking: Contemporary Participatory Design Challenges," *Design Issues* 28, no. 3 (Summer 2012): 101–16, doi:10.1162/DESI_a_00165.

33 Ezio Manzini, *Design When Everybody Designs*.

34 Ezio Manzini, "Making Things Happen," François Jégou and Ezio Manzini, eds., *Collaborative Services. Social Innovation and Design for Sustainability* (Milan: Edizioni Polidesign, 2008).

35 Anne L. Schneider and Helen M. Ingram, *Policy Design for Democracy*.

36 This normative model of policy making uses specialized knowledge in two ways: First, it is used to accurately diagnose policy problems by identifying the needs of the target populations that create or are affected by the policy problem in question. (See Stephen Linder and Guy B. Peters, "Instruments of Government: Perceptions and Contexts," *Journal of Public Policy* 9, no. 1 [1989]: 35–58, doi:10.1017/S0143814X00007960; and Schneider and Ingram, *Policy Design for Democracy*.) Second, specialized knowledge is used to calibrate policy interventions for the target populations and therefore to solve policy problems.

37 See Anthony G. Cahill and Sam E. Overman, "The Evolution of Rationality in Policy Analysis," in *Policy Theory and Policy Evaluation: Knowledge, Cause and Norms*, ed. Stuart Nagel (New York: Greenwood Press, 1990), 11–27; Davis Bobrow, "Policy Design: Ubiquitous,

Unfortunately, the social innovation literature shies away from addressing the policy implications of these socially innovative service models. As a result, social innovation tends to be distinct from policy making practice and the application of design in a policy context.

This section has highlighted some of the challenges involved in bridging UCD and HCD approaches to policy design practice. In part, the difficulty stems from the nascent nature of service design research and practice within a policy context. It also demonstrates that service design research lacks a systematic inquiry into the object of service design in a policy context and what the materiality of design practice in a policy context entails.

Defining the Materiality of Policies as Design Artifacts
Policy making typically has involved solving policy problems through the specialization of knowledge into discrete policy areas.[35] The normative model of policy making applies instrumental rationality to policy analysis, which confines policy design to an evaluative activity.[36] This model is premised on the ability of policy makers to quantify policy problems, predict outcomes, and objectively anticipate the consequences of a policy intervention.[37] Ultimately, it aims to achieve precision in policy problem solving and practice.[38] This normative model has developed decision-making apparatuses to transform social, political, and economic issues into policy problems, estimate probability, and thus, drive efficiency into policy decisions and service delivery.[39]

These shortcomings of policy making are widely acknowledged in the policy design literature for their detrimental effects on policy outcomes.[40] and their failure to enable new policy directions.[41] Furthermore, the normative model of policy making does not address the socially constructed, value-laden, and consensus-dependent realities that accompany policy design processes and successful policy implementation.

Researchers have paid considerable attention to the policy cycle as a model for policy design. The policy cycle describes the different stages and potential activities involved in policy design—from setting goals to implementing policies to evaluating outcomes. However, the policy cycle with its linear approach to policy design[42]; fails to account for the distinct and cyclical macro, meso, and micro layers of decision making which cut across the different elements of policy design.

Table 1 | **The Layers of Decision Making and Components of Policy Making**

	Macro	Meso	Micro
	Governance	**Policy regime**	**Program settings**
Goal	General abstract policy aims and ambitions in a specific policy area	Operationalize policy objectves Areas policies are expected to address to achieve policy aims	Specific policy targets, on-the-ground micro-requirements required to achieve policy objectives
Means	Long-term preferences of government in terms of the types of organizational devices to be used to address policy aims	Policy tool choices The specific types of governing instruments to be used to address program level objectives	Specific policy tool calibrations and settings of policy instruments required to achieve policy targets

(Howlett, Ramesh and Perl, 2009)

Necessary and Difficult," in *Handbook of Public Policy*, ed. Guy Peters and John Pierre (London: Sage, 2006), 75–96; and Donald Schön, "Designing as Reflective Conversation with the Materials of a Design Situation," *Knowledge Based Systems* 5, no. 1 (1992): 3–14.

38 Thomas Birkland, *An Introduction to the Policy Process: Theories, Concepts and Models of Public Policy* (New York: M.E. Sharpe, 2010).

39 Anne L. Schneider and Helen M. Ingram, *Policy Design for Democracy.*

40 Stephen Linder and Guy B. Peters, "Instruments of Government."

41 See Stephen Linder and Guy B. Peters, "From Social Theory to Policy Design," *Journal of Public Policy* 4, no. 3 (1984): 237–59, doi:10.1017/S0143814X0000 221X. Linder and Peters suggest that these limitations reflect a wider tension between micro-layer interventions and macro-layer explanations of values and causes. This mismatch results in an "implicit choice between alternative mixes of precision and inclusiveness" (245). It also highlights the need to bridge the divide between theories concerned with precision and theories focused on macro-layer analysis.

42 Policy design can be seen as a distinct area of analysis within policy studies. See Lester M. Salamon and Michael S. Lund, eds., *Beyond Privatization: The Tools of Government Action* (Washington, DC: Urban Institute Press, 1989). Policy

Policies are complex entities composed of policy goals and means arranged in several layers—ranging from the most general level of a relatively abstract governance mode, to the layer of a policy regime, and finally to the level of program settings (see Table 1).[43]

Service design's recent inroads into policy design position services as the "organising principle[s] of public policies"[44] and as constituting the "first and foremost instruments for policy implementation."[45] This understanding not only reframes policy design around services, but also reframes services as the primary instruments for policy delivery.

The service design literature highlights the incongruence of separating policy decision making from delivery as two completely distinct areas of activity in the policy design process. As a result of this separation, services often fail to translate the original policy goals,[46] or they unravel because of the complexities encountered during implementation. The separation also disrupts potential feedback loops in service delivery, which is integral to future policy design. This fragmentation, which has come under increased scrutiny, is where HCD approaches make a significant contribution.

> The moment we link policy implementation and policy making with the products and service that people actually experience, the human experience moves into the foreground. Human experiences can guide our questions and inquiries into ill-defined and problematic

Table 2 | **Mapping the Contribution of Service Design to the Layers of Decision Making and Components of Policy Making**

	Macro	Meso	Micro
	Governance	Policy regime	Program settings
Goal	General abstract policy aims and ambitions in a specific policy area	Operationalize policy objectves Areas policies are expected to address to achieve policy aims	Specific policy targets, on-the-ground micro-requirements required to achieve policy objectives
Means	Long-term preferences of government in terms of the types of organizational devices to be used to address policy aims	Policy tool choices The specific types of governing instruments to be used to address program level objectives	Specific policy tool calibrations and settings of policy instruments required to achieve policy targets

Overlaid diagram labels: Problem diagnosis; Organizational principles; Service proposition; Decision making

adapted from Howlett, Ramesh and Perl, 2009

design reflects an awareness of the importance of policy instruments and their effects on policy outcomes. See Harold Laswell, "Key Symbols, Signs and Icons," in *Symbols and Values: An Initial Study*, ed. Lyman Bryson et al., (New York: Harper and Bros., 1954), 77–94. Policy design also was driven by shifts in public administration from the 1980s onward caused by the deregulation and privatization of public service delivery. See Michael Howlet et al., *Studying Public Policy: Policy Cycles and Policy Subsystems* (Oxford, UK: Oxford University Press, 2009); and Michael Howlett and Raul Lejano, "Tales from the Crypt: The Rise and Fall (and Rebirth?) of Policy Design," *Administration and Society* 45, no. 3 (2013): 356–80, doi:10.1177/009539 9712459725.

43   Micheal Howlett, Designing Public Policies: Principles and Instruments (Oxon: Routledge, 2011), 16.

44   Sabine Junginger, *Transforming Public Services by Design: Re-Orienting Policies, Organizations and Services Around People* (London: Routledge, 2016).

45   Sabine Junginger, "Design and Innovation in the Public Sector: Matters of Design in Policy-Making and Policy Implementation" (paper presentation, 10th European Academy of Design Conference: Crafting the Future, Gothenburg, Sweden, April 17–19, 2013).

situations that we encounter in policy design…. [P]olicy making as designing begins with an enquiry, not with a problem. The aim is to arrive at policies that are meaningful, useful and usable to people and society.[47]

Typical policy-making approaches also display symptoms of "silver bullet" syndrome, where emphasis is placed on defining a clear end goal and taking a one-size-fits-all approach to policy and therefore to service design. The top-down approach to policy design reflects a deeper problem concerning decision-making apparatuses and the outcomes they set out to achieve[48]—and, I would argue, the instruments designed to achieve them.

These debates make a compelling case for the contributions that service design makes to the policy design process. Despite this, current approaches fail to examine in detail how one might systematically evolve co-creation practices and HCD approaches to the policy design process. Emerging evidence on how HCD and UCD methods contribute to policy design, especially at a strategic level, remains circumstantial.[49] Thus far, researchers have been unable to address the challenges arising from the ethical and political implications of defining policy problems.[50] Despite UCD's pivotal role within the UK government's "digital by default" transformation programs,[51] service design is, in the main, concentrated at the micro layer of service delivery, where policy goals and means have already been defined. As a result, it tends to be located at the operational end of the policy spectrum (see Table 2).

46 Sabine Junginger, "Towards Policymaking as Designing: Policy Making Beyond Problem Solving and Decision-Making," in *Design for Policy*, ed. Christian Bason (Dorchester, UK: Gower, 2014), 57–69.

47 Sabine Junginger, "Towards Policymaking as Designing," 62.

48 Laura Bunt & Jesper Christiansen, "Innovating Public Policy: Allowing for Social Complexity and Uncertainty in the Design of Public Outcomes," in *Design for Policy*, ed. Christian Bason (Dorchester: Gower, 2014), 41–56.

49 Jocelyn Bailey and Peter Lloyd, "The Introduction of Design to Policy Making: Policy Lab and the UK Government," in *Proceedings of DRS 2016, Design Research Society 50th Anniversary Conference* (2016).

50 Jocelyn Bailey and Peter Lloyd, "A View from the Other Side: Perspectives on an Emergent Design Culture," *Proceedings of ServDes, The Service Design and Innovation Conference* (Copenhagen, Denmark, May 24–26, 2016); and Lucy Kimbell, "Design in the Time of Policy Problems," *Proceedings of DRS 2016, Design Research Society 50th Anniversary Conference* (Brighton, June 27–30, 2016).

51 Cabinet Office, "Government Digital Strategy," last modified December 10, 2013, https://www.gov.uk/government/publications/government-digital-strategy (accessed October 7, 2020).

52 Christian Bason, "Introduction," 11–22.

53 James Igoe Walsh, "Institutional Constraints and Domestic Choices: Economic Convergence and Exchange Rate Policy in France and Italy," *Policy Studies* 42, no. 2 (1994): 243–58, doi:10.1111/j.1467-9248.1994.tb01910.

54 Micheal Howlett and Raul Lejano, "Tales from the Crypt," 356–80.

55 Micheal Howlett, *Designing Public Policies*.

56 Anne L. Schneider and Helen M. Ingram, "Social Construction of Target Populations: Implications for Politics and Policy," *American Political Science Review* 87, no. 2 (1993): 334–47; and Anne L. Schneider and Helen M. Ingram, "Social Constructions and Policy Design: Implications for Public Administration," *Research in Public Administration* 3 (1994): 137–73.

More fundamentally, despite the growing call for policy makers to explore "alternative 'tools of government' beyond the current repertoire available to them," these alternatives are often poorly articulated—particularly from a design perspective.[52] This failure to clearly articulate alternatives also prevents design practices from challenging existing policy design models, processes, instruments, and underlying assumptions. To address this impediment, I unpack in the following section how we might locate the object of service design in a policy context.

Policy Instruments as the Object of Policy Design

Policy design involves not only defining policy goals, but also creating the policy instruments that will be used to achieve these goals.[53] Policy instruments determine the feasibility of policy goals, in that they define the policy content and the organizational system by which public services come into being.[54] As a result, policy instruments effectively define policies by determining what public services and goods are delivered through government action.[55]

Policy instruments shape people's experiences of governments based on how the instruments frame policy problems and the feasibility of new policy designs.[56] They send clear signals about what kinds of people deserve services, as well as how the burdens they pose to society have been assessed:

> The way elements are chosen and linked together determines where policies hope to solve problems or make them worse. Policy [instrument] designs affect who wins and loses. Over time, [instrument] designs have a dramatic effect on the distribution of wealth and other resources within society…. Depending on the differential ways people are treated, lessons that prompt mobilization and involvement or alienation and withdrawal are learned by citizens.[57]

From an HCD perspective, policy instruments affect the behavior of those consuming policies and public goods, as well as the behavior of the organizations producing these goods and services. More fundamentally, policy instruments provide a clear link between policy implementation and decision making.

As design artifacts, policy instruments define the tangible and intangible aspects of polices and services—extended over a series of interfaces—and the scope of the value creation opportunities in policy ecosystems. Policy instruments therefore act as meta-interfaces of government,[58] policy delivery and implementation. Beyond policy instruments being purely technical components of

policy making, they delimit the experience, the tangible and intangible assets and the scope of public value creation opportunities. As policy instruments define the scope of services, they also define the object of service design in a policy context and for policy design. But how this perspective affects how service and policy designers approach policy instrument design—if at all—is yet unclear. What approaches and tools might be required to support service design practice in this context? How might these approaches and tools be different from what has already been developed in the policy literature?

Policy Instrument Design as a Design Practice

Literature on the design of policy instruments has focused on developing comparative choice frameworks to identify policy instrument typologies.[59] These typologies and frameworks aim to optimize choice and calibrate instrument implementation within distinct policy settings. They offer a range of instrument choice considerations to assess the technical and political constraints on government action.[60] These frameworks also recognize that there may be a range of drivers, resource limitations, credibility issues, capacity limitations, legitimacy problems, and feasibility hurdles for each of the potential instruments.[61] Furthermore, they have evolved over the years to evaluate the effects of instruments on policy outcomes and to assess the legal ramifications of implementation failures.[62] However, they do little to support design practice or the design of new alternatives.

In 1966 Theodore Lowi was the first to propose a framework for analyzing policy instruments and tool choices according to the degree of coercion needed to facilitate actions in specific populations and beneficiaries.[63] In 1983 Christopher Hood proposed an approach that assesses instruments by the types of resources required for policy instrument choices—information, authority, finances, and organizational capacity—and their degree of availability to the state.[64] Richard Phidd and Bruce Doern's 1983 policy continuum—in which policy instrument fit is assessed alongside adoption in different governance preferences—linked policy instruments to a more strategic, macro layer policy decision-making process.[65]

More sophisticated frameworks, as the one proposed by Schneider and Ingram,[66] recognize the availability of resources and also account for the policy instrument's adoption by target populations; they do so by analyzing the level of entitlement that target populations feel toward these resources. These frameworks highlight how policy instruments seek to alter the behavior of

57 Anne L. Schneider and Helen M. Ingram, *Policy Design for Democracy*, 101.

58 Helena Polati Trippe, "Designing Public Instrumentation as Interaction."

59 See Stephen Linder and Guy B. Peters, "Instruments of Government"; and Allan Tupper and Bruce Doern, "Public Corporations and Public Policy in Canada," in *Public Corporations and Public Policy in Canada*, ed. Allan Tupper and Bruce Doern (Montreal: Institute for Research on Public Policy, 1981), 1–50.

60 Peter J. May, "Hints for Crafting Alternative Policies," *Policy Analysis* 7, no. 2 (1981): 227–44; and Mara S. Sidney, "Policy Formulation: Design and Tools," in *Handbook of Public Policy Analysis: Theory, Politics and Methods*, ed. Frank Fischer et al., (New Brunswick, NJ: CRC/Taylor & Francis, 2007), 79–87.

61 Giandomenico Majone, *Evidence, Argument, Persuasion* (New Haven, CT: Yale University Press 1989).

62 Laurence J. O'Toole, "Research on Policy Implementation: Assessment and Prospects," *Journal of Public Administration Research and Theory* 10, no. 2 (2000): 263–88.

63 Theodore J. Lowi, "Distribution, Regulation, Redistribution: The Functions of Government," in *Public Policies and Their Politics: Techniques of Government Control*, ed. R. Ripley (New York: W. W. Norton, 1966), 27–40.

64 Christopher Hood, "Using Bureaucracy Sparingly," *Public Administration* 61, no. 2 (1983): 197–208.

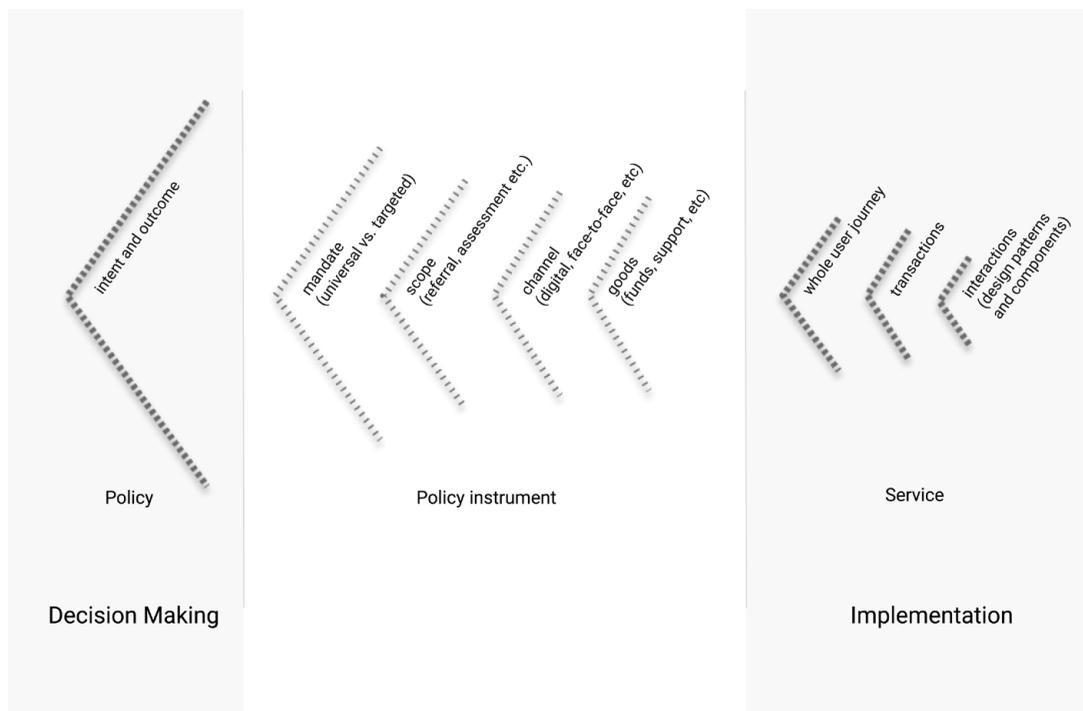65 Richard Phidd and Bruce Doern, *Canadian Public Policy: Ideas, Structure, Process* (Toronto: Methuen, 1983).

Figure 1
The image outlines a service design approach to policy design through the design of policy instruments.

66   Anne L. Schneider and Helen M. Ingram, *Policy Design for Democracy.*

67   Anne L. Schneider and Helen M. Ingram, "Policy Design: Elements, Premises and Strategies" in *Policy Theory and Policy Evaluation: Concepts, Knowledge, Causes and Norms*, ed. Steven Angel (New York: Greenwood Press, 1990), 77–102.

68   Greg Buckman and Mark Diesendorf, "Design Limitations in Australian Renewable Electricity Policies," *Energy Policy* 38, no.10 (2010): 3365–76.

69   Micheal Howlett, *Designing Public Policies.*

70   Andrea Siodmok, "Introducing a 'Government as a System' Toolkit," *Policy Lab* (blog), https://openpolicy.blog.gov.uk/2020/ 03/06/introducing-a-government-as-a-system-toolkit/ (accessed March 6, 2020).

71   Helena Polati Trippe, "Designing Public Instrumentation as Interaction."

target populations and consider how they do so by offering incentives that motivate and authorize citizens to take particular kinds of action.[67] These distinctive views have obvious parallels to HCD approaches.

Because most instruments are not deployed in isolation, recent literature also explores complementarity in the mix of policy instruments.[68] The literature assesses how instruments interact with one another, while also acknowledging that they interact in an even wider policy ecosystem. For example, Howlett highlights how instruments are not absolute entities but are, instead, relational in nature.[69]

Although not directly concerned with policy instruments per se, the UK Policy Lab's "government as a system" approach uses a typlogy of patterns of government action, which range from influencing to engaging to resourcing to controlling.[70] These patterns of action range from softer to more formal powers of government action. At their core, they are the result of methods of government action afforded by a set of policy instruments.[71]

Overall, these typologies provide an outline of options and the key elements involved in instrument design: organizational capacity, resource availability, and adoption by citizens and target populations against predicted needs. They underline the various layers of analysis required, but they remain evaluative in nature. Unpacking the basis for service design practice and theory in the context of policy instruments therefore becomes vital.

Developing a Service Design Approach for Policy Instrument Design

One of the most fundamental benefits of a service design approach to policy instrument design is the opportunity to unpack the policy landscape based on how users navigate and experience services in the entirety of the policy ecosystem. A characteristic of the user experience that merits attention, but that has not been sufficiently stressed in the literature, is the particular way in which policies become manifest through key tangible components as a direct consequence of policy *instrument* design as meta-interfaces of policy delivery (see Figure 1):

- The mandate and level of coverage afforded to users (i.e., whether this service is available to everyone or targeted to populations with particular needs).
- The level of user interactions, barriers, and gatekeeping that users experience to access services (e.g., performing self-service, completing an application form, going through an assessment or referral process).
- The primary channels used to access a service (e.g., digital, face-to-face).
- The benefits and goods users receive by engaging with a service (e.g., funds, advice, information).

Mapping how policy instruments become manifest across a series of tangible interfaces exposes the critical factors that are key to instrument choices—for example, factors like access (including barriers to access) and congruence between policy outcomes and the chosen instruments for delivery. Government services often compete with other initiatives and sources of information. In this context, an HCD approach on policy instrument design considers the potential effect of a market, or the lack of one, for a particular area of policy action. Coupled with a breakdown of total budget allocations for services, this approach considers the policy instrument landscape as a whole, making visible whether the channels and access levels are correctly matched to the policy outcomes and intentions. It also addresses the legitimacy of existing initiatives and the potential for adopting new actions.

More importantly, such a multi-layered approach accounts for the reality that different services and instruments are the consequence of separate initiatives over time; they generally are not an intentionally designed package or set of pathways. The approach focuses design practice on finding and working with affordances to leverage opportunities for action.[72] This focus is based on user and market behaviors, the government's organizational and technical capabilities, and the degree of the political mandate for that policy's delivery.

72 John Flach et al., "Beyond Affordances: Closing the Generalization Gap Between Design and Cognitive Science," *Design Issues* 33, no. 1 (Winter 2017): 76–89; and Trippe, "Designing Public Instrumentation as Interaction."

Approaching policy instrument design in this manner not only considers the combination of instruments across the whole policy landscape, but also fundamentally breaks down policy provision into service components that can be reorganized into potential new offerings. Demonstrating how a different mix of policy instruments would result in the prioritization of different service features and their direct effect on policy outcomes would help address the current disconnect between policy decision making and implementation. It allows designers and policy makers to examine the balance between targeted versus universal services across different outcomes, among different channels. More importantly, this approach enables designers and policy makers to consider whether the instrument, or set of instruments, helps government achieve its aims.

Toward an Agenda for Policy Design from a Service Design Perspective

Rarely do policy makers have the opportunity to design policy and services from scratch. Therefore, the role of a policy designer involves finding opportunities to leverage the interactions that occur within these systems.

Policy practice at a meso layer, at the level of policy instrumentation and where policies are translated into implementation strategies and instruments, shapes the scope and level of government action. Despite service design's potential to transform policy making, research in this area has tended to focus on how to operationalize policies into services—and in particular, how to digitally transform government services. Service design has been less successful in demonstrating how it can bridge the gap between policy design and service delivery. Most importantly, it has failed to demonstrate the benefits of approaching and theorizing policy design as a form of design inquiry.

In this article, I explored how service designers and policy makers can approach policy instrument design from a design perspective and the approaches to support design practice in this context. As policy instruments define the object of service design in a policy context, a service design approach requires design practice to be cognizant of the materiality of governance and the mechanics of governments, which ultimately shape the relationships of citizens to the state. By highlighting the materiality of policies, whereby policy instruments act as meta-interfaces for the government, this article presents a way to unpack policy instrument design from a HCD perspective. Linking strategic and granular considerations around a human-centered perspective offers a way to analyze and reconfigure the combination of channels, goods, mandates, and service delivery methods used to accomplish a policy's intent.