RE-IMAGINING "ACTION RESEARCH" AS A TOOL FOR SOCIAL INNOVATION AND PUBLIC ENTREPRENEURSHIP

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GOVLAB

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ABOUT THE GOVLAB

The Governance Lab's (The GovLab's) mission is to improve people's lives by changing the way we govern. Our goal is to strengthen the ability of institutions—including but not limited to governments—and people to work more openly, collaboratively, effectively and legitimately to make better decisions and solve public problems We believe that increased availability and use of data, new ways to leverage the capacity, intelligence, and expertise of people in the problem solving process, combined with new advances in technology and science can transform governance. Housed at New York University (NYU) Tandon School of Engineering, The GovLab is funded by various donors and partner organizations.

ABOUT THE AUTHOR

Stefaan G. Verhulst is Co-Founder and Chief Research and Development Officer of The GovLab where he is responsible for building a research foundation on how to transform governance using advances in science and technology. Verhulst's latest scholarship centers on how technology can improve people's lives and the creation of more effective and collaborative forms of governance. Specifically, he is interested in the perils and promise of collaborative technologies and how to harness the unprecedented volume of information to advance the public good.

Knowing is not enough; we must apply.
Willing is not enough; we must do.
– Johann Wolfgang von Goethe[1]

THE NEED TO RE-IMAGINE "ACTION RESEARCH"

We live in challenging times. From climate change to economic inequality and forced migration, the difficulties confronting decision makers are unprecedented in their variety, as well as in their complexity and urgency. Our standard policy toolkit seems stale and ineffective, while existing governance institutions are increasingly outdated and distrusted.

To tackle today's challenges, we need not only new solutions but new ways of arriving at solutions. In particular, we need fresh research methodologies that can provide actionable insights on 21st century conditions. Such methodologies would allow us to redesign how decisions are made, how public services are offered, and how complex problems are solved around the world.

Rethinking research is a vast project, with multiple components. This essay focuses on one particular area of research: action research. In the below, I first explain what we mean by action research, and also explore some of its potential. I subsequently argue that, despite that potential, action research is often limited as a method because it remains embedded in past methodologies; I attempt to update both its theory and practice for the 21st century. Although this essay represents only a beginning, my broader goal is to re-imagine the role of action research for social innovation, and to develop an agenda that could provide for what Amar Bhide calls "practical knowledge"[2] at all levels of decision making in a systematic, sustainable, and responsible manner.

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[1] Johann Wolfgang von Goethe, *Goethes Werke: Schriften zur Kunst, Schriften zur Literatur, Maximen und Reflexionen* (C.H.Beck, 1994), https://books.google.com/books?id=HSo1bgHIlcsC&pg=PA398&dq#v=onepage&q&f=false.

[2] Amar Bhide, "Practical Knowledge: Sustaining Massively-Multiplayer Innovation," SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, May 25, 2019), https://papers.ssrn.com/abstract=3394337.

Photo by Patrick Perkins on Unsplash

EXPLAINING ACTION RESEARCH—AND ITS POTENTIAL

The precise origins of action research are somewhat contested, but it is generally accepted that the term was coined in the mid-1940s by Kurt Lewin, a psychologist and professor at MIT.[3] In a 1946 paper titled *"Action Research and Minority Problems,"* Lewin wrote that "[t]he research needed for social practice can best be characterized as research for social management or social engineering."[4] He continued:

> *It is a type of action-research, a comparative research on the conditions and effects of various forms of social action, and research leading to social action. Research that produces nothing but books will not suffice.*

[3] Janet Masters, "The History of Action Research," in *Action Research Electronic Reader*, ed. I Hughes (The University of Sydney, 1995), http://www.behs.cchs.usyd.edu.au/arow/Reader/rmasters.htm.
[4] Kurt Lewin, "Action Research and Minority Problems," *Journal of Social Issues* 2, no. 4 (1946): 34–46, https://doi.org/10.1111/j.1540-4560.1946.tb02295.x.

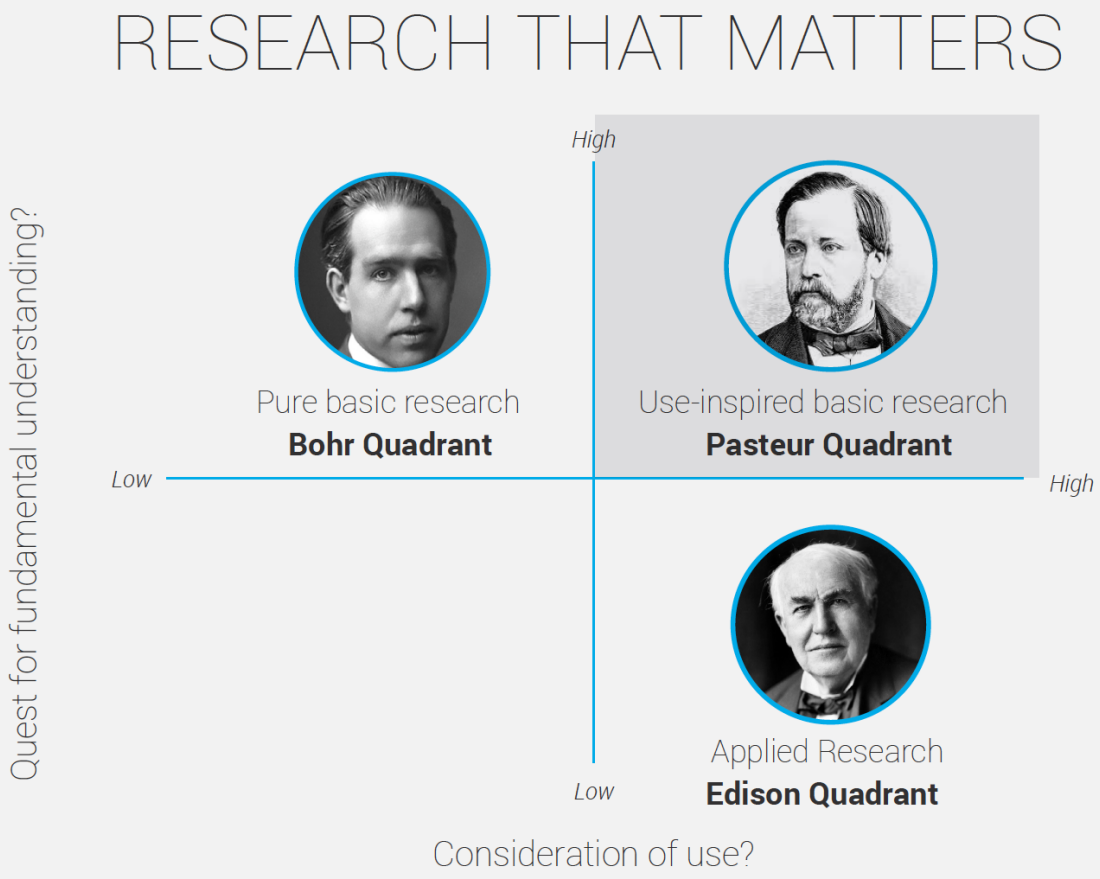

FIGURE 1: THE PASTEUR QUADRANT

Since that time, action research has been deployed in a variety of contexts, including to study many different kinds of intergroup relations (Lewin's original preoccupation), in the field of education[5] and engaging healthcare stakeholders in medical research.[6] One edited volume cites Kemmis and McTaggert who characterize action research as a method "proceeding in a spiral of steps, each of which is composed of planning, action and the evaluation of the result of action".[7] The same edited volume cites McKernan that action research stems from a recognition that in order to "understand and change certain social practices, social scientists have to include practitioners from the real social world in all phases of inquiry".[8] At a broad level, as both of these characterizations suggest, action research comprises a mutually reinforcing sequence of research, learning, and implementation. By aspiring to

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[5] "The Background of Action Research" (Center for Education Innovation, February 20, 2012), http://cei.ust.hk/teaching-resources/action-research.

[6] Luciana Cordeiro and Cassia Baldini Soares, "Action Research in the Healthcare Field: A Scoping Review," *JBI Evidence Synthesis* 16, no. 4 (April 2018): 1003–1047, https://doi.org/10.11124/JBISRIR-2016-003200.

[7] Janet Masters, *supra* note 4.

[8] *Ibid.*

live up to its ideals, researchers can develop knowledge that provides a foundation for lasting social impact and change. A similar impulse can be seen in Donald Stokes's book *"Pasteur's Quadrant."* There, Stokes argues that understanding and use are not in tension with one another in scientific research projects. Rather, these goals can be understood as different axes, with the work of Louis Pasteur exemplifying science that both furthered human understanding and solved pressing problems.[9]

We can go further and say that action research can be broken up into three component parts, each of which serves as an important pillar of the approach:

1. SEQUENCED METHODOLOGY

In practice, action research begins with a detailed analysis and mapping of a given problem area and existing evidence of current and future trends. Having established a baseline of the current (and future) state of play, action research then involves working closely with institutional partners to design a research intervention targeted at a solution to the identified problem, so as to identify what works.[10] Action research does not start with preconceived solutions; the point of the research is to identify and evaluate the best solutions comparatively and over time. (Moreover, preconceived solutions can lead to cognitive biases that affect results.)[11] Rather, action research tests different hypotheses and various actions as possible solutions.[12] It seeks to design its outputs so that it can be put into practice in the real world and can be used to conduct evidence-based and thus more effective projects down the line.[13] Like decision intelligence, action research concerns itself with outcomes and consequences.[14]

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[9] Donald E. Stokes, Pasteur's Quadrant: Basic Science and Technological Innovation (Brookings Institution Press, 2011).

[10] Lewin refers to this work as "reconnaissance." *See*: Kurt Lewin, "Frontiers in Group Dynamics: II. Channels of Group Life; Social Planning and Action Research," *Human Relations*, April 22, 2016, https://doi.org/10.1177/001872674700100201.

[11] Cassie Kozyrkov, "The First Thing Great Decision Makers Do," *Harvard Business Review*, June 25, 2019, https://hbr.org/2019/06/the-first-thing-great-decision-makers-do.

[12] Jack M. Pernecky, "Action Research Methodology," Bulletin of the Council for Research in Music Education, no. 1 (1963): 33–37. https://www.jstor.org/stable/40375233

[13] Roy Westbrook, "Action Research: A New Paradigm for Research in Production and Operations Management," *International Journal of Operations & Production Management* 15, no. 12 (January 1, 1995): 6–20, https://doi.org/10.1108/01443579510104466.

[14] Lorien Pratt and Lorien Pratt, "Getting Serious about Decisions," in *Link* (Emerald Publishing Limited, 2019), 5–32, https://doi.org/10.1108/978-1-78769-653-220191003.

2. PARTICIPATORY APPROACH

Action research differs from traditional academic research due to its more participatory and inclusive nature (indeed, action research is also sometimes referred to as "Participatory Action Research").[15] Partnerships with government actors, industry representatives, civil society and other participants help ensure the relevance and groundedness of findings, while also engaging these partners and giving them a stake in the design and outcome of research.[16] Action research includes a greater focus on understanding not only the problem but also the needs of the user and applying it to their context in a problem-solving fashion. This is helpful, for instance, when it comes to disseminating findings or securing buy-in or government support for proposed interventions (hence some organizations, such as BehaviourWorks[17] in Australia describing it as "applied" or "real world" research, i.e. not completely conceived and undertaken within a research institution). It is also helpful in securing the operational infrastructure, personnel, and resources to execute a project.[18] In short, relations are the foundation upon which the success of action research projects depend.

3. EVIDENCE-BASED

A final important point to emphasize is that the evidence-based nature of action research makes it very different from traditional policy advocacy. Action researchers are not lobbyists and do not come to their work with any ideological orientation. Their advocacy of solutions is based on evidence, on a desire to test out approaches, and on a firm commitment to collect and analyze

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[15] Elizabeth Koshy, Valsa Koshy, and Heather Waterman, "What Is Action Research?," in *Action Research in Healthcare* (London: SAGE Publications Ltd, 2011), 1–24, https://doi.org/10.4135/9781446288696.

[16] *See*, for instance, the approach to *Prajateerpu*: Michel Pimbert and Tom Wakeford, "Prajateerpu, Power and Knowledge: The Politics of Participatory Action Research in Development Part 1. Context, Process and Safeguards," *Action Research*, July 24, 2016, https://doi.org/10.1177/14767503030012004.

[17] "BehaviourWorks Australia," BehaviourWorks Australia, accessed February 4, 2020, https://www.behaviourworksaustralia.org/.

[18] Kevin J. Boudreau and Karim R. Lakhani, "Innovation Experiments: Researching Technical Advance, Knowledge Production, and the Design of Supporting Institutions," *Innovation Policy and the Economy* 16, no. 1 (2016): 135–67.

existing evidence and the results of interventions with an impartial eye. As Koshy argues, it "involves, action, evaluation, and critical reflection and—based on the evidence gathered—changes in practice [that] are then implemented."[19] Lavis expands this point, arguing that good public policymaking depends on high quality, locally applicable systematic reviews of evidence.[20] This evidence-based approach may not only provide more effective solutions, but also enable meaningful engagement with a wider set of trusted relationships with organizations and individuals across society who believe in a collective commitment to solving complex problems and improving people's lives.

[19] Elizabeth Koshy, Valsha Koshy and Heather Waterman, *supra* note 15.

[20] John N. Lavis et al., "Use of Research to Inform Public Policymaking," *Lancet (London, England)* 364, no. 9445 (November 30, 2004): 1615–21, https://doi.org/10.1016/S0140-6736(04)17317-0.

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II

RE-IMAGINING ACTION RESEARCH IN THE 21ST CENTURY

Each of these components—the three pillars of action research—has stood the test of time. As a method, action research has now been deployed by social scientists, policymakers and others for some seventy years. The range of contexts and settings in which it has been used, as well as its durability, have helped establish its validity as an important tool for both research and effecting lasting social change.

Still, for all its undeniable robustness, there is a risk that action research could become somewhat calcified. We live in times of truly dramatic transformation —in particular, transformation to the state of knowledge itself. The challenges, dilemmas and opportunities that confront policymaking have changed drastically in recent years, especially since the birth of the Internet

and the launch of the so-called digital era. We need to reimagine action research—and, more generally, the entire project of research—for this era.

In the remainder of this paper, I offer some thoughts on how the three pillars discussed above can be updated for 21st century conditions. In each case, I seek to adapt longstanding tenets and approaches to a context that is characterized by growing plenitude and complexity, as well as increasing interdependence. Plenitude, complexity and interdependence have radically reshaped the landscape of knowledge. One of the underlying arguments of this paper is that, in order to maintain its effectiveness and legitimacy, action research must adjust to this new landscape.

1. AGILE, SYSTEMS-FOCUSED, AND SEQUENCED METHODOLOGY

A sequenced methodology is one of the most important pillars of action research. We should retain the core elements of this methodology—in particular, its sequential and systematic nature—but also seek to inform it with more rapid and agile-based interventions. We should also seek to build on promising research on rapid innovation methodologies, including the McMaster Health Forum's *Rapid-Improvement Support and Exchange (RISE)* work.[21] In essence, we should seek to speed up the metabolism of action research's existing sequenced methodology. What does this mean in practice?

a. First, it means aligning and differentiating research outputs along the different stages of the policy cycle: agenda-setting; prioritization; policy formation; implementation; and evaluation. While research throughout the cycle should be rigorous and high quality, different outputs are appropriate for different phases. Research instruments and participatory engagement that can inform situational analysis, for instance, has considerable value for agenda setting and prioritization whereas prediction can inform implementation.[22] Unlocking and operationalizing the value of research insights depends just as much on the targeting of processes and research questions as it does on the actual insights

[21] "Rapid-Improvement Support and Exchange," McMaster Health Forum, accessed February 4, 2020, https://www.mcmasterforum.org/rise.
[22] Stefaan G. Verhulst, "Better Data for Better Policy: Opportunities and Challenges," https://www.slideshare.net/StefaanVerhulst/better-data-for-better-policy-opportunities-and-challenges.

generated. At The GovLab, we have recognized the importance of targeted questions through *The 100 Questions Initiative*, which seeks to identify the most important questions facing the world amenable to data solutions.[23]

b. A more agile sequenced approach would also engage in rapid problem definition to more quickly and iteratively define policy problems and identify priorities. The GovLab has pioneered one such approach, which we have termed the *R-Search methodology* (or Rapid re-Search).[24] Through R-Search, we seek to enable users to creatively and rapidly define and understand problem and issue spaces, and set the stage for evidence-based prototyping of policy approaches and solutions. Specifically, the R-Search methodology involves creating an issue area "MAP"— a rapid and actionable overview of a topic's "Milieu," relevant "Actors," and existing "Problem" space.

c. Similar in scope to the R-Search methodology, there is a need to use rapid and parallel experimentation methodologies (including, for instance, Randomized Control Trials[25] and and Quasi-Experiments[26]) to iteratively test certain policy interventions at different levels and in different sectors. For instance, the nonprofit organization Worldreader—which aims to provide digital books for disadvantaged children and their families—has adopted a "lean" method wherein it develops simple, small-scale prototypes and then quickly revises them in response to

[23] "The 100 Questions Initiative," accessed February 4, 2020, https://the100questions.org/.
[24] Stefaan Verhulst and Andrew Young, "R-Search Rapid Re-Search Enabling the Design of Agile and Creative Responses to Problems (Presentation Slides)," SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, March 19, 2018), https://papers.ssrn.com/abstract=3144044.
[25] For an introduction on randomization see: Esther Duflo, Rachel Glennerster, and Michael Kremer, "Using Randomization in Development Economics Research: A Toolkit," Handbook of Development Economics (Elsevier, 2008), https://econpapers.repec.org/bookchap/eeedevchp/5-61.htm; Abhijit Banerjee, Esther Duflo, and Michael Kremer, "The Influence of Randomized Controlled Trials on Development Economics Research and on Development Policy" (The State of Economics, the State of The World Conference at the World Bank, 2016), https://scholar.harvard.edu/kremer/publications/influence-randomized-controlled-trials-development-economics-research-and.
[26] Overviews of quasi-experimental research designs can be found at: Bruce A. Thyer, *Quasi-Experimental Research Designs* (Oxford University Press, 2012); Howard White and Shagun Sabarwal, "Quasi-Experimental Design and Methods: Methodological Briefs - Impact Evaluation No. 8" (UNICEF, 2014), https://www.unicef-irc.org/publications/753-quasi-experimental-design-and-methods-methodological-briefs-impact-evaluation-no.html.

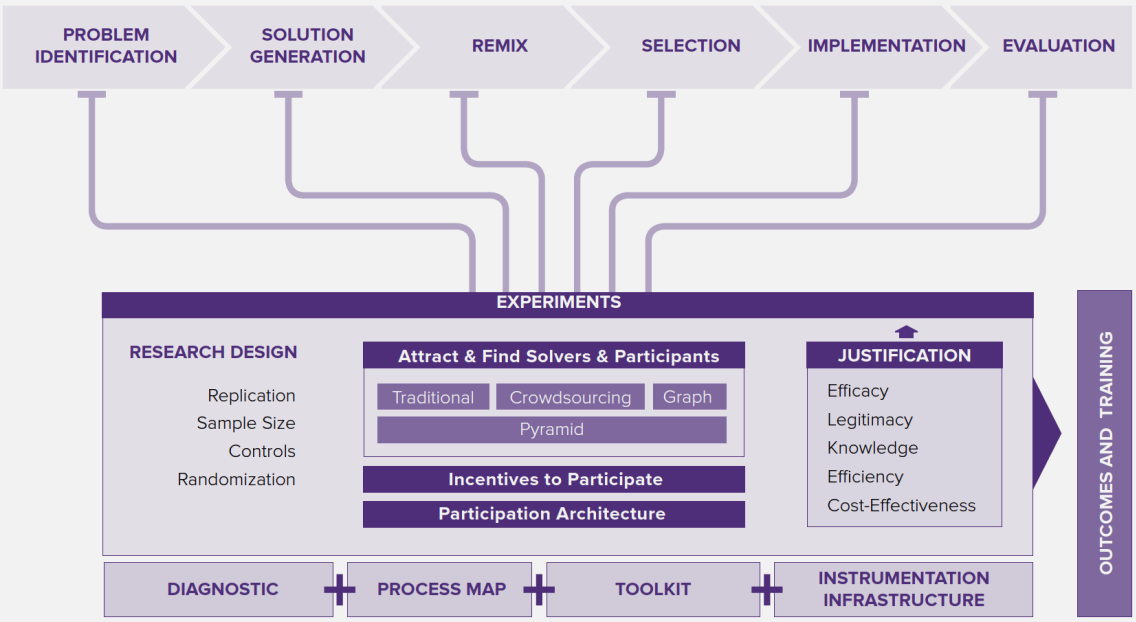

FIGURE 2: OUTLINE OF RAPID EXPERIMENTATION METHODOLOGY DEVELOPED AT THE GOVLAB

feedback from small groups of constituents. The method allows them to find problems before they invest the resources needed for a larger scale launch. The Coalition for Humane Immigrant Rights of Los Angeles, Toyota, and the American Red Cross have used similar rapid experimentation methodologies, creating and testing the viability of prototypes to meet the needs of their constituents. Instead of wasting resources on a large-scale deployment, leadership quickly identify the issues their members need address and respond accordingly. Groups develop ideas and engage with constituents, build and test platforms that address their needs, and then iterate and revise in response to data.[27]

d. Engaging rapidly and agilely with public problems requires keeping up-to-date with changing landscapes and issue areas, and to that end we propose developing and leveraging a wide range of observatory efforts to help researchers keep abreast of developments and new findings—such as the *Analysis and Policy Observatory (APO)*[28] in Australia; or *The Living Library*[29] focused on curating findings on governance innovation. This work can allow researchers to know whether their research questions

[27] Peter Murray and Steve Ma, "The Promise of Lean Experimentation," Stanford Social Innovation Review, 2015, https://ssir.org/articles/entry/the_promise_of_lean_experimentation.
[28] "Analysis & Policy Observatory," Text, APO, accessed February 4, 2020, https://apo.org.au/home.
[29] "The Living Library," The Living Library, accessed February 4, 2020, https://thelivinglib.org/.

have already been answered, a task which Bragge argues is essential in promoting good research.[30] In addition, we suggest research institutions organize their staff's priorities in an iterative and context-aware fashion, for instance, through regular joint assessments of emergent opportunities for creating insights and knowledge products that could respond to a dynamic and ever-fluctuating society.

e. Core to staying aware of research and new developments are systematic reviews of literature. Often used in a healthcare context, a systematic review is "a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies."[31] This process supports innovation by bringing together all the knowledge, much of it untapped, existing on a defined topic. As Lavis argues, this basis promotes informed policymaking by reducing bias in estimating program effectiveness and reducing the extent to which decisions are left to "chance."[32] Experts might be useful in interpreting the results of systematic reviews and applying their lessons to a specific, local context.

[30] Peter Bragge, "Asking Good Clinical Research Questions and Choosing the Right Study Design," *Injury*, Trauma Melbourne 2009 20-21st November 2009 Sofitel Melbourne on Collins, Melbourne & Trauma Research Methods and Practice Workshop 19th November 2009 Monash Conference Centre, Melbourne, 41 (July 1, 2010): S3–6, https://doi.org/10.1016/j.injury.2010.04.016.
[31] Finding What Works in Health Care: Standards for Systematic Reviews, 2011, https://doi.org/10.17226/13059.
[32] John N. Lavis, et al, *supra* note 20.

2. INCLUSIVE AND DIVERSE PARTICIPATORY ENGAGEMENT

Updating action research for the 21st century also requires us to acknowledge that the nature of participation (and most importantly, the context within which researchers participate) has changed. The world is today a more globalized, polyglot and mixed place than when action research was first conceived in the mid-1940s. This means that in order to remain relevant and effective, researchers need to engage different communities and stakeholders in more inclusive processes of problem definition, research design and reviews of findings. This collaboration, as the scholars Liat Racin and Eric Gordon recognize, can produce both actionable knowledge for communities and resources for traditional academic publications that contribute to the wider literature.[33] It can expand the outcomes of research and provide new opportunities for broad dissemination. Again, there are several specific ways that action research and researchers can attain these goals:

a. At the inaugural Paris Peace Forum, The GovLab was invited to share the approach behind our *"people-led innovation"* initiatives. People-led innovation seeks to enable a more inclusive approach to research and policymaking by engaging different types of stakeholders (from individual residents to community-based organizations to anchor institutions such as universities) for different reasons (co-creation; commenting; reviewing and providing data), and at different stages of research.[34] For example, for our 100 Questions Initiative, described previously, we identified a wide range of "bilinguals" (domain experts that also have a data and/or research expertise) to help us set priority questions.[35] Researchers with Monash University tested a similar methodology in 2012, using diverse stakeholders to map health research priorities.[36] An article in the Harvard Business Review expands this view further, noting people or crowd-centric problem solving "exposes a

[33] Liat Racin and Eric Gordon, "Community Academic Research Partnerships in Digital Contexts: Opportunities, Limiatations, and New Ways to Promote Mutual Benefit" (Microsoft, Engagement Lab Emerson College, 2018), https://elabhome.blob.core.windows.net/resources/mou.pdf.
[34] Andrew Young et al., "People-Led Innovation: Toward a Methodology for Solving Urban Problems in the 21st Century," SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, January 1, 2018), https://papers.ssrn.com/abstract=3141381.
[35] The 100 Questions Initiative, *supra* note 23.
[36] Peter Bragge.*supra* note 30.

problem to widely diverse individuals with varied skills, experience, and perspectives [...] at scale."[37] Such approaches, which look for expertise in unorthodox or unexpected places, allow us to cast our net wider, and to include a more diverse set of participants in the research process.

b. A more diverse research method also requires investing in hiring and staffing teams that not only reflect disciplinary and methodological expertise but also lived experience of prioritized problems and questions. We need to re-conceptualize research job descriptions and selection procedures by focusing on skills and experiences instead of merely credentials, which often reinforce existing inequalities. The GovLab's *Smarter Crowdsourcing* methodology takes such a skills-based approach. Together with partners in Mexico, Ecuador, and elsewhere, The GovLab convened a series of knowledge-generation exercises tapping into individuals from around the world with relevant skills and experiences to inform efforts to tamp down corruption, address public health crises, such as Zika, and inform crisis response. These individuals were chosen based on what they knew and how it could be applied to the problem at hand (e.g. engaging individuals with knowledge on effective pool drainage to help define ways to avoid water accumulation and mosquito breeding), rather than their credentials. A similar approach could be taken at the institutional level, ensuring that internal capacity is fit for purpose,[38] and biases in assumptions and preferences for particular solutions are made manifest.

c. Embedding human-centric design in research projects can also widen the scope of those projects beyond the usual stakeholders and set of issues. Problems do not exist in a vacuum for policymakers to solve but, as noted, affect a diverse array of groups and individuals from civil society, business, academia, and government. By harnessing the expertise and daily experiences of these individuals, we can better define, focus on, experiment with, and implement responsible solutions. These multi-

[37] Kevin J. Boudreau and Karim R. Lakhani, "Using the Crowd as an Innovation Partner," *Harvard Business Review*, April 1, 2013, https://hbr.org/2013/04/using-the-crowd-as-an-innovation-partner.
[38] Beth Simone Noveck et al., "Smarter Crowdsourcing: Zika" (Inter-American Development Bank, The GovLab, June 2017), https://zika.smartercrowdsourcing.org/en/.

stakeholder communities can "democratize innovation" by allowing participants to "resolve their own local and micro problems and then share the outputs of their effort with others."[39] Participatory action research is mindful of power structures and often strives to empower people affected by policy. Proponents might "advocat[e] for power to be deliberately shared between the researcher and the researched."[40] They might also put additional emphasis on communication efforts and the building of informal relationships with those communities and individuals.[41] At the same time we should be mindful of research burden —where particular populations may be "over-researched."

d. We also suggest developing ethical councils, comprised of people with diverse backgrounds, to help design and review research proposals and findings—complementing or expanding the remit of existing academic review boards). Such councils could play a valuable role in projects that seek to highlight data responsibility. Recently, for instance, we helped design such a framework for UNICEF, in a project focused on the collection and use of data for and about children. *The Responsible Data for Children (RD4C) Principles and Practices* include approaches for ensuring such efforts are professionally accountable through new institutional roles, responsibilities and structures (including ethical councils and other mechanisms for prioritizing purpose-driven and people-centric data stewardship). Our work here demonstrates the need to be proactive, purposeful, and inclusive in protecting the rights and security of vulnerable populations.[42]

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[39] Karim R. Lakhani, "Managing Communities and Contests to Innovate with Crowds," in *Revolutionizing Innovation*, ed. Dietmar Harhoff and Karim R. Lakhani (MIT Press, 2016), https://mitpress.mit.edu/books/revolutionizing-innovation.

[40] Fran Baum, Colin MacDougall, and Danielle Smith, "Participatory Action Research," *Journal of Epidemiology & Community Health* 60, no. 10 (October 1, 2006): 854–57, https://doi.org/10.1136/jech.2004.028662.

[41] Jill Grant, Geoffrey Nelson, and Terry Mitchell, "Negotiating the Challenges of Participatory Action Research: Relationships, Power, Participation, Change and Credibility," in The SAGE Handbook of Action Research, by Peter Reason and Hilary Bradbury (1 Oliver's Yard, 55 City Road, London England EC1Y 1SP United Kingdom: SAGE Publications Ltd, 2008), 588–601, https://doi.org/10.4135/9781848607934.n52.

[42] Andrew Young, Stuart Campo, and Stefaan Verhulst, "Responsible Data for Children (RD4C)" (UNICEF, The GovLab, November 2019), rd4c.org.

e. Finally, another way to achieve more diverse research is to adopt principles of open science across all stages of the research enterprise. The European Commission, for instance, has worked diligently toward enabling *FAIR principles* (i.e. findable, accessible, interoperable, and reusable), as well as leveraging open source tools at different stages of research.[43] Such a commitment to openness can ensure higher degrees of transparency and accountability across the research lifecycle—from design to data collection to analysis—and thus ensure that a more representative sampling of views is included throughout the research project.

3. DATA DRIVEN EVIDENCE-BASED METHODOLOGY

Traditional action research rests on a firm foundation of evidence-based methods and findings. Yet the very nature of "evidence" is changing in the data era, and requires a similar transformation in the way we think about modern action research. In particular, we believe that evidence-based action research in the twenty first century must leverage a variety of new data sources and methodologies.

a. One way it can do this is by taking advantage of the possibilities offered by emerging forms of data partnerships and collaborations. Recent research suggests partnerships are valuable in promoting innovation and the production of knowledge. At The GovLab, we have conducted significant research into the potential of *"data collaboratives"*—a kind of cross-sectoral partnership that allows for private data to be harnessed toward the public good.[44] Such collaboratives are now increasingly being

[43] "H2020 Programme: Guidelines on FAIR Data Management in Horizon 2020" (European Commission: Directorate-General for Research and Innovation, July 26, 2016), https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf; Mark D. Wilkinson et al., "The FAIR Guiding Principles for Scientific Data Management and Stewardship," *Scientific Data* 3, no. 1 (March 15, 2016): 1–9, https://doi.org/10.1038/sdata.2016.18.

[44] Data Collaboratives. "Data Collaboratives Home Page," 2018. http://datacollaboratives.org.

used around the world, and offer a powerful new way to conceptualize and access information and knowledge in the 21st century.[45]

b. Evidence-based research must also tap into collective intelligence to establish new datasets that could be used for policy research and policymaking. For example, various organizations have experimented with smarter crowdsourcing and citizen science efforts, with the broader goal of creating new data sets to complement traditional research and administrative data. However, as Slattery, Saeri, and Bragge note in their review of research methods in health: "Research co-designs appear to be widely used but seldom described or evaluated in detail."[46] New research methods need to be documented.

c. Researchers should also experiment with machine learning, deep learning and predictive analytics to leverage big data sets to identify patterns and augment collective intelligence. Such efforts could improve how public-facing institutions understand citizens and deploy services to address their needs. At The GovLab, we began developing an evidence basis for this notion in our report, *Identifying Citizens' Needs by Combining AI and CI*. Through five case studies, we examine the opportunities artificial intelligence and collective intelligence present for public services while simultaneously noting the nascency of the field and the need to focus greater attention on planning activities.[47]

d. At a broad level, efforts to reimagine evidence-based action research represent an attempt to rethink the relationship between data and policy in the 21st century. That relationship is emerging as one of the central drivers of change, and any attempt to fuse action and research today must begin not only from an acknowledgement of the ties that bind data

[45] Stefaan G. Verhulst et al., "Leveraging Private Data for Public Good" (The Governance Lab, October 2019), https://datacollaboratives.org/existing-practices.html.
[46] Alexander K. Saeri, Peter Slattery, and Peter Bragge, "Research Co-Design in Health: A Rapid Review," January 24, 2019, https://doi.org/None.
[47] Stefaan Verhulst, Andrew Young, and Andrew J. Zahuranec, "Identifying Citizens' Needs by Combining AI and CI" (The GovLab, September 2019), http://www.thegovlab.org/static/files/publications/CI-AI_oct2019.pdf.

and policymaking, but from a deeper understanding of the full nature and scope of those ties—both the opportunities and the challenges they represent. In this sense, reimagining action research for the contemporary era is fundamentally about understanding the role of data in research and policymaking. Projects must reflect on the historical, political, cultural, economic, and geographic contexts in which they exist to best understand the challenges they hope to address.[48]

CONCLUSION

As this piece illustrates, the components of action research still have relevance for the modern age and the modern challenges we face. However, further adaptation is necessary. A modern approach to action research needs to recognize how complex and interdependent the world is. Moreover, it needs to embrace the various new technologies and sources of data that can help researchers be sequenced, participatory, and evidence-based. Sequenced and iterative methodologies can be made possible through online platforms. Methodologies such as our *People-Led Innovation* might allow for participatory engagement. New forms of collaboration such as data collaboratives might be useful in bringing new data and evidence to bear.

At any rate, consider the above list of ideas as the start of an outline and conversation of how we can re-imagine the role of action research that can tackle 21st century challenges in a more legitimate and effective manner.

[48] Stefaan Verhulst, Andrew Young, and Andrew J. Zahuranec, "Identifying Citizens' Needs by Combining AI and CI" (The GovLab, September 2019), http://www.thegovlab.org/static/files/publications/CI-AI_oct2019.pdf.

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