

Advancing Data Justice Research and Practice

An Interim Report for the 2021 GPAI Paris Summit
November 2021

The
Alan Turing
Institute In collaboration with:



GPAI |

THE GLOBAL PARTNERSHIP
ON ARTIFICIAL INTELLIGENCE

This interim report has been developed by the Alan Turing Institute for presentation at Summit 2021. The interim report has been commissioned by GPAI experts but does not necessarily reflect the views of the experts' organizations, GPAI, the OECD or their respective members.

CONTENTS

Introduction to the project: 2

Outline of the project 4

The six pillars of data justice research and practice 6

Stakeholder involvement, engagement, and consultation..... 11

Bibliography..... 20

Introduction to the project:

Broadening current approaches to data justice

The *Advancing Data Justice Research and Practice* project aims to widen the lens of current thinking around data justice and to provide actionable resources that will help policymakers, practitioners, and impacted communities gain a broader understanding of what equitable, freedom-promoting, and rights-sustaining data collection, governance, and use should look like in increasingly dynamic and global data innovation ecosystems.

Before the advent of data justice research several years ago, prevailing approaches to data ethics and governance tended to frame issues surrounding the societal impacts of datafication and the increasing pervasiveness of data-intensive technologies almost exclusively in terms of data protection, individual rights, privacy, efficiency, and security¹. They likewise tended largely to focus on building technical solutions to potential harms rather than on interrogating the social structures, human choices, and sociotechnical practices that lie behind the myriad predicaments arising out of an ever more “datafied society”.

The first wave of data justice scholarship—emerging in the pathbreaking work undertaken by the Data Justice Lab at Cardiff University and the Global Data Justice project at the Tilburg Institute for Law, Technology, and Society—sought to move beyond these limitations by situating the ethical challenges posed by datafication in the wider context of social justice concerns. This meant that data justice research could overcome tendencies in the field of data ethics and governance to dwell in subject-centred abstractions about individual privacy, negative liberty, and algorithmic fairness by becoming more responsive to the real-world conditions of power asymmetries, inequality, discrimination, and exploitation that have increasingly come to define the “data-society nexus”². It also meant that globally impacting issues surrounding equitable access to representation through data as well as interests in the just distribution of the benefits of data use and the actualisation of social freedom could be brought to bear in considerations of the social consequences of ubiquitous datafication³.

Despite the major gains in understanding and insight generated by this first iteration of data justice research, some have pointed to significant limitations. For instance, the initial focus of data justice research on surveillance, informational capitalism, and the “political economy of data”⁴ has been seen to lead to an overly information-centric and economistic narrowing of its critical and normative purview⁵. That is, while an emphasis on the extractive ways that private companies collect, analyse, exchange, and monetise personal information or on the surveillant manner in which governmental actors marshal datasets to sort, rank, and make predictions about datafied citizens and subjects has served a valuable purpose in illuminating certain power dynamics, such a focus on the political and economic forces surrounding datafication has also run the risk of obscuring the underlying sources of data injustice. It has risked masking deeper socio-culturally- and historically-entrenched structures of domination that are rooted in discriminatory or racialised logics of coloniality, imperialism, cultural hegemony, and administrative control⁶. The endeavour to advance data justice research and practice must therefore broaden its critical approach to interrogating the social, historical, cultural, political, and economic forces behind manifestations of discrimination and inequity in contemporary ecologies of data collection, governance, and use. It must seek to understand how the longer-term path dependencies created by patterns and legacies of inequality, discrimination, and privilege get drawn into contemporary data work and data innovation lifecycles.

1 Dencik, Hintz, & Cable 2016

2 Dencik, Hintz, Redden, and Trere 2019

3 Taylor 2017

4 Taylor 2017

5 Hoffman 2021

6 Ali 2017; Amrute 2019

Some have also stressed the problematic tendency of discussions about the ethical issues around data governance and data-intensive technologies to be dominated by Western perspectives, interests, and values⁷. The first wave of data justice research was predominantly anchored in Anglo-European academic framings of data justice—both in terms of how its problem space was defined (i.e., what issues and challenges it confronted⁸ and where these were seen to arise⁹) and in terms of the possible normative and practical responses that could be offered to rectify the range of harms inflicted by planetary-scale datafication. Notwithstanding recent calls for new, globally oriented, and intercultural approaches to data justice¹⁰, this initial Occidental bent has led to a deficient representation of non-Western values, insights, and interests within the existing literature. This is a critical deficit. Current approaches to data justice have not yet effectively centred non-Western visions of ethical and just ways of working, acting, and interconnecting with people and the planet that are rooted, for instance, in relational notions of personhood and community—visions arising across non-Western systems of belief ranging from Ubuntu¹¹, Buddhism¹², and Confucianism¹³ to various expressions of Indigenous values¹⁴. Insofar as the principles and priorities of data justice are to ascertain a sufficiently broad reach, they need to align with the forms of life, ways of being, and living contexts of all individuals and communities impacted by the global propagation of datafication and essential digital infrastructures. For this reason, the inclusion of non-Western framings of the ontologies, meanings, and values that might shape and underwrite possible data governance futures is a crucial precondition of advancing data justice research and practice.

Widening the approach to data justice along these geospatial lines is also needed to address the way that data justice research and practice confronts global digital divides as well as gaps between the interests and concerns of high-income countries and those of lower income countries¹⁵. The reality of the globalisation of data markets and data flows is that the fair, equitable, and inclusive participation of individuals, communities, and countries has not yet come anywhere near to being achieved. Over the course of the last two decades of rapid digitisation, the disproportionate distribution of benefits and harms has largely been determined by a fraught combination: On the one hand, the overwhelming technological capacities and material means of transnational tech corporations and Global North geopolitical actors has enabled them to asymmetrically wield “network power”¹⁶ while, at the same time, engaging in virtually unimpeded data capture and rent-seeking behaviour¹⁷. On the other hand, sociohistorical legacies of economic inequality and “slow violence”¹⁸ have all-too-often disadvantaged and marginalised the individuals, organisations, and communities which comprise low and middle income countries. This has rendered such countries and their peoples vulnerable to predatory or extractive data innovation agendas. The inequitable effects of these imbalances have only been exacerbated by the high entry costs of

7 Aggarwal 2020; Birhane 2021; Mhlambi 2020

8 The early work of Heeks and Renken (2016), Heeks (2017), and a little later Heeks and Shekhar (2019) on data justice for international development is a notable exception though the framing of these interventions is also predominantly representative of Western academic understandings of the concept of justice and the various forms it may take.

9 It should be noted that in the wake of the initial articulations of data justice, researchers have begun to interrogate how its core principles could apply in diverging non-European (local) contexts and use cases including in policing in Iran, activism in South Africa, indigenous agriculture in Africa, humanitarian work in post-earthquake Nepal and more. See Akbari, 2019; Cinnamon, 2019; Dagne, 2020; Kennedy et al., 2019; Kidd, 2019; Mulder, 2020; Punathambekar & Mohan, n.d.

10 Taylor 2019

11 Birhane 2021; Eze 2008; Gyekye, 1992; Kalumba 2020; Mbiti 1970; Menkiti 1984; Mhlambi 2020; Ogunbanjo and Bogaert 2005

12 Hongladarom 2007, 2016; Vallor 2016

13 Jing and Doorn 2019; Wong 2012; Yu and Fan 2007

14 Betasamosake Simpson 2017; Indigenous Protocol 2020; Tallbear 2019

15 Of course, “digital divides” are not exclusively, or even primarily, an international problem. Data justice research must also confront existing digital inequalities within high income countries—which especially affect indigenous, marginalised, and vulnerable social groups.

16 Following Cohen (2019): “Under background conditions of vastly unequal geopolitical power, [the equivalence of corporate or state policy and mandated standards] sets up the two interlocking dynamics that produce policy hegemony. On one hand, a dominant network enjoys network power— which David Grewal defines as the self-reinforcing power of a dominant network and Manuel Castells explains as a power that is “exercised not by exclusion from the networks, but by the imposition of the rules of inclusion”— simply by virtue of its dominance. On the other, if a particular hub within a dominant network exercises disproportionate control over the content of the standard, then networked organization will amplify that hub’s authority to set policy and legally mandated standardization will amplify it still further. When network- and- standard- based legal-institutional arrangements are instituted under background conditions of vastly unequal geopolitical power, network power translates into policy hegemony.” (220) See also: Castells 2011; Grewal 2008

17 Birch 2020; Birch and Cochrane 2021

18 Nixon (2011) uses the term “slow violence” to describe the gradual, and often invisible, forms of harm that happen “gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all.” (2) This kind of subtle violence, he argues, targets the vulnerabilities of the disempowered, impoverished, and vulnerable peoples of the Global South who are subject to the opportunism of global market capitalism, leading to the destruction of local ecosystems, involuntary displacement, and social conflict.

engaging in data-intensive research and innovation (in terms of both technical capabilities and resources) and by the centralisation of the critical data and compute infrastructures needed for information processing at scale. To redress these patterns of economic and sociotechnical disparity, data justice research and practice must reconceptualise the regulation and governance of data work. It must counterbalance the unequal power dynamics that condition data production by prioritising universal participatory parity and considerations of local contexts and values, fostering the collective rights of marginalised and vulnerable groups and bringing all impacted stakeholders to the table as rights-holders and standards-setters for the global digital political economy of tomorrow.

Outline of the project

The purpose of the *Advancing Data Justice Research and Practice (ADJRP)* project is to directly address this need for a multidimensional broadening of the study and undertaking of data justice. This involves a two-track approach:

1. Integrated Literature Review and Annotated Bibliography. The ADJRP team is carrying out an integrated literature review¹⁹ organised around **six pillars of data justice** (power, equity, access, identity, participation, and knowledge) that have been identified through the research thus far²⁰. A few strategies have been implemented to accomplish the project's goal of broadening data justice research and practice. First, methodologically, the literature review has been shaped by an interdisciplinary and inclusive orientation that draws widely on the humanities, social sciences, policy literatures, activist statements and declarations, and first-hand input anchored in lived experience. This "broad church" approach to gathering resources is intended to support a prioritisation of knowledge equity,²¹ an inclusion of diverse global insights and intercultural wisdom,²² and an acknowledgement of the importance of civic epistemologies²³. It is also meant to bolster the reflexivity of the ADJRP project team.

Second, to understand what is missing in, and what can enrich, the current study and undertaking of data justice, the review ranges well beyond the conventional boundaries of the existing literatures of data ethics and governance, science and technology studies (STS), algorithmic bias and fairness, and technology policy. These latter bodies of research are important as starting points, but there are additional areas that should inform a study and practice of data justice which is attuned to global inequality, indigenous rights, non-Western ethical perspectives, the need for an intercultural awareness of the plurality of values, and legacies of coloniality, cultural hegemony, and structural discrimination. In the context of the current data justice discourse, close attention needs to be paid to the critical dialogues that have been taking place in adjacent research in areas such as design justice²⁴, data feminism²⁵, data colonialism²⁶, non-Western data ethics²⁷, indigenous data sovereignty²⁸, and non-ideal approaches to algorithmic justice and fairness²⁹. Likewise, external to the existing data justice discourse, a broadened approach must draw on those fields of research and study that provide opportunities for interdisciplinary knowledge transfer which could help to fill the gaps in current critical and normative self-understandings. Opportunities for this kind of knowledge transfer are evident, for instance, in literatures such as pluriverse and post-development theory³⁰, critical indigenous studies³¹, culture-centred communication for social

19 Torraco 2005; Snyder 2019

20 These are described in more detail in the next section.

21 Jaffe 2017

22 Toda 2020

23 Jasanoff 2011

24 Costanza-Chock 2020; Lewis et al. 2018

25 D'Ignazio and Klein 2020; Cifor et al. 2019

26 Al Dahdah and Quet 2020; Cinnamon 2019; Couldry and Mejias 2018; Magalhães and Couldry 2021; Milan and Trere 2019; Mohamed, Phg, and Isaac 2020

27 Birhane 2021; Hongladarom 2007, 2016; Indigenous Protocol 2020; Jing and Doorn 2019; Mhlambi 2020; Vallor 2016; Tallbear 2019; Wong 2012; Yu and Fan 2007

28 Taylor and Kukutai 2016; Rainie et al. 2019; Te Mana Raraunga n.d

29 Dielman et al. 2017; Fazelpour and Lipton, 2020; Sen 2011

30 Kothari et al. 2019; Reiter 2018

31 Corradi et al. 2018; Hokowhitu et al 2020

change³², community mobilisation and participatory learning and action research (in public health)³³, crip technoscience³⁴, and environmental and climate justice³⁵.

Finally, the literature review undertakes a broadening of the study and pursuit of data justice by making visible, and accessible to the reader, real-world practices of organisations and communities from around the world which are engaged in transformative work surrounding the advancement of data rights and just data innovation ecosystems. It provides a big picture account of both the current empirical challenges to data justice and the progressive actions and movements of activists, advocates, regulatory bodies, global governance forums, and engaged people who are providing normative, political, and legal counterpressure to unjust exercises and manifestations of power over the means, processes, and applications of data work. To supplement this, the review also includes a table that maps out over 75 organisations from across the globe that are involved in data justice activities. This resource is meant to serve as a reference point for those interested in understanding where the “rubber hits the road” in data justice research and practice, and it links each chosen organisation to the themes explored in the literature review as well as to its six pillars.

2. A preliminary guide for three target audiences—policymakers, developers, and individuals and communities affected by datafication and the use of data-intensive systems (particularly the marginalised). Working off the six pillars of data justice research and practice identified in the literature review and stakeholder input that is being gathered through public engagement, the ADJRP project is crafting preliminary guides that are intended to support policymakers, practitioners, and impacted communities to gain a broader understanding of how to promote equitable, freedom-promoting, and rights-sustaining data collection, governance and use as well as how to advance the 2030 Sustainable Development Goals. These guides will be structured around key questions that should factor into the considerations of policymakers, developers, and impacted rights-holders as they navigate the complex and multivalent challenges around ensuring that data collection, processing, and use is equitably governed and generates just and globally beneficial outcomes. In accordance with the need to tailor the guiding questions to the practical needs and concerns of each of these target audiences, the guidance document will be organised into three sections which correspond to each group.

For **policymakers**, the guide will focus on posing questions which equip policymakers with analytical tools to engage in debates about global data governance with a critical awareness of power differentials and diverging levels of access and participation. The purpose here is to build an active recognition among policymakers of how the differing economic conditions, material resources, technical capacities, and institutional endowments of different communities and countries affect the ability of some to equitably participate, and to effectively express their policy positions, in global data governance forums. The guide will aim to support the participatory parity of all voices in these forums and to promote positionality awareness, intercultural learning, and higher levels of policy reflexivity among high income and well-resourced actors. It will likewise foster the translation of the normative goals expressed in the six pillars (such as democratising data work, marshalling data equity to transform historically entrenched patterns of domination, and equitably advancing access to the benefits of data use and to the capabilities to flourish that could be enabled thereby) into the advancement of the 2030 SDGs.

For **developers**, the guide will focus on posing questions which equip researchers, project managers, technologists, and others involved in the data innovation value chain with the practical and analytic tools needed to safeguard the equity and trustworthiness of processes of designing, developing, procuring, and deploying AI and data-intensive technologies and to ensure just and ethical outcomes in their real-world implementation. This will involve building an end-to-end awareness into research and innovation practices that every human choice and design decision made across the project lifecycle has social and ethical consequences. Rather than conceiving research and innovation as independent from human values and social contexts, the guide will (following the knowledge pillar) frame these activities as ethically implicated sociotechnical practices that (following the participation pillar) should be

32 Dutta 2011, 2012, 2020; Obregon and Waisbord 2012

33 Costello 2018; Prost et al. 2013; Tripathy et al. 2016; Roy et al. 2013

34 Hamraie and Fritsch 2019

35 Benford 2005; Bullard 1993; Longdon 2020; Schlosberg 2013; Walker 2009

democratically governed and socially licensed³⁶. Such practices will therefore be charged with a responsibility for *critical self-reflection and inclusive, contextually sensitive, and pluralistically-oriented deliberation* about the role that these values play both in discovery, engineering, and design processes and in considerations of the real-world effects of the insights and technologies that these processes yield. In keeping with the equity pillar, developers will also be charged with securing dataset representativeness across the data pipeline, from collection to output; with safeguarding that the feature space includes the variables needed to equitably reflect the underlying populations—especially the variables needed to ensure the equity of the model; with securing equitable access to publicly beneficial datasets, algorithms, and models for all levels of expertise and resource capacity; and with ensuring that the downstream consequences of the outcome of data use are just, equitable, and equality-promoting³⁷.

In keeping with the access pillar, the guide will prompt developers to support the *equitable advancement of access to research and innovation capacity*. Given asymmetries in resources, infrastructure, and research capabilities, data sharing and research collaboration between lower income countries and high income countries, can lead to inequity and exploitation³⁸. While the challenge of overcoming the problem of global digital inequality in the era of data-driven innovation has often been approached, in the research and innovation context, under the rubric of traversing the ‘digital divide’ through more equitable provision of the resources needed to access data and compute infrastructures, equalizing know-how and capability is a requisite counterpart to equalizing access to resources. Both together are necessary preconditions of ethical research collaboration and responsible data sharing at the global level. In this vein, the guide will direct data scientists and innovators, who engage in international research collaborations and data work, to focus on forming substantively reciprocal partnerships where capacity-building and asymmetry-aware practices of cooperative innovation enable participatory parity and thus greater research equity.

At a more forward-thinking level, the guide will stimulate developers to think about how the pillars of data justice can be pressed into the service of innovating to end poverty, to eradicate hunger, to ensure good health and well-being for all, to bolster universal high-quality education, to advance gender equality, and to achieve all of the other Sustainable Development Goals.

For **impacted people and communities**, the guide will focus on posing questions which empower affected individuals and groups—in particular, those who are vulnerable, discriminated-against, or marginalised—with the critical, analytical, and practical tools needed to challenge and transform the socio-historically rooted patterns of discrimination, injustice, and inequality that can manifest in the production and use of data-intensive technologies and in wider processes of datafication. Particular attention will be paid to indigenous communities that may require specific safeguards for their data to protect and promote their cultural and economic interests. Following the pillars, the guide will also enable individuals and communities to utilise mechanisms of collective empowerment, social solidarity, and democratic agency to create conditions of public accountability and transparency in the governance of AI and data-intensive technologies and in wider data innovation ecosystems. For this purpose, it will draw on the other GPAI data governance workstreams on alternative and enabling forms of data stewardship.

The six pillars of data justice research and practice

A major element of ADJRP’s multidimensional broadening of the study and undertaking of data justice is its formulation of six pillars of data justice research and practice. These pillars have been drawn largely from the desk-based research that the ADJRP team has done for the integrated literature review, and they will inform the framing of its thematic content. They will also shape the way the ensuing guidance for developers, policymakers, and impacted rights-holders is organised and delivered. For now, the pillars are provisional. As the ADJRP project receives input from its digital participatory platform for stakeholder engagement (decidim) and interacts with its Advisory Board and its 12 Global Policy Pilot Partner organisations, the content of the pillars will likely evolve and improve.

36 Gunningham et al. 2004

37 Jagadish, Stoyanovich, and Howe, 2021a, 2021b

38 Bezuidenhout et al. 2017; Leonelli 2013; Shrum 2005

For now, they are presented as 6 guiding principles and priorities that are meant to motivate and orient those who are engaged in the advancement of data justice research and practice:



- **Interrogate and critique power:** Understand the levels at which power operates in data innovation ecosystems (geopolitical³⁹, infrastructural⁴⁰, socioeconomic⁴¹, legal⁴², regulatory⁴³, organisational, political⁴⁴, cultural, psychic⁴⁵, etc.); Understand how power manifests and materializes in the collection and use of data in the world (decision-making power⁴⁶, agenda-setting power⁴⁷, ideological power⁴⁸, normalising power⁴⁹); Use this understanding to question power at its sources and to raise critical awareness of its presence and influence.
- **Challenge Power:** mobilize to push back against societally and historically entrenched power structures and to work toward more just and equitable futures⁵⁰.
- **Empower People:** people must be empowered to marshal democratic agency and collective will to pursue social solidarity, political equity, and liberation.



- **Use-equity or the choice to engage.** Data equity is only partially served by seeking to improve data and data practices, such as by pursuing data quality, or increasing its representativeness and accuracy. While errors and incompleteness are obstacles to data equity, the choice to acquire and use data can itself be a question of justice, particularly where the goal or purpose of a data practice is to target and intervene in the lives of historically marginalised populations. Here, the question may not be ‘how can we repair an imperfect system or make it more effective’, but ‘does a particular use or appropriation of data enable or disable oppression?’; and ‘does it preserve or combat harmful relations of power?’ A perfectly engineered system employed by an oppressive regime (either governmental or commercial) can facilitate and potentially amplify oppression.
- **Focus on the transformative potential of data equity** Data equity demands the transformation of historically rooted patterns of domination and entrenched power differentials. To realise this sort of equity, those with power and privilege must be compelled to respond to and accommodate the claims of people and groups who have been marginalised by existing socioeconomic structures⁵¹.

39 Ciuriak 2021; Crampton 2018; Deibert and Pauly 2019; Gray 2021; Lobato 2019; Mialhe 2018; Parks 2009; Pauwels 2019; O'Hara and Hall 2021; Rosenbach and Mansted 2019

40 Abdalla and Abdalla, 2020; Amodei and Hernandez, 2018; Birch 2020; Birch et al 2020; Frank et al. 2019; Gupta et al. 2015; Lohr 2019; Riedl et al. 2020; Roberge et al. 2019

41 Zuboff 2015, 2019; van Dijck et al. 2018; Yong 2015; Srnicek 2017; Sadowski 2019, 2020

42 Cohen 2019

43 Chomanski 2021; Baik 2020

44 Ciuriak and Ptashkina 2020; Eubanks, 2018; Fourcade and Gordon 2020; Tréguer 2019

45 Lupton 2016; Bucher 2017; Agger 2012; Crawford 2014

46 Dahl 1961, 1968, 2007

47 Bachrach and Baratz 1962

48 Sen 1984; Lukes 1974, 2015

49 Foucault 1990/1976, 2003/1976

50 These three dimensions of power draw heavily on D'Ignazio and Klein 2020

51 D'Ignazio and Klein 2020; Kapoor and Whitt 2021; Jagadish, Stoyanovich, and Howe 2021a, 2021b

- Deploy measurement justice and statistical equity to combat any "single-axis thinking that centres on disadvantage"⁵² or discriminatory and racialised politics of data collection and use that focus on negative categorization. Following work in critical indigenous studies, we need to confront and combat statistical representations of marginalised, vulnerable, and historically discriminated against social groups that focus mainly or entirely on measurements of "disparity, deprivation, disadvantage, dysfunction, and difference," the "5 D's"⁵³. *Measurement justice and statistical equity* involve focusing on collecting and using data about marginalised, vulnerable, and historically discriminated against communities in a way that advances social justice, draws on their strengths rather than primarily on perceived weaknesses, and approaches analytics constructively with community-defined goals that are positive and progressive rather than negative, regressive, and punitive. This would necessitate a focus on socially licenced data collection and statistical analysis on individual- and community-advancing, outcomes, strengths-based approaches, and community-guided prospect modelling.



Access

- **Prioritise the material preconditions of data justice and challenge formalist and ideal approaches.** Applied concepts of data equity should not be treated as abstractions that can be engineered into data-intensive technologies through technical retooling or interpolation. This approach will produce a limited range of vision whereby only the patterns of bias and discrimination in underlying data distributions that can be measured, formalized, and statistically digested are treated as actionable indicators of inequity, and this to the exclusion of the subterranean dynamics of sociocultural domination⁵⁴. Rather, the existing sociohistorical, economic, and political patterns and qualities of disadvantage that create material conditions of injustice and a lack of access to the benefits of data processing must be taken as the starting point for reflection on the impacts and prospects of technological interventions. The beginning of any and all attempts to protect the interests of the vulnerable through the mobilization of data innovation should be anchored in reflection on the concrete, bottom-up circumstances of justice, in its historical and material preconditions. From this more pragmatic point of view⁵⁵, there must be a prioritization of the real-world problems at the roots of lived injustice—problems that can then be treated as challenges “remediable”⁵⁶ by concerted social efforts and struggles for rectification, redistribution, and recognition⁵⁷. Only then will true-to-life demands for data equity and social justice be properly re-envisionable with and through the eyes of the oppressed. Only then will such demands become properly visible as struggles against the moral injuries inflicted by unjust social arrangements that obstruct the participatory parity of citizens in pursuing their unique paths to flourishing and in fully contributing to the moral and political life of the community⁵⁸.
- **Start from questions of access and capabilities:** Beyond the critical demand to advance “access to representation,” data justice thinking must focus on *equitably opening access to data through responsible data sharing; equitably advancing access to research and innovation capacity; equitably advancing access to the benefits of data work; and equitably advancing access to capabilities to flourish.*
- Focus on harms of allocation, distributive justice, and equality of opportunity as part of a wider understanding of the preconditions of equitable access that includes the non-ideal/contextual and capabilities approaches to

⁵² Hoffman 2019

⁵³ Taylor and Kukatai 2016

⁵⁴ Fazelpour and Lipton 2020

⁵⁵ Dielman et al. 2017

⁵⁶ Sen 2011

⁵⁷ Fraser 2010; Fraser and Honneth 2003; Honneth 2012

⁵⁸ Leslie 2020

justice and a complimentary responsiveness to harms of representation and recognitional injustices⁵⁹ Social justice concerns that concentrate on the equitable distribution of the burdens and opportunities, harms and benefits, and rights and privileges of data use should simultaneously examine the material preconditions necessary for the actualisation of justice as well as the identity claims of those who have faced representational injury. This trilateral approach should use the normative tools provided by the principles of social justice to assess the equity of existing social institutions while also interrogating the real-world contextual factors that need to change for the universal realisation of the potential for human flourishing and reciprocal moral regard to become possible.

- **Promote the airing and sharing of injustices across communities through the transformative force of data witnessing⁶⁰** Datafication makes possible the greater visibility of everyday social experience. This visibility should be harnessed in positive ways to promote emancipatory transformation by exposing lived injustices, historical abuses, and moral harms. The growth of a networked and connected global society multiplies the transformative power of observation and communication, enabling the far-reaching airing and sharing of previously hidden inequities and mistreatment. The witnessing of injustice both through proximate data work and through the employment of digital media at-a-distance should be marshalled as a force for change and as an opportunity to expand justice by means of transparency and voice.



- **Interrogate, understand, and critique modes of othering:** The construction of data, particularly when it is about people, is a fundamentally social activity. As such, it is shaped by the structural conditions and historical contexts from which it is derived. The social character of data coupled to the sorting and clustering that proceeds from its pre-processing can lead to categorisations that are racialised, misgendered, or otherwise discriminatory, typically employing binaries and categorisations, and constructions that ought to be critically scrutinsed and questioned. Data justice calls for examining, exposing, and critiquing histories of racialisation and discriminatory systems of categorisation reflected in data and the social contexts that produce it.
- **Challenge reification and erasure:** Resist the reification of identities as a convenience of computational sorting and optimisation⁶¹. Contest also the erasure of identities and the risk of intersectional harm from incomplete and mistargeted data and practices.
- **Focus on how struggles for recognition can combat harms of representation** Struggles for the rectification of moral injuries to identity claims that are suffered at the hands of discriminatory data practices should be understood as struggles for recognitional justice—struggles to establish the equal dignity and autonomy, and the equal moral status, of every person through the affirmation of reciprocal moral, political, legal, and cultural regard.

59 Dencik, Jansen and Metcalfe 2018

60 Gray 2019

61 Gandy 2010



Participation

- **Democratize data and data work** Prioritise meaningful and representative stakeholder participation, engagement, and involvement from the earliest stages of the data innovation lifecycle to ensure social licence, public consent, and justified public trust.
- Understand data and data subjects *relationally*⁶² rather than in a way that reifies, hypostatizes, objectifies or commodifies data and data subjects; *govern data democratically*, in turn.
- **Challenge existing, domination-preserving modes of participation:** Engage in critical refusal as participation where extant modes of participation⁶³ normalise or hegemonise harmful data practices and the exploitation of vulnerability.
- **Ensure transformational inclusiveness rather than power-preserving inclusion**⁶⁴ Incorporating the priority of inclusion into sociotechnical processes of data innovation can be counterproductive or even harmful where existing power hierarchies are sustained or left unaddressed. Transformative inclusiveness demands participatory parity so that the terms of engagement, modes of involvement, and communicative relationships between the includers and the included are equitable, symmetrical, egalitarian, and reciprocal.



Knowledge

- **Embrace the pluralism of knowledges (semantic, epistemic, and ontological)**,⁶⁵ recognising that diverse forms of knowledge, and ways of knowing and understanding, can add valuable insights to the aspirations, purposes, and justifications of data use—including on the local or context-specific impacts of data-intensive innovation. Moreover, inclusion of diverse knowledges and ways of being can open unforeseen paths to societal and biospheric benefits and maximise the value and utility of data use across society in ways which take account of the needs, interests, and concerns of all affected communities.
- **Interrogate, understand, and critique the ways in which certain forms of knowledge are prioritised within decision-making relating to data.** Expose the social, cultural and political factors that shape the ways in which claims to knowledge are constructed, recognising the important role these play in presenting or perceiving knowledge as credible or legitimate.
- **Challenge the presumptive authority of technical, professional or “expert” knowledge across scientific and political structures.** Recognise that processes of knowledge creation in science and technology are social processes which require scrutiny and wider public engagement to hold “expertise” to account and to ensure that science and technology progresses in ways which align with wider societal values.
- **Acknowledge multiple forms of knowledge** (emotional, embodied, practical, experiential); pay attention to the importance of civic epistemologies⁶⁶; and promote knowledge equity.
- **Prioritise interdisciplinarity** Approach the pursuit of understanding of data innovation environments—and the sociotechnical processes and practices behind them—through a holistically informed methodological pluralism. This involves placing a wide range of academic disciplines and specialised knowledges

62 Viljoen 2020

63 Ahmed 2012, 2018; Benjamin 2016; Hoffman 2021

64 Hoffman 2020

65 Indigenous Protocol 2020

66 Jasanoff 2007

epistemically on par, enabling an appreciation and integration of a wide range of insights, framings, and understandings. Ways of knowing that cannot (or are not willing to) accommodate a disciplinary plurality of knowledgeable voices that may contribute to richer comprehensions of any given problem cease to be knowledgeable *per se*.

- **Pursue “strong objectivity,”** amplifying the voices of the marginalised, vulnerable, and oppressed as a way to overcome claims of objectivity, impartiality, and neutrality that mask unquestioned privilege⁶⁷.
- **Cultivate intercultural sharing, learning, and wisdom**

Stakeholder involvement, engagement, and consultation

A crucial element of the ADJRP project’s multidimensional broadening of the study and practice of data justice is its ability to access and include in its research a wide range of perspectives—especially those of stakeholders from low- and middle-income countries, indigenous peoples, and marginalised and underserved individuals and communities across the world. To centre the participation and voices of impacted people, a component of public engagement, stakeholder involvement, and community-led co-design is being incorporated into the composition of both the integrated literature review and the preliminary guides. The ADJRP project is taking a three-pronged approach to this:

1. Digital participatory platform for stakeholder engagement. Using *decidim* (an online participatory platform that enables users to construct tailored engagement processes), the ADJRP team has built out a stakeholder engagement interface, which is supporting community involvement in the integrated literature review and the preliminary guides. The platform includes two media of consultation: a data justice survey developed through survey composition research with input from the ADJRP Advisory Board, and a data justice sources page which allows participants to endorse content and to leave comments on the themes we are proposing for the literature review/annotated bibliography.

2. Formation of an Advisory Board to help the ADJRP project to better connect with data justice communities of practice and relevant stakeholders from LMICs. To incorporate the participation and voices of global perspectives on data justice, the ADJRP team assembled an Advisory Board (AB) comprised of members carefully selected from its networks. The ADJRP AB is composed of individuals involved in various data communities of practice connected to human rights, modern slavery, global public health, and sustainable development. It represents diverse perspectives from the Global South(s) and those of communities that experience marginalisation in the Global North.

While ADJRP team is concerned to connect with data justice communities and individual experts, it is aware of the barriers to access that may be presented through constraining membership to individuals with specific titles indicating forms of expertise or epistemic authority, particularly when attempting to engage an international network. Instead, the approach to recruitment drew from standpoint theory in the prioritization of individuals with connections with diverse and contextually specific lived experiences of injustice or marginalization, and those actively engaged in combatting these, in this case, as related to data.

The Advisory Board is providing guidance throughout the research process, with a particular focus on supporting our outreach efforts within a variety of research and practice environments and areas. Supported by their experience and expertise within the contexts of engagement, this approach has enabled the ADJRP team to connect to a wider network of relevant communities of practice, organisations, and impacted stakeholders while ensuring the project’s engagement efforts are culturally aware, dialogically structured, and locally credible.

67 Haraway 1988; Harding 1992, 1995, 2008, 2015; Leslie 2021

Advisory Board members participate in group meetings of an hour and a half every six weeks on average. These meetings are purposed for sharing input shaping key deliverables and engagement activities. In addition to this, board members contribute to project deliverables and provide input based on emerging project needs via email. Here is a list of AB members:

Member	Work	Geographic Affiliation
Daniel Cooper Bermúdez	Project Director, Civilis Derechos Humanos; Founder and Director, Hearts on Venezuela.	Venezuela
Dr. Araba Say	Principal Researcher, Research ICT Africa.	South Africa
Verónica Achá Alvarez	Head of Department, Análisis de la Información Social, División de Información Social, Ministerio de Desarrollo Social y Familia.	Chile
Dr. Mohan Dutta	Dean's Chair Professor of Communication and Director of the Center for Culture-Centered Approach to Research and Evaluation (CARE), Massey University.	New Zealand
Judith Okonkwo	Co-founder of We Will Lead Africa, Fellow of the Royal Society of Arts and an Associate Fellow of the British Psychological Society.	Nigeria
Dr. Annette Braunack-Mayer	Head, School of Health and Society Professorial Fellow, Australian Centre for Health Engagement, Evidence and Values (ACHEEV).	Australia
Emily Gorcenski	Head of Data at Thoughtworks Germany, activist, Co-founder of First Vigil, a public database tracking white nationalist violence in the USA.	USA/ Germany
Os Keyes	Researcher and writer at the University of Washington. An inaugural winner of the Ada Lovelace Fellowship, their work examines questions of gender, disability, race and power in technoscience.	USA
Dr. Nii Narku Quaynor	Pioneer of Internet development and expansion throughout Africa establishing some of Africa's first Internet connections and helping set up key organizations, including the African Network Operators Group. Founding chairman of AfriNIC, the African Internet numbers registry.	Ghana

Salima Bah	State Counsel assigned to Directorate of Science, Technology and Innovation from the Ministry of Justice.	Sierra Leone
Maru Mora Villalpando	Founder of La Resistencia and community organizer for undocumented immigrants in the United States.	Mexico/ USA
Nushin Yazdani	Interaction and transformation designer, artist and AI researcher. Landecker Democracy Fellow, Project Manager at Superrr Labs, co-founder of Dreaming Beyond AI, member dgtl feminism and the Design Justice Network.	Germany
Dr. Thompson Chengeta	European Council Research Fellow on Drone Violence and Artificial Intelligence Ethics.	Zimbabwe
Camila Nobrega	Journalist covering social-environmental conflicts and justice through on Latin American feminist lenses. PhD Candidate at the Free University of Berlin exploring megaprojects, the right to communication, and land rights. Member of Intervozes.	Brazil/ Germany
Yetunde Sanni	Researcher at the University of Lincoln, co-founder of TechInPink, an organization that was dedicated to helping women embrace a career in tech, co-organizer of the Women in Machine Learning and Data Science, (WiMLDS) Lagos, Nigeria.	Nigeria

3. Enabling an ADJRP project expansion through the formation of Global Policy Pilot Partnerships.

As part of a major expansion of the ADJRP project, enabled by a research grant from the UK Government's Department for Business, Energy and Industrial Strategy (BEIS), 12 Policy Pilot Partners (PPPs) have been recruited from across the globe. This expansion will underpin a core element of the project's participatory engagement as partner organisations expand upon the ADJRP team's research to assess how the six pillars of data justice may be applied in local contexts of datafication. The data justice guidelines produced for policymakers, developers and impacted communities will be tested by this set of representative partner organisations. Their situated research, and capacity to connect with the lived experiences of impacted rights-holders, will allow this project to meaningfully explore global understandings of data justice and to identify how initial gaps in the data justice guidelines may be filled in a real-world context.

The goal is for PPPs to evaluate preliminary guidance to further develop its efficacy and impact in organisational, legal, technical, and regulatory contexts. Selected partners will conduct an internal assessment, drawing on expertise from within the organisation to identify gaps and future directions for data justice guidelines. They will

also conduct external stakeholder engagements as they complete one 2-hour workshop with 25 participants and 10 semi-structured interviews. These stakeholder engagements will focus on the perspectives of policymakers, developer communities or individuals and communities impacted by AI/ML. Throughout, partner organisations will be in touch with one another and the ADJRP team as they work to advance data justice while becoming part of a global network of researchers, activists, developers, and policymakers committed to this aim.

To ensure a good spread of organisations across the globe and across relevant stakeholder groups, a multi-staged approach to the identification of prospective partners was adopted. First, the team identified geographic regions to be prioritised. The United Nations geoscheme was used as a basis for this and Africa, Americas, Asia and Oceania were prioritised. This decision was taken to reflect the priority of expanding the data justice lens beyond predominant Anglo-European and US perspectives and thereby to address the need for an engagement of broader global visions in its elaboration. Levels of regional need were then identified using the ITU's Measuring digital development: Facts and Figures 2020 as a guide⁶⁸. For each identified region (Africa, Americas, Asia, Oceania) we sought three partnership organisations, one for each of the three stakeholder groups that are the foci of the global data justice guidance.

Once regional need had been mapped globally, research focused on locating prospective partners. During the second stage of active recruitment, recommendations were taken from members of the Advancing Data Justice Advisory Board whose expertise on data justice within their regions allowed them to identify suitable candidates. Existing networks working to advance human rights in the digital sphere were also examined to identify small organisations working at the intersection of datafication and social justice. The team drew, in particular, on the networks of the Association of Progressive Communications whose aim is “empowering and supporting people working for peace, human rights, development and protection of the environment, through the strategic use of information and communications technologies” and Privacy International who aim “to protect democracy, defend people’s dignity, and demand accountability from institutions who breach public trust”. Fourth, through active research and cascading search, additional organisations were identified on the basis of prior work on datafication and social justice, previous experience with stakeholder engagement, and strong networks among relevant stakeholder groups. Finally, the opportunity to apply to become a data justice partner was publicised, drawing on the widespread reach of the Alan Turing Institute, the ADJRP team and the GPAI Data Governance Working Group, to encourage additional organisations to apply.

By 6th October, over 40 applications from prospective PPPs had been received. These spanned all four geographic regions, as three organisations applied from Oceania, 14 from Africa, 16 from the Americas and six from Asia. Applicants included civil society organisations, grassroots groups, non-profits, think tanks, university research institutions, and advocacy groups working toward the inclusion of marginalised communities in AI. Some

candidates focus on ICT for development while others work specifically on artificial intelligence. Some operate across entire continents while others focus on grassroots projects within specific regions, including organisations focusing on rural communities and inner city locations, or specific communities, such as indigenous groups, LGBTQ+ communities and women.

68 ITU, 2020

Policy Pilot Partner Distribution

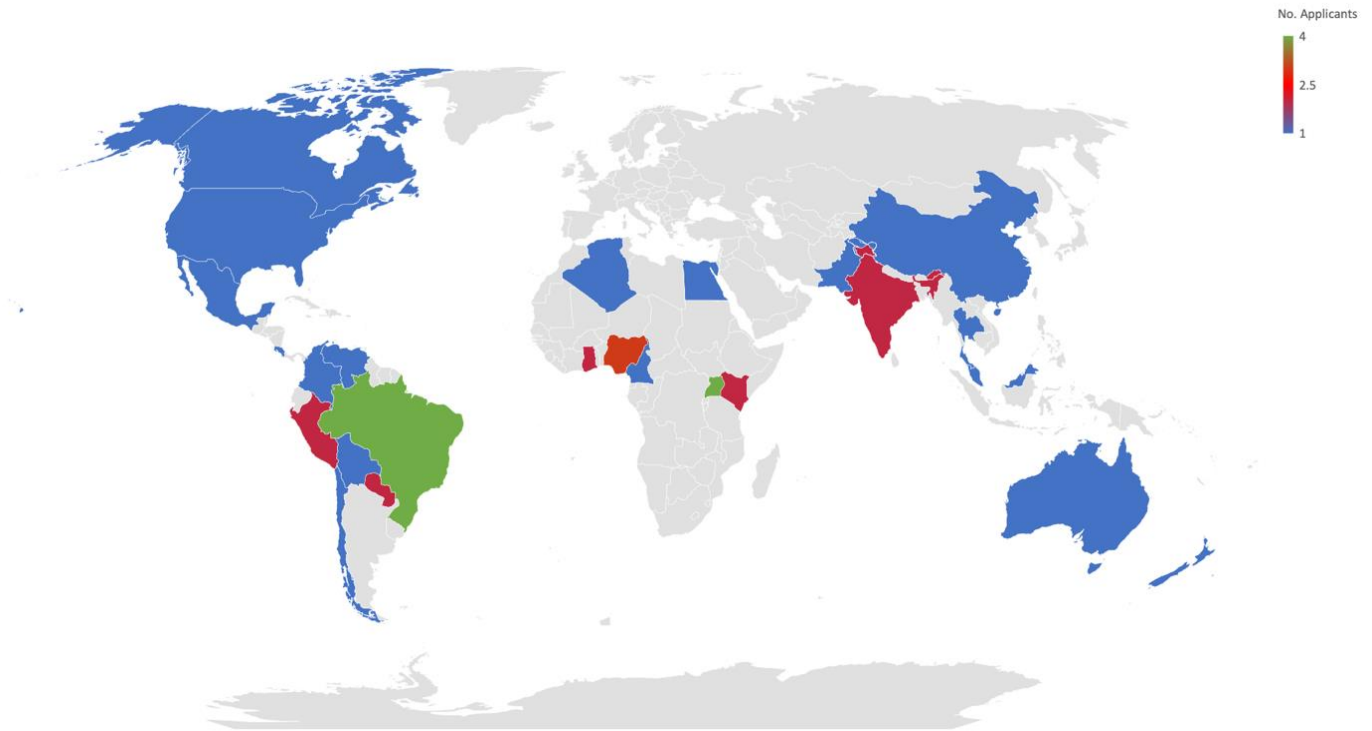


Figure 2: A map illustrating the global spread of applicants who submitted proposals to become PPPs

Several applicant PPPs work across all three stakeholder groups while the remainder focus in depth on one of the groups – policymakers, impacted communities and developers. Think tanks and university research institutions with prior experiences of engagement with ministries and parliamentarians can provide a valuable opportunity to evaluate policymakers’ requirements for data justice guidelines. Civil society organisations and grassroots organisations who work with women, LGBTQ+ groups, indigenous and rural communities and more will be able to establish trust and to connect meaningfully with marginalised individuals and communities. Finally, non-profit organisations who train, empower, and connect developer communities will provide a crucial link to technical communities and facilitate the assessment of their needs when it comes to data justice guidelines.

An evaluation panel consisting of six members of GPAI’s Data Governance Working Group conducted three rounds of evaluation in order to select 12 PPPs from the candidates. Following this review, 12 Policy Pilot Partners have been selected to embark on five months of research. From November to March, across Oceania, Asia, Africa, and the Americas, 12 workshops and 120 semi-structured interviews will be conducted, and 12 internal review reports will be written. These materials will be analysed and combined as the many perspectives they shed light on are used to develop, adjust and advance Data Justice Guidelines.

This research will advance understandings of data justice in a range of contexts and foster understandings of existing systematic, organisational, and participant level barriers to and enablers of the achievability of the guidance. A deeper understanding of the role of law and regulation as a positive or negative determinant for the realisation of data justice will be obtained and progress will be made towards the development of institutional and community-mobilising approaches that could optimise the advancement of data justice for each target audience.

The 12 Policy Pilot Partners span a range of stakeholders to represent policymakers, developers and impacted individuals and communities in each of the regions prioritised during recruitment: Africa, Americas, Asia and Oceania. The expertise they provide is detailed below in order to illustrate the wealth of experience each partner organisation will bring to the Advancing Data Justice: Research and Practice project.

Policy Pilot Partner	Stakeholder Access	Geographic Affiliation
AfroLeadership	Policy makers, Developers, Impacted Individuals and Communities	Cameroon with networks in Western Africa
CIPESA	Policy makers, Developers, Impacted Individuals and Communities	Uganda with networks in Southern Africa
CIPIT	Policy makers, Developers, Impacted Individuals and Communities	Kenya with networks in Northern Africa
WOUGNET	Policy makers, Developers, Impacted Individuals and Communities	Uganda
GobLab UAI	Policy makers, Developers	Chile
Internet Bolivia	Policy makers, Developers, Impacted Individuals and Communities	Bolivia
ITS Rio	Policy makers, Developers, Impacted Individuals and Communities	Brazil
Digital Empowerment Foundation	Policy makers, Developers, Impacted Individuals and Communities	India
Digital Rights Foundation, Pakistan	Policy makers, Developers, Impacted Individuals and Communities	Pakistan
Open Data China	Policy makers, Developers, Impacted Individuals and Communities	China
Digital Natives Academy	Developers, Impacted Individuals and Communities	New Zealand
Engage Media	Policy makers, Developers, Impacted Individuals and Communities	Australia and across Asia-Pacific

Figure 3: Table detailing the global reach of PPPs across each stakeholder group.

Africa

AfroLeadership

Founded in 2009, AfroLeadership is a civil society organisation based in Cameroon. Their aim is to “strengthen human rights, government and democracy by advocating for transparency, accountability and citizen participation in public policies”. Their previous work surrounding data justice includes an ongoing partnership with Good of All. Through this partnership, they work to combat violence, hate speech and disinformation online through education. In their proposal, AfroLeadership emphasised the importance of participatory approaches to data justice which give visibility and representation to minorities. In particular, AfroLeadership drew attention to three factors which contribute to marginalisation, each of which will be reflected in their research as they explore the impact geographical situation in rural communities, gender and literacy can have in exacerbating data injustices.

CIPESA

The Collaboration on International ICT Policy in East and Southern Africa (CIPESA) was founded in 2004 with a mission “to increase the capacity of East and Southern African stakeholders to participate in ICT policy-making.” They work to facilitate dialogue between stakeholder groups, to educate citizens on key issues and to collaborate with businesses, government officials and others with an interest in ICT policy. Prior work on data justice has seen CIPESA partner with the Internet Society to share knowledge and pool expertise on internet policy. They conducted stakeholder engagement throughout the region and aimed to ‘work together for an open, secure and trustworthy internet for Africa.’ In taking the Advancing Data Justice project forwards, CIPESA propose to draw on their experience of multi-country advocacy, network building and data governance in order to incorporate as many voices as possible into the data justice discourse.

CIPIT

The Centre for Intellectual Property and Information Technology Law (CIPIT) is a research institution based at Strathmore University, Kenya and was founded in 2004. Their mission is to “study, create and share knowledge on the development of intellectual property and information technology, especially as they contribute to African Law and Human Rights.” CIPIT’s previous work includes research focused on Kenya’s Identity Ecosystem, specifically three identification systems that are critical to participation in both political and economic life. They have brought to life issues of accessibility, transparency, accountability, and inclusivity, as well as exclusionary practices that contribute to gender inequality. As CIPIT begins to conduct research as part of the Advancing Data Justice project, they plan to continue to explore how the African continent’s unique social and cultural landscape can and must be foregrounded in global dialogues on AI.

WOUGNET

The Women of Uganda Network has worked since 2000 to “promote and support the use of ICTs by women and women’s organizations in Uganda in order to effectively address national and local problems for sustainable development”. WOUGNET has previously launched an initiative which focuses on increasing women’s decision-making power and influence surrounding ICT policies. They engaged relevant stakeholders in conversations using the Feminist Principles on the Internet and the National Awareness Raising workshop on women’s rights and technology. Now, as part of the Advancing Data Justice project, WOUGNET plan to ensure gender rights concerns are integrated with discourse on ICT policy and to empower communities both to use ICTs and demand their digital rights.

Americas

[GobLab UAI](#)

Founded in 2017 and based at the Universidad Adolfo Ibáñez in Chile, GobLab UAI works with “government agencies, civil society organizations and businesses to ensure that data generates public value”. Their previous work has included a project titled “Market Opportunities for Technology Companies: Public Procurement of Accountable, Ethical and Transparent Algorithms”. Through this work they have aimed to help build capacity among technology companies through training programmes aimed to incorporate ethical standards in automated decision-making services provided for the public sector. As part of the Advancing Data Justice project, GobLab has networks in place to engage an extensive range of both policymakers and developers in order to assess and advance Data Justice Guidelines for these groups.

[Internet Bolivia](#)

Internet Bolivia is a “group of citizens committed to strengthening access to a safe, free and democracy-enhancing internet” who have been working to provide public resources since 2018. Their prior work on data justice includes a project undertaken in partnership with the Digital Defenders Partnership and Access Now. This project saw them establish a helpline, SOS Digital, which provided rapid responses to assist actors in situations of vulnerability to digital threats. As part of this Data Justice project, Internet Bolivia have set out extensive connections with each of the three stakeholder groups, including a wide range of impacted communities such as LGBTI people, feminist groups, indigenous peoples, parents’ associations, small farmers and more.

[ITS Rio](#)

The Institute for Technology and Society of Rio de Janeiro was founded in 2013 to study “the impact and future of technology in Brazil and worldwide”. One previous project saw them work to combat disinformation in Latin America through tutorials, blog posts, workshops and more aimed to support organizations and researchers tackling disinformation. Now, as part of the Advancing Data Justice Project, ITS Rio aim to address the lack of substantial participation of “intended Global South recipients” in international projects promoting data-based technologies as solutions for chronic global problems.

Asia

[Digital Empowerment Foundation](#)

Based in India, the Digital Empowerment foundation have worked since 2002 “to empower marginalised communities in information dark regions to access, consume and produce information online using digital interventions and ICT tools.” They previously ran an initiative which helped introduce ICTs to India’s traditional crafts sector where they trained over 10,000 people and introduced nine artisan clusters to digital interventions. In their proposal for the Advancing Data Justice project, the Digital Empowerment Foundation emphasised the networks it has established through its 1000 Community Information Resource Centres located across 24 states and 135 districts in “rural, tribal, marginalised, and unreachd areas” of India.

[Digital Rights Foundation, Pakistan](#)

Digital Rights Foundation were founded in 2013. Their mission states that “DRF envisions a place where all people, and especially women, are able to exercise their right of expression without being threatened. We believe that free internet with access to information and impeccable privacy policies can encourage such a healthy and productive environment that would eventually help not only women, but the world at large”. Their prior work relating datafication to the rights of marginalised communities includes a research project which details the difficulties faced by religious minorities online in Pakistan. This focused, in particular, on the disproportionate

hostility directed towards groups marginalised on the basis of gender, ethnic and religious minorities. Digital Rights Foundation focus in their proposal on broadening debates on AI which have been dominated by the Global North in order to speak to “the intersectional needs of communities in contexts like South Asia and beyond.”

[Open Data China](#)

Open Data China is a “social enterprise based in Shanghai, China, focusing on promoting and building up an open digital future.” They focus on three streams of work: data governance, digital rights and social responsibility and have previously conducted work on bottom-up data trusts and on collective digital rights in the gig economy. The contacts which Open Data China will draw on as part of the Advancing Data Justice project will allow us to access the perspectives of a range of developers across large and small-scale technology providers as well as a range of policymakers, both within public-funded institutions under government supervision and at independent think tanks.

Oceania

[Digital Natives Academy](#)

Digital Natives Academy was founded in 2014 with the aim “to create career pathways for whānau wanting to be part of digital tech industries”. They have described their approach as deeply rooted in indigenous epistemologies and Te Ao Māori pedagogies. Their proposal for the Advancing Data Justice project focuses on the need for trusted relationships to form an effective basis for stakeholder engagement. Their work engaging with Māori communities, conducting interviews privately and with compassion will provide a valuable contribution to this project.

[Engage Media](#)

Based in Australia but working across Southeast Asia and Oceania, “EngageMedia is a non-profit media, technology and culture organisation. EngageMedia uses the power of video, the Internet and open technologies to create social and environmental change.” Currently, they are running a digital rights campaign in Thailand to raise awareness and enhance democratic agency. As part of the Advancing Data Justice project, Engage Media will make important contributions thanks to extensive networks across a wide area spanning the Asia-Specific.

Together, the varied perspectives, locations, and methodological approaches of these 12 organisations will provide the ADJRP project with crucial feedback. Simultaneously, the project itself will aim to help these organisations to connect with one another as part of a global network whose collective power and pooled resources can continue to further the goal of advancing data justice. While the ADJRP team draws on this network to conduct in-depth stakeholder research in the coming months, the remaining applicants will continue to take an active part in the project. Each applicant made such an impression on the Advisory Board, ADJRP team, and Evaluation Panel that additional efforts have been made to ensure the outputs of the ADJRP project give profile to the important work being done across the globe to further data justice. Examples of data justice research conducted by these organisations will therefore be included in the Literature Review while these organisations will provide expert feedback through our online participatory platform, *decidim*.

Bibliography

- Abdalla, M., & Abdalla, M. (2020). The Grey Hoodie Project: Big tobacco, big tech, and the threat on academic integrity. *ArXiv*. <https://arxiv.org/abs/2009.13676>
- Indigenous Protocol and Artificial Intelligence*. (2020). Retrieved 25 October 2021, from [https://spectrum.library.concordia.ca/986506/7/Indigenous Protocol and AI 2020.pdf](https://spectrum.library.concordia.ca/986506/7/Indigenous_Protocol_and_AI_2020.pdf)
- Aggarwal, N. (2020). Introduction to the Special Issue on Intercultural Digital Ethics. *Philosophy & Technology Volume*, 33, 547–550. <https://doi.org/10.1007/s13347-020-00428-1>
- Agger, B. (2012). *Oversharing: Presentations of self in the internet age*. Routledge.
- Ahmed, S. (2012). *On Being Included: Racism and Diversity in Institutional Life*. Duke University Press.
- Akbari, A. (2019). Spatial Data Justice: Mapping and Digitised Strolling against Moral Police in Iran. *Development Informatics Working Paper*, 76. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3460224
- Al Dahdah, M., & Quet, M. (2020). Between Tech and Trade, the Digital Turn in Development Policies. *Development (Society for International Development)*, 1–7. PubMed. <https://doi.org/10.1057/s41301-020-00272-y>
- Ali, S. M. (2017). Decolonizing Information Narratives: Entangled Apocalypics, Algorithmic Racism and the Myths of History. *Proceedings*, 1(3). <https://doi.org/10.3390/IS4SI-2017-03910>
- Amodei, D., & Hernandez, D. (2018). AI and compute [Blog post]. OpenAI. <https://openai.com/blog/ai-and-compute/>
- Amrute, S. (2019). Of Techno-Ethics and Techno-Affects. *Feminist Review*, 123(1), 56–73. <https://doi.org/10.1177/0141778919879744>
- Bachrach, P., & Baratz, M. S. (1962). Two Faces of Power. *American Political Science Review*, 56(4), 947–952. <https://doi.org/10.2307/1952796>
- Baik, J. (Sophia). (2020). Data privacy against innovation or against discrimination?: The case of the California Consumer Privacy Act (CCPA). *Telematics and Informatics*, 52, 101431. <https://doi.org/10.1016/j.tele.2020.101431>
- Benford, R. (2005). The half-life of the environmental justice frame: Innovation, diffusion, and stagnation. *Power, Justice, and the Environment: A Critical Appraisal of the Environmental Justice Movement*, 37–53.
- Benjamin, R. (2016). Informed Refusal: Toward a Justice-based Bioethics. *Science, Technology, & Human Values*, 41(6), 967–990. <https://doi.org/10.1177/0162243916656059>
- Betasamosake Simpson, L. (2021). *As we have always done: Indigenous freedom through radical resistance*. University of Minnesota Press.
- Bezuidenhout, L. M., Leonelli, S., Kelly, A. H., & Rappert, B. (2017). Beyond the digital divide: Towards a situated approach to open data. *Science and Public Policy*, 44(4), 464–475. <https://doi.org/10.1093/scipol/scw036>

- Bhattacharya, L. (2020). Review: Global Digital Cultures: Perspectives from South Asia, edited by Aswin Punathambekar and Sriram Mohan. *Afterimage*, 47(1), 93–97. <https://doi.org/10.1525/aft.2020.471017>
- Birch, K. (2020). Technoscience Rent: Toward a Theory of Rentiership for Technoscientific Capitalism. *Science, Technology, & Human Values*, 45(1), 3–33. <https://doi.org/10.1177/0162243919829567>
- Birch, K., Chiappetta, M., & Artyushina, A. (2020). The problem of innovation in technoscientific capitalism: Data rentiership and the policy implications of turning personal digital data into a private asset. *Policy Studies*, 41(5), 468–487.
- Birch, K., & Cochrane, D. (2021). Big Tech: Four Emerging Forms of Digital Rentiership. *Science as Culture*, 1–15. <https://doi.org/10.1080/09505431.2021.1932794>
- Birhane, A. (2021). Algorithmic injustice: A relational ethics approach. *Patterns*, 2, 100205. <https://doi.org/10.1016/j.patter.2021.100205>
- Bullard, R. (1993). Race and environmental justice in the United States. *Yale Journal of International Law*.
- Carroll, S., Kukutai, T., Walter, M., Figueroa-Rodríguez, O., Walker, J., & Axelsson, P. (2019). Indigenous data sovereignty. In *The State of Open Data. Histories and horizons* (pp. 300–319).
- Castells, M. (2011). A Network Theory of Power. *International Journal of Communication*, 5.
- Chomanski, B. (forthcoming). The Missing Ingredient in the Case for Regulating Big Tech. *Minds and Machines*.
- Chukwudi Eze, E. (2008). *On Reason*. Duke University Press. <https://www.dukeupress.edu/on-reason>
- Cifor, M., Garcia, P., Cowan, T., Rault, J., Sutherland, T., Chan, A., Rode, J., Hoffmann, A. L., Salehi, N., & Nakamura, L. (2019). *Feminist Data Manifest-No*. Feminist Data Manifest-No. <https://www.manifestno.com>
- Cinnamon, J. (2020). Data inequalities and why they matter for development. *Information Technology for Development*, 26(2), 214–233. <https://doi.org/10.1080/02681102.2019.1650244>
- Ciuriak, D. (2021). *The Geopolitics of the Data-Driven Economy* (SSRN Scholarly Paper ID 3770470). Social Science Research Network. <https://doi.org/10.2139/ssrn.3770470>
- Ciuriak, D., & Ptashkina, M. (2021). The data-driven economy and the role of the state. In *Power and Authority in Internet Governance* (pp. 76-94). Routledge.
- Cohen, J. E. (2019). *Between Truth and Power: The Legal Constructions of Informational Capitalism*. Oxford University Press. <https://doi.org/10.1093/oso/9780190246693.001.0001>
- Corradi, G., de Feyter, K., Desmet, E., & Vanhees, K. (2020). *Critical Indigenous Rights Studies*. Routledge.
- Costello, A. (2018, September 22). ALMA-ATA at 40: The Power of Sympathy Groups and Participation. *Health and Human Rights Journal*. <https://www.hhrjournal.org/2018/09/alma-ata-at-40-the-power-of-sympathy-groups-and-participation/>
- Couldry, N., & Mejias, U. A. (2019). Data Colonialism: Rethinking Big Data's Relation to the Contemporary Subject. *Television & New Media*, 20(4), 336–349. <https://doi.org/10.1177/1527476418796632>
- Crampton, J. (2018). Geopolitics and digital geographies. In *Digital geographies*. Sage Publications.
- Crawford, K. (2014). The anxieties of big data. *The New Inquiry*, 30, 2014.

- Dagne, T. W. (2021). *Embracing the Data Revolution for Development: A Data Justice Framework for Farm Data in the Context of African Indigenous Farmers* (SSRN Scholarly Paper ID 3857393). Social Science Research Network. <https://papers.ssrn.com/abstract=3857393>
- Dahl, R.A. (1961). *Who governs?* New Haven: Yale University Press.
- Dahl, R.A. (1968). Power. In Sills, D. L. and Merton, R. K. eds. *International encyclopaedia of the social sciences*. New York: Free Press, 405–415.
- Dahl, R.A. (2007). The concept of power. *Behavioral Science*, 2 (3), 201–215.
- Deibert, R. J., & Pauly, L. W. (2019). Mutual entanglement and complex sovereignty in cyberspace. In *Data Politics*. Routledge.
- Dencik, L., Hintz, A., & Cable, J. (2016). Towards data justice? The ambiguity of anti-surveillance resistance in political activism. *Big Data & Society*, 3(2), 2053951716679678. <https://doi.org/10.1177/2053951716679678>
- Dencik, L., Hintz, A., Redden, J., & Treré, E. (2019). Exploring Data Justice: Conceptions, Applications and Directions. *Information, Communication & Society*, 22(7), 873–881. <https://doi.org/10.1080/1369118X.2019.1606268>
- Dencik, L., Jansen, F., & Metcalfe, P. (2018). *A conceptual framework for approaching social justice in an age of datafication*.
- Dieleman, S., Rondel, D., & Voparil, C. (Eds.). (2017). *Pragmatism and Justice*. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780190459239.001.0001>
- D'Ignazio, C., & Klein, L. F. (2020). *Data Feminism*. MIT Press.
- Dutta, M. (2012). *Voices of Resistance: Communication and Social Change*. *Purdue University Press Books*, 343.
- Dutta, M. (2020). *Communication, Culture and Social Change: Meaning, Co-option and Resistance*. Palgrave Macmillan. <https://doi.org/10.1007/978-3-030-26470-3>
- International Telecommunications Union. (2020). *Measuring digital development: Facts and figures 2020*. <https://www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx>
- Eubanks, V. (2018). *Automating inequality: How high-tech tools profile, police, and punish the poor*. St. Martin's Press.
- Fazelpour, S., & Lipton, Z. C. (2020). Algorithmic Fairness from a Non-ideal Perspective. *ArXiv:2001.09773 [Cs, Stat]*. <http://arxiv.org/abs/2001.09773>
- Foucault, M. (1990/1976). *The History of Sexuality*. Penguin.
- Foucault, M. (2003/1976). *Society Must be Defended: Lectures at the College de France, 1975–1976*. Picador.
- Fourcade, M., & Gordon, J. (2020). Learning like a state: Statecraft in the digital age. *Journal of Law and Political Economy*, 1(1).
- Frank, M. R., Wang, D., Cebrian, M., & Rahwan, I. (2019). The evolution of citation graphs in artificial intelligence research. *Nature Machine Intelligence*, 1(2), 79–85.
- Fraser, N. (2008). *Scales of Justice: Reimagining Political Space in a Globalizing World* (p. 224 Pages). Columbia University Press.

- Fraser, N., & Honneth, A. (2003). *Redistribution or Recognition?: A Political-Philosophical Exchange* (J. G. Wilke James Ingram, and Christiane, Trans.; p. 286). Verso Books.
- Gandy, O. H. (2016). *Coming to Terms with Chance: Engaging Rational Discrimination and Cumulative Disadvantage*. Routledge. <https://doi.org/10.4324/9781315572758>
- Gray, J. (2019). Data witnessing: Attending to injustice with data in Amnesty International's Decoders project. *Information, Communication & Society*, 22(7), 971–991. <https://doi.org/10.1080/1369118X.2019.1573915>
- Gray, J. E. (2021). The geopolitics of 'platforms': The TikTok challenge. *Internet Policy Review*, 10(2). <https://policyreview.info/articles/analysis/geopolitics-platforms-tiktok-challenge>
- Grewal, D. S. (2008). *Network power*. Yale University Press.
- Gunningham, N., Kagan, R. A., & Thornton, D. (2004). Social license and environmental protection: why businesses go beyond compliance. *Law & Social Inquiry*, 29(2), 307-341.
- Gupta, S., Agrawal, A., Gopalakrishnan, K., & Narayanan, P. (2015). Deep learning with limited numerical precision. *Proceedings of the 32nd International Conference on Machine Learning, PMLR*, 37, 1737-1746. <http://proceedings.mlr.press/v37/gupta15.html>
- Hamraie, A., & Fritsch, K. (2019). Crip Technoscience Manifesto. *Catalyst: Feminism, Theory, Technoscience*, 5(1), 1–33. <https://doi.org/10.28968/cftt.v5i1.29607>
- Haraway, D. (1988). Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective. *Feminist Studies*, 14(3), 575–599. <https://doi.org/10.2307/3178066>
- Harding, S. G. (2015). *Objectivity and diversity: Another logic of scientific research*. The University of Chicago Press. <https://press.uchicago.edu/ucp/books/book/chicago/O/bo19804521.html>
- Harding, S. (1992). Rethinking Standpoint Epistemology: What is 'Strong Objectivity?' *The Centennial Review*, 36(3), 437–470.
- Harding, S. (1995). "Strong objectivity": A response to the new objectivity question. *Synthese*, 104(3), 331–349. <https://doi.org/10.1007/BF01064504>
- Harding, S. (2008). *Sciences from Below: Feminisms, Postcolonialities, and Modernities*. Duke University Press. <https://doi.org/10.1215/9780822381181>
- Heeks, R. (2017). Decent Work and the Digital Gig Economy: A Developing Country Perspective on Employment Impacts and Standards in Online Outsourcing, Crowdwork, Etc. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3431033>
- Heeks, R., & Renken, J. (2018). Data justice for development: What would it mean? *Information Development*, 34(1), 90–102. <https://doi.org/10.1177/0266666916678282>
- Heeks, R., & Shekhar, S. (2019a). Datafication, development and marginalised urban communities: An applied data justice framework. *Information, Communication & Society*, 22(7), 992–1011. <https://doi.org/10.1080/1369118X.2019.1599039>
- Heeks, R., & Shekhar, S. (2019b). Datafication, development and marginalised urban communities: An applied data justice framework. *Information, Communication & Society*, 22(7), 992–1011. <https://doi.org/10.1080/1369118X.2019.1599039>

- Hoffmann, A. L. (2019). Where fairness fails: Data, algorithms, and the limits of antidiscrimination discourse. *Information, Communication & Society*, 22(7), 900–915. <https://doi.org/10.1080/1369118X.2019.1573912>
- Hoffmann, A. L. (2020). Terms of inclusion: Data, discourse, violence. *New Media & Society*. <https://doi.org/10.1177/1461444820958725>
- Hoffmann, A. L. (2021). Even When You Are a Solution You Are a Problem: An Uncomfortable Reflection on Feminist Data Ethics. *Global Perspectives*, 2(1). <https://doi.org/10.1525/gp.2021.21335>
- Hokowhitu, B., Moreton-Robinson, A., Tuhiwai-Smith, L., Andersen, C., & Larkin, S. (2020). *Routledge Handbook of Critical Indigenous Studies*. Routledge. <https://doi.org/10.4324/9780429440229>
- Hongladarom, S. (2007). Information Divide, Information Flow and Global Justice. *The International Review of Information Ethics*, 7, 77–81. <https://doi.org/10.29173/irie8>
- Hongladarom, S. (2016). *A Buddhist Theory of Privacy*. Springer Singapore. <https://doi.org/10.1007/978-981-10-0317-2>
- Independent Māori Statutory Board. (n.d.). “Introduction.” <https://www.imsb.maori.nz/about-us/introduction/>
- Jaffe, J. (2017). Knowledge equity is social justice: Engaging a practice theory perspective of knowledge for rural transformation. *Rural Sociology*, 82(3), 391–410.
- Jagadish, H. V., Stoyanovich, J., & Howe, B. (2021a). The many facets of data equity: 2021 Workshops of the EDBT/ICDT Joint Conference, EDBT/ICDT-WS 2021. *CEUR Workshop Proceedings*, 2841. <http://www.scopus.com/inward/record.url?scp=85103513551&partnerID=8YFLogxK>
- Jagadish, H. V., Stoyanovich, J., & Howe, B. (2021b). COVID-19 Brings Data Equity Challenges to the Fore. *Digital Government: Research and Practice*, 2(2), 24:1-24:7. <https://doi.org/10.1145/3440889>
- Jasanoff, S. (2011). *Designs on nature*. Princeton University Press. <https://press.princeton.edu/books/paperback/9780691130422/designs-on-nature>
- Jin, D. Y. (2015). *Digital Platforms, Imperialism and Political Culture*. Routledge. <https://doi.org/10.4324/9781315717128>
- Jing, S., & Doorn, N. (2020). Engineers’ Moral Responsibility: A Confucian Perspective. *Science and Engineering Ethics*, 26(1), 233–253. <https://doi.org/10.1007/s11948-019-00093-4>
- Kalumba, K. M. (2020). A Defense of Kwame Gyekye’s Moderate Communitarianism. *Philosophical Papers*, 49(1), 137–158. <https://doi.org/10.1080/05568641.2019.1684840>
- Kapoor, A., & Whitt, R. S. (2021). Nudging Towards Data Equity: The Role of Stewardship and Fiduciaries in the Digital Economy (SSRN Scholarly Paper ID 3791845). *Social Science Research Network*. <https://doi.org/10.2139/ssrn.3791845>
- Kennedy, L., Sood, A., Chakraborty, D., & Chitta, R. M. (2019). Data Justice through the Prism of Information Politics and Resource Injustice: A Case Study from Hyderabad’s Urban Frontier (SSRN Scholarly Paper ID 3460232). *Social Science Research Network*. <https://doi.org/10.2139/ssrn.3460232>
- Kidd, D. (2019). Extra-activism: Counter-mapping and data justice. *Information, Communication & Society*, 22(7), 954–970. <https://doi.org/10.1080/1369118X.2019.1581243>

- Kothari, A., Salleh, A., Escobar, A., Demaria, F., & Acosta, A. (Eds.). (2019). *Pluriverse: A Post-Development Dictionary*. Tulika Books.
- Leonelli, S. (2013). Why the Current Insistence on Open Access to Scientific Data? Big Data, Knowledge Production, and the Political Economy of Contemporary Biology. *Bulletin of Science, Technology & Society*, 33(1–2), 6–11. <https://doi.org/10.1177/0270467613496768>
- Leslie, D. (2020). Tackling COVID-19 through Responsible AI Innovation: Five Steps in the Right Direction. *Harvard Data Science Review*. <https://doi.org/10.1162/99608f92.4bb9d7a7>
- Leslie, D. (2021). The Arc of the Data Scientific Universe. *Harvard Data Science Review*. <https://doi.org/10.1162/99608f92.938a18d7>
- Lewis, J. E., Arista, N., Baker, K., Benesiinaabandan, S., Brown, M., Cheung, M., Coleman, M., Cordes, A., Davison, J., Duncan, K., Garzon, S., Harrell, D. F., Jones, P.-L., Kealiikanakaoleohailani, K., Kelleher, M., Kite, S., Lagon, O., Leigh, J., Levesque, M., ... Whaanga, H. (2020). Indigenous Protocol and Artificial Intelligence Position Paper. *Concordia University Library*. <https://doi.org/10.11573/SPECTRUM.LIBRARY.CONCORDIA.CA.00986506>
- Lewis, T., Saba, M., Gangadharan, S. P., & Petty, T. (2018). *Digital defence playbook: Community power tools for reclaiming data*. Our Data Bodies.
- Lobato, R. (2019). *Netflix Nations*. NYU Press. <https://nyupress.org/9781479804948/netflix-nations>
- Lukes, S. (1974). *Power: a radical view*. Macmillan.
- Lukes, S. (2015). Robert Dahl on power. *Journal of Political Power*, 8(2), 261–271.
- Lupton, D. (2016). *The quantified self*. Polity.
- Lohr, S. (2019, September 26). At tech's leading edge, worry about a concentration of power. *The New York Times*. <https://www.nytimes.com/2019/09/26/technology/ai-computer-expense.html>
- Longdon, J. (2020). Environmental data justice. *The Lancet. Planetary Health*, 4(11), e510–e511. [https://doi.org/10.1016/S2542-5196\(20\)30254-0](https://doi.org/10.1016/S2542-5196(20)30254-0)
- Menkiti, I. (1984). Person and Community in African Traditional Thought. In *African philosophy: An introduction*. New York: University Press of America.
- Mhlambi, S. (2020). From Rationality to Relationality: Ubuntu as an Ethical and Human Rights Framework for Artificial Intelligence Governance. *Carr Center Discussion Paper Series, 2020–009*.
- Mialhe, N. (2018). The geopolitics of artificial intelligence: The return of empires? *Politique Etrangere, Autumn Issue*(3), 105–117.
- Milan, S., & Trere, E. (2019). Big Data from the South(s): Beyond Data Universalism (SSRN Scholarly Paper ID 3384569). *Social Science Research Network*. <https://doi.org/10.2139/ssrn.3384569>
- Mohamed, S., Png, M.-T., & Isaac, W. (2020). Decolonial AI: Decolonial Theory as Sociotechnical Foresight in Artificial Intelligence. *Philosophy & Technology*, 33(4), 659–684. <https://doi.org/10.1007/s13347-020-00405-8>
- Mulder, F. (2020). Humanitarian data justice: A structural data justice lens on civic technologies in post-earthquake Nepal. *Journal of Contingencies and Crisis Management*, 28(4), 432–445. <https://doi.org/10.1111/1468-5973.12335>

- Neto, V. J. da S. (2019). Platform capitalism. *Revista Brasileira de Inovação*, 18(2), 449–454. <https://doi.org/10.20396/rbi.v18i2.8654960>
- Nixon, R. (2011). *Slow violence and the environmentalism of the poor*. Harvard University Press.
- Ogunbanjo, G., & Knapp van Bogaert, D. (2005). Communitarianism and Communitarian Bioethics. *South African Family Practice*, 47(10), 51–53. <https://doi.org/10.1080/20786204.2005.10873305>
- O'Hara, K., Hall, W., & Cerf, V. (2021). *Four Internets: Data, Geopolitics, and the Governance of Cyberspace*. Oxford University Press. <https://doi.org/10.1093/oso/9780197523681.001.0001>
- Parks, L. (2009). Digging into Google Earth: An analysis of “Crisis in Darfur”. *Geoforum*, 40, 535–545. <https://doi.org/10.1016/j.geoforum.2009.04.004>
- Pauwels, E. (2019). The Neo Geopolitics of Converging Risks: The UN and Prevention in the Era of AI. *United Nations University Centre for Policy Research*, 83.
- Peña Gangadharan, S., & Niklas, J. (2019). Decentering technology in discourse on discrimination. *Information, Communication & Society*, 22(7), 882–899. <https://doi.org/10.1080/1369118X.2019.1593484>
- Prost, A., Colbourn, T., Seward, N., Azad, K., Coomarasamy, A., Copas, A., Houweling, T. A. J., Fottrell, E., Kuddus, A., Lewycka, S., MacArthur, C., Manandhar, D., Morrison, J., Mwansambo, C., Nair, N., Nambiar, B., Osrin, D., Pagel, C., Phiri, T., ... Costello, A. (2013). Women’s groups practising participatory learning and action to improve maternal and newborn health in low-resource settings: A systematic review and meta-analysis. *Lancet*. 381(9879), 1736–1746. [https://doi.org/10.1016/S0140-6736\(13\)60685-6](https://doi.org/10.1016/S0140-6736(13)60685-6)
- Rainie, S.C., Rodríguez-Lonebear, D., & Martinez, A. (2017). Policy brief: Indigenous data sovereignty in the United States. Tucson: Native Nations Institute, University of Arizona. http://nni.arizona.edu/application/files/1715/1579/8037/Policy_Brief_Indigenous_Data_Sovereignty_in_the_United_States.pdf
- Reiter, B. (Ed.). (2018). *Constructing the pluriverse: The geopolitics of knowledge*. Duke University Press.
- Riedl, M. (2020). AI Democratization in the era of GPT-3. *The Gradient*.
- Roberge, J., Morin, K., & Senneville, M. (2019). Deep learning’s governmentality. *AI Critique*. 123-142.
- Rosenbach, E., & Mansted, K. (2019). *The Geopolitics of Information*. Belfer Center for Science and International Affairs. <https://www.belfercenter.org/publication/geopolitics-information>
- Roy, S. S., Mahapatra, R., Rath, S., Bajpai, A., Singh, V., Rath, S., Nair, N., Tripathy, P., Gope, R. K., Sinha, R., Costello, A., Pagel, C., & Prost, A. (2013). Improved neonatal survival after participatory learning and action with women’s groups: A prospective study in rural eastern India. *Bulletin of the World Health Organization*, 91(6), 426-433B. <https://doi.org/10.2471/BLT.12.105171>
- Sadowski, J. (2019). When data is capital: Datafication, accumulation, and extraction. *Big Data & Society*, 6(1). <https://doi.org/10.1177/2053951718820549>
- Sadowski, J. (2020). The Internet of Landlords: Digital Platforms and New Mechanisms of Rentier Capitalism. *Antipode*, 52(2), 562–580. <https://doi.org/10.1111/anti.12595>
- Sen, A. (1984). *Resources, values and development*. Blackwell.
- Sen, A. (2009). *The idea of justice*. Belknap Press of Harvard University Press.

- Shrum, W. (2005). Reagency of the Internet, or, How I Became a Guest for Science. *Social Studies of Science*, 35(5), 723–754. <https://doi.org/10.1177/0306312705052106>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- TallBear, K. (2019). Caretaking Relations, Not American Dreaming. *Kalfou*, 6(1), Article 1. <https://doi.org/10.15367/kf.v6i1.228>
- Tasie, G. O. M. (1974). [Review of the articles African Religions and Philosophy and Concepts of God in Africa by John S. Mbiti]. *The Journal of Modern African Studies*, 12(2), 326–329. <https://doi.org/10.1017/S0022278X00009290>
- Taylor, J., & Kukutai, T. (Eds.). (2016). *Indigenous data sovereignty: Toward an agenda*. Australian National University Press. <https://doi.org/10.22459/CAEPR38.11.2016>
- Taylor, L. (2017). What is data justice? The case for connecting digital rights and freedoms globally. *Big Data & Society*, 4(2). <https://doi.org/10.1177/2053951717736335>
- Taylor, L. (2019). Global data justice. *Communications of the ACM*, 62(6), 22–24. <https://doi.org/10.1145/3325279>
- Te Mana Raraunga*. (n.d.). Te Mana Raraunga. Retrieved 25 October 2021, from <https://www.temanararaunga.maori.nz>
- Thaker, J., Dutta, M., Nair, V., & Rao, V. (2019). Media Portrayal Stigma Among Gender and Sexual Minorities: Meaning, Power, and Resistance. *Communicating for Social Change*. https://doi.org/10.1007/978-981-13-2005-7_18
- Toda, T. (2020). Why wisdom is the most important value in the Great Reset. *World Economic Forum*. <https://www.weforum.org/agenda/2020/10/why-wisdom-is-worth-more-than-money-in-the-great-reset/>
- Torraco, R. J. (2005). Writing Integrative Literature Reviews: Guidelines and Examples. *Human Resource Development Review*, 4(3), 356–367. <https://doi.org/10.1177/1534484305278283>
- Tréguer, F. (2019). Seeing like big tech: Security assemblages, technology, and the future of state bureaucracy. In *Data Politics* (pp. 145-164). Routledge.
- Tripathy, P., Nair, N., Sinha, R., Rath, S., Gope, R. K., Rath, S., Roy, S. S., Bajpai, A., Singh, V., Nath, V., Ali, S., Kundu, A. K., Choudhury, D., Ghosh, S. K., Kumar, S., Mahapatra, R., Costello, A., Fottrell, E., Houweling, T. A. J., & Prost, A. (2016). Effect of participatory women’s groups facilitated by Accredited Social Health Activists on birth outcomes in rural eastern India: A cluster-randomised controlled trial. *The Lancet. Global Health*, 4(2), e119-128. [https://doi.org/10.1016/S2214-109X\(15\)00287-9](https://doi.org/10.1016/S2214-109X(15)00287-9)
- Vallor, S. (2016). *Technology and the Virtues: A Philosophical Guide to a Future Worth Wanting*. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780190498511.001.0001>
- van Dijck, J., Poell, T., & de Waal, M. (2018). *The Platform Society*. Oxford University Press. <https://doi.org/10.1093/oso/9780190889760.001.0001>
- Viera Magalhães, J., & Couldry, N. (2021). Giving by taking away: Big tech, data colonialism and the reconfiguration of social good. *International Journal of Communication*, 15, 343–362. <https://ijoc.org/index.php/ijoc/article/view/15995/3322>

- Viljoen, S. (2020). A Relational Theory of Data Governance (SSRN Scholarly Paper ID 3727562). *Social Science Research Network*. <https://doi.org/10.2139/ssrn.3727562>
- Winskell, K. (2015). Rafael Obregon and Silvio Waisbord (Eds.). The Handbook of Global Health Communication. *Mass Communication and Society*, 18(1), 119–122. <https://doi.org/10.1080/15205436.2014.915327>
- Wiredu, K., & Gyekye, K. (1992). *Person and Community: Ghanaian Philosophical Studies I*. Council for Research in Values & Philosophy.
- Wong, P.-H. (2012). Dao, Harmony and Personhood: Towards a Confucian Ethics of Technology. *Philosophy and Technology*, 25(1), 67–86. <https://doi.org/10.1007/s13347-011-0021-z>
- Yu, E., & Fan, R. (2007). A Confucian View of Personhood and Bioethics. *Journal of Bioethical Inquiry*, 4, 171–179. <https://doi.org/10.1007/s11673-007-9072-3>
- Zuboff, S. (2015). Big other: Surveillance Capitalism and the Prospects of an Information Civilization. *Journal of Information Technology*, 30(1), 75–89. <https://doi.org/10.1057/jit.2015.5>
- Zuboff, S. (2019). *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. Profile Books.