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Can Big Data Revolutionize International Human Rights Law?

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ABSTRACT

International human rights efforts have been overly reliant on reactive tools and focused on treaty compliance, while often under-emphasizing the prevention of human rights violations. I argue that data analytics can play an important role in refocusing the international human rights regime on its original goal of preventing human rights abuses, but it comes at a cost. There are risks in advancing a data-driven approach to human rights, including the privileging of certain rights subject to quantitative measurement and the precipitation of further human rights abuses in the process of preventing other violations. Moreover, the increasing use of big data can ultimately privatize the international human rights regime by transforming the corporation into a primary gatekeeper of rights protection. Such unintended consequences need to be addressed in order to maximize the benefits and minimize the risks of using big data in this field.

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1. Introduction

Recent scholarship in law and history explores the origins and objectives of international human rights law and calls for a reexamination of its goals.[1] Historian Samuel Moyn tracks the emergence of human rights as a neutral utopia that only began to exercise influence as a political agenda in the 1970s.[2] He then calls for a return to the minimalist origins of human rights with an emphasis on catastrophe prevention.[3] Legal scholar Eric Posner similarly rejects the ideological focus of human rights law, which he argues has only minimally improved respect for human rights.[4] He advocates for a pragmatic approach that adopts the empirical lens of development economics.[5] While Moyn and Posner have garnered critique for their unorthodox accounts, their work usefully sheds light on the limitations and possibilities of international human rights law.

International human rights efforts have been overly reliant on reactive tools and focused on treaty compliance, while often underemphasizing the prevention of human rights violations. While the international human rights legal regime was created after World War II in large part to prevent gross human rights abuses, most of the existing institutional mechanisms and procedures are not directly tied to this goal.[6] Efforts are almost exclusively focused on the

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[1] *See* MARY ANN GLENDON, A WORLD MADE NEW (2001); LYNN HUNT, INVENTING HUMAN RIGHTS: A HISTORY (2008); MICHELINE R. ISHAY, THE HISTORY OF HUMAN RIGHTS (2004); DAVID KENNEDY, THE DARK SIDES OF VIRTUE: REASSESSING INTERNATIONAL HUMANITARIANISM (2004); PAUL GORDON LAUREN, THE EVOLUTION OF INTERNATIONAL HUMAN RIGHTS: VISIONS SEEN (3d ed. 2011); JENNY S. MARTINEZ, THE SLAVE TRADE AND THE ORIGINS OF INTERNATIONAL HUMAN RIGHTS LAW (2012); SAMUEL MOYN, THE LAST UTOPIA: HUMAN RIGHTS IN HISTORY (2012); ARYEH NEIER, THE INTERNATIONAL HUMAN RIGHTS MOVEMENT: A HISTORY (2012); ERIC POSNER, THE TWILIGHT OF HUMAN RIGHTS LAW (2014); Philip Alston, *Does the Past Matter? On the Origins of Human Rights*, 126 HARV. L. REV. 2043 (2012); Samuel Moyn, *Substance, Scale, and Salience: The Recent Historiography of Human Rights*, 8 ANN. REV. L. & SOC. SCI. 123 (2012), http://www.annualreviews.org/doi/pdf/10.1146/annurev-law-socsci-102811-173847 [https://perma.cc/G5Q8-X2SW].

[2] MOYN, THE LAST UTOPIA, *supra* note 1, at 213, 219.

[3] *Id.* at 226.

[4] POSNER, *supra* note 1, at 26.

[5] *Id.* at 144–48.

[6] *See* PHILIP ALSTON & RYAN GOODMAN, INTERNATIONAL HUMAN RIGHTS (2012); Bertrand G. Ramcharan, *The United Nations and Human Rights in the Twenty-First Century*, *in* INTERNATIONAL HUMAN RIGHTS MONITORING MECHANISMS 1 (Gudmundur Alfredsson et al. eds., 2001); DINAH L. SHELTON, ADVANCED INTRODUCTION TO INTERNATIONAL HUMAN RIGHTS LAW 295 (2014); Mashood A. Baderin & Manisuli Ssenyonjo, *Development of International Human Rights Law Before and After the UDHR*,

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promotion and protection of human rights through standard-setting and treaty compliance monitoring, activities which themselves have been critiqued for their questionable impact on improving human rights outcomes.[7]   While promotion and protection of rights is clearly linked to prevention, I argue that the latter goal should be the primary focus.[8]

How do we refocus efforts on the ex ante prevention of international human rights abuses? An underexplored tool in furthering the original goals of international human rights law is the use of big data.[9] Big data refers to "datasets whose size is beyond the ability of typical database software tools to capture, store, manage, and analyze."[10] Although the main obstacle to preventing human rights abuses continues to be a lack of political will on the part of states, big data can facilitate action when the political will does exist by closing information gaps.[11] While data analytics has transformed many areas of law and policy such as health care, corporate law, consumer contracts, national security, and immigration law, its application to international human rights law is still in its nascent stages and has not been critically examined.[12] This is the first paper

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in INTERNATIONAL HUMAN RIGHTS LAW: SIX DECADES AFTER THE UDHR AND BEYOND 3 (Mashood A. Baderin & Manisuli Ssenyonjo eds., 2010).

[7]   *See* Oona A. Hathaway, *Do Human Rights Treaties Make a Difference?*, 111 YALE L.J. 1935 (2002); Emilie M. Hafner-Burton & Kiyoteru Tsutsui, *Human Rights in a Globalizing World: The Paradox of Empty Promises*, 110 AM. J. SOC. 1373 (2005); Daniel W. Hill, Jr., *Estimating the Effects of Human Rights Treaties on State Behavior*, 72 J. POL. 1161 (2010); Linda Camp Keith, *The United Nations International Covenant on Civil and Political Rights: Does It Make a Difference in Human Rights Behavior?*, 36 J. PEACE RES. 95, 112 (1999); Eric Neumayer, *Do International Human Rights Treaties Improve Respect for Human Rights?*, 49 J. CONFLICT RESOL. 925, 926 (2005).

[8]   *See* BERTRAND G. RAMCHARAN, PREVENTIVE HUMAN RIGHTS STRATEGIES (2010); THE PREVENTION OF HUMAN RIGHTS VIOLATIONS (Linos-Alexander Sicilianos ed., 2001); Rhona K. M. Smith, *Prevention and Human Rights*, *in* THE SAGE HANDBOOK OF HUMAN RIGHTS, VOL. 2, 857 (Anja Mihr & Mark Gibney eds., 2014).

[9]   Throughout this Article, I use the terms "big data" and "data analytics" interchangeably to refer to new technologies and software tools used to create, aggregate, and analyze large datasets.

[10]   James Manyika et al., *Big Data: The Next Frontier for Innovation, Competition, and Productivity* 1, MCKINSEY GLOBAL INST. (2011), http://www.mckinsey.com/business-functions/business-technology/our-insights/big-data-the-next-frontier-for-innovation [https://perma.cc/8NAK-T2XQ].

[11]   *See* Brian Root, *Numbers Are Only Human: Lessons for Human Rights Practitioners from the Quantitative Numeracy Movement*, *in* THE TRANSFORMATION OF HUMAN RIGHTS FACT-FINDING 355, 359–60 (Philip Alston & Sarah Knuckey eds., 2015).

[12]   *See, e.g.*, IAN AYRES, SUPER CRUNCHERS: WHY THINKING-BY-NUMBERS IS THE NEW WAY TO BE SMART (2007); Michael Abramowicz, *Information Markets, Administrative Decisionmaking, and Predictive Cost-Benefit Analysis*, 71 U. CHI. L. REV. 933

to focus on the implications of using big data to predict and even prevent violations—e.g., the use of crowdsourcing, sensing technologies (e.g., satellite data), data exhaust (e.g., cell phone records, postal data), and online data (social media) to map emerging humanitarian crises, predict possible food shortages, prevent the spread of human trafficking, and recognize patterns of gross human rights violations so as to prevent future catastrophes.[13] While academic literature has largely not discussed the implications of using big data in international human rights law, one notable exception is a recent book chapter that discusses the use of big data in human rights.[14] My article stands apart from this chapter in several ways—(i) it focuses specifically on the potential of big data to focus international human rights law on *prevention*; (ii) it emphasizes the important role that corporations will play in this development; (iii) it analyzes the challenges that are specific to the prevention of human rights violations and issues pertaining to the right to privacy and privatization of the human rights regime; and (iv) it draws from a case study of an innovative project conducted by Amnesty International using big data to predict imminent human rights violations and emerging crises.

I argue that data analytics can play an important role in refocusing the international human rights regime on the prevention of human rights abuses, but it comes at a cost. There are risks in advancing a data-driven approach to human rights, including the privileging of certain rights subject to quantitative measurement, an emphasis on the prevention of macro violations at the expense of

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(2004); Btihaj Ajana, *Augmented Borders: Big Data and the Ethics of Immigration Control*, 13 J. INFO., COMM. & ETHICS IN SOC'Y 58 (2015); Andrew Guthrie Ferguson, *Big Data and Predictive Reasonable Suspicion*, 163 U. PA. L. REV. 327 (2015); Elizabeth E. Joh, *Policing by Numbers: Big Data and the Fourth Amendment*, 89 WASH. L. REV. 35 (2014); Kristin Madison, *Health Regulators as Data Stewards*, 92 N.C. L. REV. 1605 (2014); Pamela Metzger & Andrew Guthrie Ferguson, *Defending Data*, 88 S. CAL. L. REV. 1057 (2015); Frank Pasquale, *Grand Bargains for Big Data: The Emerging Law of Health Information*, 72 MD. L. REV. 682 (2013); Ariel Porat & Lior Jacob Strahilevitz, *Personalizing Default Rules and Disclosure with Big Data*, 112 MICH. L. REV. 1417 (2014); Geoffrey Christopher Rapp, *Intelligence Design: An Analysis of the SEC's New Office of Market Intelligence and Its Goal of Using Big Data to Improve Securities Enforcement*, 82 U. CIN. L. REV. 415 (2013); Tal Z. Zarsky, *Transparent Predictions*, 2013 U. ILL. L. REV. 1503 (2013).

[13] For a detailed discussion of recent big data initiatives in the field of international human rights law, see *infra* Section 3.

[14] *See* Antoine Nouvet & Frédéric Mégret, *Quantitative Methods for Human Rights: From Statistics to "Big Data," in* RESEARCH METHODOLOGIES IN LEGAL HUMAN RIGHTS SCHOLARSHIP (Martin Scheinin ed., forthcoming).

micro violations, and the precipitation of further human rights abuses in the process of preventing other violations. Moreover, the increasing use of big data may ultimately privatize the international human rights regime by transforming the corporation into a primary gatekeeper of rights protection. Such unintended consequences need to be addressed in order to maximize the benefits and minimize the risks of using big data in this field.

This Article proceeds as follows. In Section 2, I review recent scholarship on the origin and purpose of the international human rights legal regime, and argue that we need to refocus international efforts on the ex ante prevention of human rights violations. In Section 3, I analyze the potential of big data to refocus international human rights law on the prevention of abuses and the improvement of development outcomes. In doing so, I review a representative sample of case studies where data analytics have been used to promote international development, prevent human trafficking and slavery, and address human rights risks within global supply chains. I then provide a case study of an innovative project by Amnesty International that uses big data to predict imminent human rights violations and emerging crises. In Section 4, I analyze risks in advancing a data-driven approach to human rights, including the privatization of the international human rights regime as corporations become a primary gatekeeper of rights protection. I also discuss the risks of relying on quantitative data for human rights governance. Finally, in Section 5, I identify the important ethical and social dimensions of big data that would need to be addressed to enhance accountability in human rights protection, protect individual privacy, avoid manipulation, and minimize potential harms to vulnerable populations. I then propose ways in which big data use can be adapted to better serve the international human rights regime.

2. Refocusing International Human Rights Law on Prevention

International human rights law has been a fertile subject of inquiry in recent scholarship.[15] Scholars have focused on the genealogy of the international human rights system, with historians, advocates, and legal academics debating whether its origins date back to

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[15] *See* sources cited in *supra* note 1.

the early nineteenth-century movement to abolish the slave trade, the birth of the United Nations after World War II, or even the late 1970s when international human rights became a political and programmatic agenda.[16] In tracing the history of the movement, scholars have also challenged its success in achieving its mission of improving people's lives and preventing human rights violations.[17] Bolstering this critique is empirical evidence of the ineffectiveness of human rights treaties in changing state behavior.[18] What appears from the literature is that international human rights law is not reaching its full potential by failing to sufficiently focus on a core aspect: prevention of human rights abuses.

Despite debate over the lineage of human rights, most scholars identify the mid-twentieth century as an important era for the development of the contemporary international human rights legal regime.[19] With the adoption of the United Nations (U.N.) Charter in 1945 and the Universal Declaration of Human Rights in 1948,[20] the observance of human rights became a legitimate international concern.[21] According to renowned human rights scholar Louis Henkin, the U.N. Charter "ushered in a new international law of human rights."[22] Following the atrocities committed during the Second World War, the U.N.'s primary goal was to promote international peace and prevent conflict.[23] One of the drafters of the Universal Declaration, René Cassin, reinforced this message in 1968 with the

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[16] *See* MARTINEZ, *supra* note 1; MOYN, THE LAST UTOPIA, *supra* note 1; Alston, *Does the Past Matter? On the Origins of Human Rights*, *supra* note 1. While Moyn acknowledges that the modern legal regime began post–World War II as a neutral utopia, he contends that international human rights only began to exercise influence as a political ideology in the 1970s. *See* MOYN, THE LAST UTOPIA, *supra* note 1.

[17] *See* MOYN, THE LAST UTOPIA, *supra* note 1; POSNER, *supra* note 1.

[18] *See* sources cited in *supra* note 7.

[19] *See* Stefan-Ludwig Hoffmann, *Introduction* to HUMAN RIGHTS IN THE TWENTIETH CENTURY 1 (Stefan-Ludwig Hoffmann ed., 2011); Baderin & Ssenyonjo, *supra* note 6.

[20] *See generally* GLENDON, *supra* note 1; JOHANNES MORSINK, THE UNIVERSAL DECLARATION OF HUMAN RIGHTS: ORIGINS, DRAFTING, AND INTENT (1999).

[21] *See* Louis Henkin, *The United Nations and Human Rights*, 19 INT'L ORG. 504 (1965).

[22] THE INTERNATIONAL BILL OF RIGHTS: THE COVENANT ON CIVIL AND POLITICAL RIGHTS 6 (Louis Henkin ed., 1981).

[23] *See A Short History of Human Rights*, U. MINN. HUM. RTS. RES. CTR., http://www1.umn.edu/humanrts/edumat/hreduseries/hereandnow/Part-1/short-history.htm [https://perma.cc/8UQP-9DH2] (last visited Sept. 14, 2017).

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statement: "There is no task more urgent for the safeguarding of human rights than prevention."[24]

Yet since the mid-twentieth century, the international human rights system has been overlooking its original objective of prevention and has instead been emphasizing the goals of promotion and protection. While these goals are clearly interrelated given the "polycentric nature of the human rights enterprise," a review of the U.N.'s activities reveals a more direct focus on the latter goals.[25] Efforts are primarily focused on standard-setting, monitoring and promoting treaty compliance, and processing complaints.[26] In addition to the Universal Declaration and the two human rights covenants, the U.N. has adopted more than twenty human rights-related treaties on specific abuses and especially vulnerable populations.[27] Questions of treaty compliance dominate international human rights law and have resulted in its progressive legalization, or even an overlegalization.[28] Given the current emphasis on treaties with a history of under-compliance, scholars critique the "rule naiveté" of human rights law and point to empirical evidence that questions the ability of treaties to improve human rights outcomes.[29]

Recent scholars have called for a refocusing of the international human rights system on prevention as well as a more pragmatic, minimalist approach. Citing the work of Henry Steiner, Moyn cautions the human rights movement to distinguish between two missions: human rights as catastrophe prevention and human rights as

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[24] René Cassin made this statement at the award ceremony for his Nobel Peace Prize on November 12, 1968. Linos-Alexander Sicilianos, *The Prevention of Human Rights Violations: Utopia or Challenge?*, in THE PREVENTION OF HUMAN RIGHTS VIOLATIONS, *supra* note 8, at 279.

[25] Alston, *Does the Past Matter? On the Origins of Human Rights*, *supra* note 1, at 2045.

[26] *See* SHELTON, *supra* note 6, at 92.

[27] *See A Short History of Human Rights*, *supra* note 23. The two major human rights treaties are the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights, which have been ratified by over 130 nations.

[28] *See* Laurence R. Helfer, *Overlegalizing Human Rights: International Relations Theory and the Commonwealth Caribbean Backlash Against Human Rights Regimes*, 102 COLUM. L. REV. 1832, 1834, 1854 (2002) (defining overlegalization as the state in which "a treaty's augmented legalization levels require more extensive changes to national laws and practices than was the case when the state first ratified the treaty, generating domestic opposition to compliance or pressure to revise or exit from the treaty").

[29] *See* POSNER, *supra* note 1, at 7 (describing rule naiveté as "the view that the good in every country can be reduced to a set of rules that can then be impartially enforced").

utopian politics.[30] He advocates renouncing utopianism and instead limiting human rights to the goal of "preventing catastrophe through minimalist ethical norms."[31] In a similar vein, Posner rejects the notion of international human rights law as ideology in favor of seeing human rights as a development project.[32] By borrowing tools from development economics and drawing on empirical testing, human rights law can focus on the actual behavior of individuals and governments.[33]

While human rights promotion and protection through compliance monitoring can in theory incentivize states not to infringe on human rights (e.g., by providing "sticks" such as public criticism and other reputational sanctions in the event of non-compliance), the U.N. system should more directly invest in preventative strategies. According to former U.N. High Commissioner for Human Rights Bertrand Ramcharan, "Protection has a preventive dimension, a mitigatory dimension, and a . . . compensatory dimension. Up to now the emphasis has been on mitigation and limited remedies. There has been little work on preventive strategies. That must change. Preventive human rights strategies must become the rallying banner of the future."[34] In fact, current U.N. Secretary-General Ban Ki-moon has pledged to advance a preventative approach to human rights: "Prevention saves billions of dollars and millions of lives. We will take prevention to a deeper level by incorporating human rights and democracy as integral to prevention. Early warning and early action will also be critical in preventing violent conflict."[35] There are a limited number of programs and procedures that

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[30] MOYN, THE LAST UTOPIA, *supra* note 1, at 226. Moyn views human rights as "utopian" because they evoke the image of a better world and they inspire passions by drawing on the image of a place not yet called into being. *See* Susan Marks, *Four Human Rights Myths* 7 (LSE Law, Soc'y and Econ., Working Paper No. 10/2012, 2012), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2150155 [https://perma.cc/NPR4-4AW6]. Moyn further argues that human rights offered the "last utopia," having displaced alternative utopias such as socialism, nationalism, and communism, which had become "bankrupt political utopias." *Id.*

[31] Marks, *supra* note 30, at 8.

[32] *See* POSNER, *supra* note 1, at 144–48.

[33] *Id.*

[34] Bertrand G. Ramcharan, *Contemporary Challenges of Human Rights Protection: A Call for Preventive Strategies*, 37 RUTGERS L.J. 495, 516 (2006).

[35] Ban Ki-moon, United Nations Secretary-General, Securing our Future: Singapore, the Region and Beyond, Fullerton Lecture (Mar. 23, 2012), *in* INT'L INST. FOR STRATEGIC STUD. Events Archive, http://www.iiss.org/en/events/events/archive/2012-4a49/march-a825/fullerton-lecture-ban-ki-moon-051f [https://perma.cc/95G5-2MZ3]. *See also* United Nations Secretary-General, The

are aimed specifically at preventing breaches of human rights.[36] For instance, human rights treaty bodies have developed urgent response procedures to react to situations of concern. In addition, monitoring of state compliance with human rights standards can serve as an early warning system for gross abuses.[37] However, Ramcharan argues that "preventive human rights strategies are few and far between and, even where they exist, their effectiveness is not very high."[38]

That reality may be changing. In late 2013, the United Nations launched the Human Rights up Front (HRuF) initiative to ensure the U.N. system takes early and effective action to prevent or respond to large-scale human rights violations.[39] In order to realize the goals of this new initiative, it is critical for the international community to invest significantly in a proactive preventive approach. New forms of expertise and technologies (e.g., developing systems of data collection and analysis and preparing indicators of potential gross violations) can help refocus international human rights law on the goal of preventing human rights violations.

3. USING BIG DATA FOR THE PREVENTION OF HUMAN RIGHTS ABUSES

An underused but potentially powerful technology for predicting and ultimately preventing human rights abuses is big data.[40] Big data is now playing an important role in the global economy, with corporations commonly using data analytics to forecast customer preferences, identify trends, innovate new business models, boost their productivity, minimize risks, and improve decision making.[41]

Secretary-General's Five-Year Action Agenda 5–6 (Jan. 25, 2012), https://www.un.org/sg/sites/www.un.org.sg/files/at-oms/files/sg_agenda_2012.pdf [https://perma.cc/F5UU-DBSL].

[36] *See* RAMCHARAN, PREVENTIVE HUMAN RIGHTS STRATEGIES, *supra* note 8, at 1–3 (arguing that "[w]hile a few preventive human rights arrangements exist today, the need for more effective preventive arrangements is acutely felt").

[37] *See* Ramcharan, *Contemporary Challenges of Human Rights Protection: A Call for Preventive Strategies*, *supra* note 34, at 503–04; *see also* Smith, *supra* note 8, at 862–64.

[38] RAMCHARAN, PREVENTIVE HUMAN RIGHTS STRATEGIES, *supra* note 8, at 6.

[39] *See* U.N. Secretary-General, *Human Rights Up Front: A Summary for Staff* (2013), http://www.un.org/News/dh/pdf/english/2016/Human-Rights-up-Front.pdf [https://perma.cc/K5D7-MXBU].

[40] *See* Manyika et al., *supra* note 10, and corresponding text.

[41] *See* Manyika et al., *supra* note 10, at 4–5.

While big data is increasingly being used in various areas of law, its application to international human rights law is relatively new.[42] Analytic tools can be used to filter large amounts of data to identify signals of potential threats and thereby predict violations such as mass atrocities. Such data includes "data exhaust (e.g., cell phone records), online activity (e.g., social media), sensing technologies (e.g., satellite data), and crowdsourced information."[43]

The big data initiatives in the field of international human rights have been limited in scope to a particular geographic region and type of human rights violation, and have been driven largely by ad hoc partnerships between private companies, NGOs, and academics.[44] Many initiatives have been conducted as short-term pilots rather than large-scale projects.[45] According to a recent study by the U.N. Foundation, "[t]he current landscape of big data is, overall, less the result of agenda setting by a small group of politically and economically powerful institutions than it is the unplanned aggregate of diverse projects focusing on those aspects of big data analytics that are methodologically and legally tractable."[46] In order to evaluate what big data has to offer to the field of international human rights, I provide below a review of representative projects that promote international development, predict the emergence of social conflicts, and prevent the spread of human trafficking and slavery (particularly within global supply chains). I then provide a more detailed case study of a promising project by Amnesty International to use big data to prevent gross human rights abuses. These projects aim to predict and/or prevent human rights violations, and thereby shift the focus of international human rights law away from its current emphasis on promotion and protection.

Many existing and recent big data projects fall within the area of international development. As early as 2009, the United Nations launched an initiative called Global Pulse, which brings together expertise from within and outside the organization to leverage the

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[42] *See* sources cited in *supra* note 12.

[43] Bapu Vaitla, *The Landscape of Big Data for Development: Key Actors and Major Research Themes*, at ii (May 2014), http://data2x.org/wp-content/uploads/2014/08/Data2X_LandscapeOfBigDataForDevelopment.pdf [https://perma.cc/M8GR-4DH9].

[44] *Id.*

[45] *Id.* at 1.

[46] *Id.* at ii.

benefits of digital data and real-time analytics to address development challenges.[47] The predictive power of big data can potentially facilitate early warning systems and provide real-time awareness of human rights violations, emerging humanitarian crises, and other vulnerabilities.[48]

Global health is an area that has benefitted from recent big data initiatives. For instance, Pulse Lab Kampala is using data analytics to fight disease outbreaks in Uganda.[49] It has developed a tool to analyze data collected centrally by the Ugandan Ministry of Health's Health Management Information System and produce data visualizations that incorporate information on risk factors such as rainfall data, population density, or population mobility. By tracking the increase of infections in different areas of the country in near real-time, the tool can enable faster and more coordinated responses to new outbreaks. Another innovative project, led by Flowminder (a nonprofit based in Sweden), analyzed the movements of individuals through anonymized mobile phone data to predict the spread of cholera in Haiti following the 2010 earthquake.[50] This information enabled relief agencies to mobilize health care resources to vulnerable populations.[51]

Data analytics has also been used to predict and prevent the emergence of social conflicts and human rights abuses. In the wake of the 2007-2008 post-election violence in Kenya, the Nairobi-based nonprofit Ushahidi used crowdsourcing technologies to map reports of conflict, challenge the dominant media narrative, and provide early warning to Kenyans of impending violence.[52] Another

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[47] For more information on Global Pulse, see U.N. GLOBAL PULSE, http://www.unglobalpulse.org [https://perma.cc/GZA7-GL24] (last visited Sept. 18, 2017).

[48] *See* U.N. Global Pulse, *Big Data for Development: Challenges & Opportunities* (May 2012), http://www.unglobalpulse.org/sites/default/files/BigDataforDevelopment-UNGlobalPulseJune2012.pdf [https://perma.cc/6TU9-SZMT].

[49] Felicia Vacarelu, *World Health Day: 5 'Big Data for Public Health' Projects*, U.N. GLOBAL PULSE BLOG (Apr. 6, 2016), http://www.unglobalpulse.org/WHD-5-Big-Data-for-Public-Health-Projects [https://perma.cc/3XES-N9K5].

[50] *Case Study: Haiti Cholera Outbreak 2010*, FLOWMINDER, http://www.flowminder.org/case-studies/haiti-cholera-outbreak-2010 [https://perma.cc/46GN-PU23] (last visited Sept. 14, 2017).

[51] Flowminder has engaged in similar projects since 2010. For one example involving the response to the 2015 earthquake in Nepal, see *Case Study: Nepal Earthquake 2015*, FLOWMINDER, http://www.flowminder.org/case-studies/nepal-earthquake-2015 [https://perma.cc/HK4C-4FZV] (last visited Sept. 14, 2017).

[52] Jessica Heinzelman & Carol Waters, *Crowdsourcing Crisis Information in Disaster-Affected Haiti*, U.S. INST. OF PEACE SPECIAL REPORT 4–5 (Oct. 2010),

noteworthy project is Syria Tracker, which is a crisis-mapping system that has used crowdsourced text, photo and video reports, and data-mining techniques to form a live map of the Syrian conflict since March 2011.[53] Syria Tracker is able to collate data and illustrate trends in violence, which helps relief teams and citizens address human rights abuses and emerging humanitarian crises. It shows where human rights abuses are happening in Syria, including exactly when and where violence such as murders, rapes, and chemical attacks have taken place, as well as instances where food and water supplies have been tampered with. The crisis map also provides the rest of the world with otherwise non-existent, accurate, and up-to-date information.

In addition to international development, big data is emerging as a potentially useful tool to predict and prevent human trafficking and slavery. For instance, the nonprofit Polaris Project has partnered with Palantir Technologies to harness data analytics to identify patterns in human trafficking.[54] By aggregating data on human trafficking calls, Polaris can track where activity is concentrated, identify nodes in different trafficking networks, and ramp up preventive measures in targeted areas. Because human trafficking is a particularly acute issue within complex global supply chains (which frequently include thousands of suppliers that are often difficult to trace and monitor), data analytics can provide a platform to uncover sensitive situations that pose human rights risks.

In 2012, LexisNexis spearheaded a data-driven approach to proactively monitor supply chains for human rights risks.[55] Its Smart-Watch tool scans data for risks (including human rights violations

http://preparecenter.org/sites/default/files/crowdsourcing_crisis_information_in_disaster-affected_haiti.pdf [https://perma.cc/BG46-PKCD].

[53] *See Syria Tracker*, HUMANITARIAN TRACKER, http://www.humanitarian-tracker.org/#!syria-tracker/cj00 [https://perma.cc/FN5P-9RHB] (last visited Oct. 4, 2017).

[54] Wei Wei Liu, *The Polaris Project: Using Data to Fight Human Trafficking*, HARV. BUS. SCHOOL DIGITAL INITIATIVE (Apr. 14, 2015, 1:24 PM), http://www.hbs.edu/openforum/openforum.hbs.org/goto/challenge/understand-digital-transformation-of-business/the-polaris-project-using-data-to-fight-human-trafficking.1.html [https://perma.cc/E4GL-624N]. Palantir has also been working with Google on a similar project called the Global Human Trafficking Hotline Network. *See* Liat Clark, *Google Launches Global Human Trafficking Helpline and Data Network*, ARS TECHNICA (Apr. 10, 2013, 9:33 AM), http://arstechnica.com/tech-policy/2013/04/google-launches-global-human-trafficking-helpline-and-data-network/ [https://perma.cc/E5C7-GBLF].

[55] LexisNexis, *LexisNexis Launches Game-Changing Risk-Monitoring Tool for Supply Management Professionals*, LEXISNEXIS: LITIGATION BLOG (Dec. 4, 2012),

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and human trafficking) "from approximately 26,000 current and ar-
chived news sources, 600 local and global business sources, and
adds approximately 375,000 news articles daily."[56] In addition, the
NGO Verité and software company Palantir Technologies have re-
cently formed a partnership to flag potential indicators of labor traf-
ficking in supply chains.[57] According to the partnership, new soft-
ware will allow companies to access a data platform that "integrates
business supply chain data, public information, and analysis on la-
bor trafficking risks."[58] Thomson Reuters is also launching a similar
software platform to combat slavery in global supply chains. Reu-
ters will not only utilize news reports and other public information,
but also partner with NGOs and agencies to provide on-the-ground,
fully searchable, cross-referenceable, and regularly updated intelli-
gence data.[59] Finally, a slavery database compiled by Made in a Free
World (in partnership with the Ariba Network, an SAP software
company) uses a risk algorithm to identify instances of forced or
child labor on the product level.[60] Its predictive analytics will help
companies identify the probable origin of their goods and the likeli-
hood of human rights risks down to the level of raw material extrac-
tion.

3.1. *Amnesty International — DataKind Project Analyzing Urgent Action Alerts*

An innovative project that demonstrates the potential of using
big data to predict human rights abuses is one conducted recently

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http://www.lexisnexis.com/legalnewsroom/litigation/b/litigation-blog/ar-
chive/2012/12/04/lexisnexis-launches-game-changing-risk-monitoring-tool-for-
supply-management-professionals.aspx?Redirected=true
[https://perma.cc/3WG9-FF93].

[56] Mark Latonero et al., *Technology and Labor Trafficking in a Network Society*
17, U.S.C. ANNENBERG CTR. ON COMM. LEADERSHIP & POL'Y (Feb. 2015), http://com-
municationleadership.usc.edu/files/2015/10/USC_Tech-and-Labor-
Trafficking_Feb2015.pdf [https://perma.cc/EQF7-6P3Q].

[57] *Id.*

[58] *Id.*

[59] David Craig, *A Global Data Platform to Combat Modern Day Slavery*,
THOMSON REUTERS: ANSWERS ON (Nov. 20, 2015), http://blogs.thomsonreu-
ters.com/answerson/global-data-platform-combat-modern-day-slavery/
[https://perma.cc/4MVP-W7HX].

[60] *See* MADE IN A FREE WORLD, http://madeinafreeworld.com
[https://perma.cc/E97S-WXN3] (last visited Sept. 12, 2017).

by Amnesty International. In November 2013, Amnesty partnered with about 30 data scientists from nonprofit DataKind to use mapping and data mining tools to analyze thirty years of human rights data captured by Amnesty's Urgent Action Network.[61] Urgent Action alerts are reports sent to relevant authorities identifying situations in which there is an immediate risk of human rights abuses.[62] Examples include a human rights defender who begins receiving anonymous threats but gets no protection from local authorities; a community being forcibly displaced; or someone arbitrarily detained and facing torture. After identifying the "critical" Urgent Actions that had ultimately escalated, the team of volunteers used data mining techniques to uncover patterns that might predict other high-risk situations.

The team, made up of computer scientists, programmers, physicists, statisticians, anthropologists, academics, and data analysts, sorted through 1.4 million lines and over 11,000 files of data that had been sitting in a static database. Using big data tools, the team created a preliminary predictive model to forecast human rights risks and better respond to potential gross human rights violations. According to Samir Goswami, former managing director of Amnesty International USA's Individuals and Communities at Risk Program, "[d]ata experts can apply available data science to create models that may predict imminent human rights violations and emerging crises."[63]

In addition to detecting potential hot spots around the globe, the project supports individuals and communities at risk by dynamically monitoring situations through a public dashboard; encouraging a larger audience to take action on their case; alerting individuals and communities when analysis shows heightened risk; and providing a comprehensive database of all current and past cases.[64] With more research and development, the predictive model could be deployed throughout the organization to more effectively respond to

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[61] *Predicting and Preventing Human Rights Abuses*, DATAKIND (Nov. 2013), http://www.datakind.org/projects/predicting-and-preventing-human-rights-abuses [https://perma.cc/MLG6-NKLH].

[62] For more information on Amnesty International's Urgent Action alerts, see *Urgent Action Network*, AMNESTY INT'L USA, http://www.amnestyusa.org/our-work/campaigns/individuals-at-risk/urgent-action-network [https://perma.cc/R328-RMF8] (last visited Sept. 12, 2017).

[63] Amnesty International USA DataDive 2013 Summary (on file with author).

[64] Presentation on Amnesty International USA's DataDive Project (2013) (on file with author).

situations before they reach crisis points.[65] Yet, as Goswami admitted in a recent interview, more research needs to be done on how to ethically run this system by preserving the confidentiality and sensitivity of the data and acquiring consent for the use of data mining.[66]

4. Risks in Advancing a Data-Driven Approach

While big data offers great potential to refocus the international human rights regime towards prevention, there are risks in advancing a data-driven approach to human rights. Aside from the resources and expertise necessary to carry out big data projects, a data-driven approach may only be appropriate to prevent particular human rights violations and may itself bring about additional violations of other human rights, such as the right to privacy. Finally, and perhaps most notably, an increased reliance on data analysis can ultimately privatize the international human rights regime by increasing the extent to which the global community relies on corporations, rather than states, for rights protection—thereby transforming the corporation into a primary gatekeeper of rights protection. Advocates should heed such risks when determining whether to mainstream a data-driven approach to human rights.

A first risk is that the use of big data may precipitate further human rights abuses in the process of preventing other violations. The collection and use of certain data may itself constitute a violation of human rights, particularly the rights to privacy and informed consent. Individuals may not have given consent for the collection of certain data or its use in particular contexts.[67] This is particularly the

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[65] *See* Mohana Ravindranath, *Amnesty International USA Considers Using Big Data to Predict Human Rights Violations*, WASH. POST (Nov. 22, 2013). My recent interview with Samir Goswami confirmed that the project did not move forward because of limited resources, a change in leadership, and a shift in priorities at Amnesty. Telephone Interview with Samir Goswami, Former Managing Director, Amnesty International USA's Individuals and Communities at Risk Program (Dec. 13, 2016).

[66] Telephone Interview with Samir Goswami, Former Managing Director, Amnesty International USA's Individuals and Communities at Risk Program (Dec. 13, 2016).

[67] *See* Fred H. Cate & Viktor Mayer-Schönberger, *Notice and Consent in a World of Big Data*, 3 INT'L DATA PRIVACY L. 67, 68 (2013).

case because they may not be truly aware of what data they are shar-
ing, the organizations that have access to the data, and the uses to
which the data will be put.[68]   There may be other circumstances
when individuals have unwittingly given their consent to the collec-
tion and use of web-generated data by simply ticking a box without
realizing it or without reading the fine print.[69]   Furthermore, even
where informed consent is given, it may be difficult or impossible
for individuals to revoke consent at a later date, as there may be no
clear channel through which to revoke consent, or it may be too late
in the sense that the data can no longer be erased or removed.   Re-
lated to these concerns, there is a real risk that violations of privacy
rights will go unnoticed and undetected.   With the ubiquity of tech-
nology and the endless streams of data being produced by individ-
uals in nearly all aspects of everyday life, the risk of data being col-
lected and used improperly without the individual's knowledge
rises exponentially.

Furthermore, there may be difficulties in anonymizing data, as
scientists are increasingly able to "deanonymize" individuals hid-
den in seemingly anonymous data.[70]   There are also concerns that
states may utilize data from the private sector to engage in electronic
surveillance through the guise of protecting human rights.[71]   While
some may argue that such violations are a necessary trade-off in ex-
change for the prevention of gross human rights abuses such as slav-
ery or human trafficking, a balance must be struck.   The principle of
proportionality applies aptly in this context, whereby "the use of
data should be necessary and in proportion to the benefit of its

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[68]   *See* U.N. High Commissioner for Human Rights, *The Right to Privacy in
the Digital Age*, ¶ 18, U.N. Doc. A/HRC/27/37 (June 30, 2014), *available at*
http://www.ohchr.org/EN/HRBodies/HRC/RegularSessions/Session27/Docu
ments/A.HRC.27.37_en.pdf [https://perma.cc/Y22S-WGAW].
[69]   Empirical scholarship on mandated disclosure reveals that consumers
frequently do not read disclosures, or at best skim them.   *See, e.g.*, Ian Ayres & Alan
Schwartz, *The No-Reading Problem in Consumer Contract Law*, 66 STAN. L. REV. 545,
547 (2014).   For instance, one study found that only one or two out of every thou-
sand retail software shoppers actually read end-user license agreements ("the fine
print") online.   *See* Yannis Bakos, Florencia Marotta-Wurgler & David R. Trossen,
Does Anyone Read the Fine Print? Consumer Attention to Standard-Form Contracts, 43
J. LEG. STUD. 1, 1 (2014).
[70]   *See* Paul Ohm, *Broken Promises of Privacy: Responding to the Surprising Fail-
ure of Anonymization*, 57 UCLA L. REV. 1701 (2010).
[71]   *See* U.N. High Commissioner for Human Rights, *supra* note 68, at ¶ 26.

use."[72] The amount and detail of data collected and used should be as minimal as is reasonably necessary to achieve the aim of preventing human rights abuses. It is a "no more, no less" mentality.

Another difficulty in the big data context is the arguably speculative nature of the benefits of data analytics. It cannot be said with complete certainty whether the collection of data and use of data analytics will necessarily prevent any particular human rights risk from materializing, or that such prevention has occurred. The most that can be said is that a trend or signal has been identified that suggests a potential human rights violation may occur in the future, with the likelihood of such occurrence falling within a range of probabilities. Accordingly, when evaluating the benefits of big data vis-à-vis its potential to precipitate an abuse of privacy rights, the proper balance to be struck is far from clear. Beyond this, there also remains the question of *who* ought to determine the proper balance to be struck—a question which does not lend itself to a simple answer. Depending on the decision maker, the importance placed on expanding and privileging data analytics while also protecting privacy rights will vary considerably.

An additional risk of using big data to prevent human rights violations is that this method may privilege certain rights subject to quantitative measurement and fail to incorporate the necessary contextual information for data interpretation. For instance, data-driven human rights projects have focused on the prevention of macro violations (i.e., large-scale human rights abuses affecting many individuals, such as humanitarian crises), perhaps at the expense of micro violations (i.e., individualized human rights abuses occurring on a smaller scale). Big data aggregation will tend to capture those human rights violations that take place on a major scale, affecting a great number of people and occurring over a period of time. This is because these features lend themselves to trend analysis and pattern identification. By contrast, a data-driven approach to international human rights law will not be useful for those areas where there is little (or no) data generated for collection or where there is insufficient opportunity to identify trends over time. For

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[72] U.N. Global Pulse, *Mapping the Risk-Utility Landscape of Mobile Data for Sustainable Development & Humanitarian Action* 1 (2015), http://www.unglobalpulse.org/sites/default/files/UNGP_ProjectSeries_Mobile_Data_Privacy_2015.pdf [https://perma.cc/79DJ-S7YC].

example, sporadic accounts of unconnected instances of discrimination are not amenable to preventing similar abuses in the future through a data-driven approach. Big data may not live up to its promise in these latter contexts. Furthermore, basing policy decisions on partial datasets with unknown biases can be misleading.[73]

Relatedly, a data-driven approach to international human rights law may fall short of its promise simply because it identifies potential abuses too late. Although the focus is on ex ante prevention, data-driven approaches harnessing big data require large streams of data generated over time that collectively point to an emerging rights violation. By the time such data is collected, aggregated, and interpreted, the breach may already have occurred. If there is an absence of signals providing sufficient lead time to anticipate and mitigate the relevant human rights risks, the data-driven approach will prove ineffective.

Finally, a major risk in adopting a data-driven approach to human rights is that it increases the extent to which the global community is reliant on the cooperation of corporations in preventing human rights abuses. Corporations accumulate a wealth of data in their operations that customarily stays in the private domain. This is because these datasets can be a veritable goldmine in the hands of those skilled in data-mining techniques. Corporations that jealously guard the datasets in their possession may thereby derive a competitive advantage over others, and thus there is little incentive to share or release the data into the public sphere. Yet, large companies are "leading the way in data donations, opening new insights into public policy and the development of the emerging field of 'Data for Good.'"[74] Big data projects that rely on such data as cell phone logs, online content, and satellite images would not be possible without the participation of companies who voluntarily share the data for the public good—thus engaging in "data philanthropy."[75]

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[73] Megan Price & Patrick Ball, *Big Data, Selection Bias, and the Statistical Patterns of Mortality in Conflict*, 34 SAIS Rev. of Int'l Aff. 9, 10 (2014).

[74] *How Data Donations Are Transforming Public Policy and Academic Research*, MasterCard Ctr. for Inclusive Growth (May 20, 2015), http://mastercardcenter.org/insights/data-donations-transforming-public-policy-academic-research [https://perma.cc/N3L2-BZQL].

[75] *See* Matt Stempeck, *Sharing Data is a Form of Corporate Philanthropy*, Harv. Bus. Rev. (July 24, 2014), https://hbr.org/2014/07/sharing-data-is-a-form-of-corporate-philanthropy [https://perma.cc/E9A3-7SAA].

Some may argue that companies should take on this role given their substantial economic and political power. According to political theories of corporate social responsibility, corporations have an inherent responsibility to society as "corporate citizens" given their power and position.[76] Yet there is concern over the fact that companies, as private actors, are by definition not accountable to the public in the same way public actors are, nor are they subject to the same regulations as are public actors. In addition, the actions and decisions of corporations may lack the transparency and openness expected of public actors. Unless there are standards that mandate how companies must address the privacy concerns of individuals and limit where their data may be used, there is a risk that corporate interests may dictate who has access to data and how the data is interpreted.

The power imbalance between corporations and data subjects highlights the broader relationship between data analytics and power as well as the risks of relying on quantitative data for human rights governance. The use of big data in the international human rights field is part of an increasing focus on quantification in global governance.[77] This emphasis on statistical data can reify power inequalities, lead to a concentration of decision-making power in the hands of technical experts, and risk distorting or obscuring the phenomena they are meant to take account of.[78] Numbers are political resources that serve as a "technology of distance,"[79] whose authority comes from "their capacity to create and overcome distance, both

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[76] *See* Elisabet Garriga & Domènec Melé, *Corporate Social Responsibility Theories: Mapping the Territory*, 53 J. Bus. Ethics 51, 57 (2004); Dirk Matten & Andrew Crane, *Corporate Citizenship: Toward an Extended Theoretical Conceptualization*, 30 Acad. Mgmt. Rev. 166, 166–67 (2005); Donna J. Wood & Jeanne M. Logsdon, *Business Citizenship: From Individuals to Organizations*, 3 Ruffin Ser. Bus. Ethics 59, 66 (2002).

[77] *See, e.g.*, Kevin E. Davis et al., *Introduction: Global Governance by Indicators*, *in* Governance by Indicators 3, 12 (Kevin E. Davis et al., eds., Oxford U. Press, 2012); Kevin E. Davis et al., *Introduction: The Local-Global Life of Indicators: Law, Power, and Resistance*, *in* The Quiet Power of Indicators 1, 1 (Sally Engle Merry et al. eds., Cambridge U. Press, 2015).

[78] *See* Margaret L. Satterthwaite, *Rights-Based Humanitarian Indicators in Post-Earthquake Haiti*, *in* Governance by Indicators, *supra* note 77, at 365, 391; David Nelken, *Conclusion: Contesting Global Indicators*, *in* The Quiet Power of Indicators, *supra* note 77, at 317, 318–19.

[79] Theodore M. Porter, Trust in Numbers: The Pursuit of Objectivity in Science and Public Life, at ix (1995).

physical and social."[80] They abstract away the individual and the local while also creating a universal language that transcends distance.[81] In this way, objectivity through numbers and statistics becomes a proxy for truth and fairness, and it is privileged over local contextual knowledge. Quantitative measurement creates "a promise of control" through the administration of everyday life—for instance, it reassures citizens "against the uncertainties of poverty, crime, unemployment, and more recently environmental and technological risk."[82] Yet, in reality, statistical data is not neutral but serves as a technology of power that constitutes populations and makes individuals calculable and therefore governable—both by others and themselves. The knowledge produced through big data projects "is always partial and reflects the geographical and social contexts of the people producing those knowledges."[83] In other words, it matters who is deciding what is counted as data (and what is not), how it is interpreted, what measurements and indicators are used, and the purposes to which such data is put.[84] When we lose sight of this, we risk relying on a data-driven approach that exacerbates power imbalances, creates the potential for misinterpretation or manipulation, and fails to protect vulnerable populations.

5. Towards a More Responsible and Ethical Use of Big Data

In order to mitigate the risks associated with a data-driven approach to human rights, we need to begin a conversation on how to more responsibly, ethically, and legally use big data in the international human rights field. The following proposals attempt to enhance accountability in human rights protection, protect individual privacy, avoid manipulation, and minimize potential harms to vulnerable populations. Incentivizing companies to responsibly share

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[80] Wendy Nelson Espeland, *Authority by the Numbers: Porter on Quantification, Discretion, and the Legitimation of Expertise*, 22 Law & Soc. Inquiry 1107, 1107 (1997).

[81] Porter, *supra* note 79, at 77.

[82] Sheila Jasanoff, *Ordering Knowledge, Ordering Society*, *in* States of Knowledge: The Co-Production of Science and the Social Order 13, 33 (Sheila Jasanoff ed., 2004).

[83] Ryan Burns, *Rethinking Big Data in Digital Humanitarianism: Practices, Epistemologies, and Social Relations*, 80 GeoJournal 477, 484–85 (2015).

[84] Sally Engle Merry, The Seductions of Quantification: Measuring Human Rights, Gender Violence, and Sex Trafficking 4–6 (2016).

metadata with human rights advocates will also be critical in order to transition from small-scale, short-term pilot projects to large-scale, long-term projects.

First, more attention needs to be paid to the privacy concerns associated with using big data. There is currently no comprehensive set of regulations or guidelines that aim to protect the right to privacy when using data analytics in the human rights field. The United Nations is beginning to move in this direction, having recently appointed a Special Rapporteur on the right to privacy with a mandate to focus on protecting this right in the digital age.[85] While the Special Rapporteur is concerned primarily with promoting the right to privacy, the U.N. should also consider developing an international instrument that outlines the opt-out conditions that companies need to provide and the privacy standards that companies need to follow when sharing their data for the public good.[86] Such guidelines would ensure that data handlers (e.g., NGOs, aid agencies, academics, and states) do not abuse or re-use the data for unintended purposes and would set a common standard for states to follow when adopting their own domestic guidelines in this area.[87] States,

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[85] *See U.N. Human Rights Council Creates Special Rapporteur on Right to Privacy*, INT'L JUST. RESOURCE CTR. (Apr. 22, 2015), http://www.ijr-center.org/2015/04/22/un-human-rights-council-adopts-resolution-to-create-special-rapporteur-on-the-right-to-privacy [https://perma.cc/T6YH-7CVX] (describing the Human Rights Council's adoption of a privacy-related resolution); *see also* Human Rights Council Res. 28/16, U.N. Doc. A/HRC/28/L.27, at 1–2 (Mar. 24, 2015) http://ap.ohchr.org/documents/dpage_e.aspx?si=A/HRC/28/L.27 [https://perma.cc/A65Y-E42C].

[86] There are several existing efforts to establish responsible data guidelines by intergovernmental organizations, NGOs, and businesses. *See* WAYS TO PRACTISE RESPONSIBLE DEVELOPMENT DATA (2015), https://responsibledata.io/wp-content/uploads/2014/10/responsible-development-data-book.pdf [https://perma.cc/8LVA-XDPN]; Press Release, GSMA Launches Humanitarian Connectivity Charter (Mar. 2, 2015), http://www.gsma.com/newsroom/press-release/gsma-launches-humanitarian-connectivity-charter [https://perma.cc/PX9M-2B43]; *Global Agenda Council on Data-Driven Development 2012-2014*, WORLD ECON. F. (Sept. 29, 2017, 3:17 PM), http://www3.weforum.org/docs/GAC/2013/Connect/WEF_GAC_Data-Driven_Development_2012-2014_Connect.pdf [https://perma.cc/G4ZW-2KEH]; *Resources*, RESPONSIBLE DATA FORUM, https://responsibledata.io/category/resources [https://perma.cc/HU5A-XHUL].

[87] *See* Patrick Meier, *Big (Crisis) Data: Humanitarian Fact-Finding with Advanced Computing*, *in* THE TRANSFORMATION OF HUMAN RIGHTS FACT-FINDING, *supra* note 11, at 479, 495–96; Jay D. Aronson, *Mobile Phones, Social Media and Big Data in Human Rights Fact-Finding: Possibilities, Challenges, and Limitations*, *in* THE TRANSFORMATION OF HUMAN RIGHTS FACT-FINDING, *supra* note 11, at 441, 451–53; Diane Orentlicher, *International Norms in Human Rights Fact-Finding*, *in* THE

for instance, should provide those whose right to privacy has been violated with access to effective remedies in line with international human rights obligations.[88] States should also develop "use limitations," whereby the collection of data for one legitimate aim cannot be used for another.[89] The absence of such restrictions has resulted in the sharing of private-sector metadata between law enforcement agencies, intelligence bodies, and other state organs for purposes beyond those for which it was collected. Therefore, data privacy standards should include not only protection against re-identification, but also protection against unwanted uses of data.[90] Finally, states should harmonize laws on the sharing of metadata with common identifiers across national borders, which would enable the prevention of transnational public health emergencies and other humanitarian crises.[91]

On the part of companies, the U.N. Guiding Principles on Business and Human Rights already outline their responsibility to prevent and address adverse effects on human rights linked to business activity.[92] This responsibility is particularly relevant for companies in the communications and information technology sector that provide metadata or supply the technology and equipment that make digital communications possible. In line with the U.N. Guiding

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TRANSFORMATION OF HUMAN RIGHTS FACT-FINDING, *supra* note 11, at 501, 501; Rob Grace & Claude Bruderlein, *Developing Norms of Professional Practice in the Domain of Monitoring, Reporting, and Fact-Finding*, *in* THE TRANSFORMATION OF HUMAN RIGHTS FACT-FINDING, *supra* note 11, at 525, 525; INT'L COMM. OF THE RED CROSS, PROFESSIONAL STANDARDS FOR PROTECTION WORK 81–83 (2013), https://www.icrc.org/eng/assets/files/other/icrc-002-0999.pdf [https://perma.cc/BKD6-L3Y6].

[88] The international human rights standards that relate to personal data include the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, and the Council of Europe Convention on the Protection of Individuals with regard to Automatic Processing of Personal Data.

[89] *See* U.N. High Commissioner for Human Rights, *supra* note 68, at ¶ 27.

[90] *See* Yves-Alexandre de Montjoye, Jake Kendall & Cameron F. Kerry, *Enabling Humanitarian Use of Mobile Phone Data*, ISSUES IN TECHNOLOGY INNOVATION 3–6 (Nov. 2014), https://www.brookings.edu/wp-content/uploads/2016/06/BrookingsTechMobilePhoneDataWeb.pdf [https://perma.cc/V4RH-G7NY].

[91] *Id.*, at 7–8.

[92] *See, e.g.*, John Ruggie (Special Representative of the Secretary-General on the Issue of Human Rights and Transnational Corporations and Other Business Enterprises), *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*, U.N. Doc. A/HRC/17/31 (Mar. 21, 2011) [hereinafter U.N. Guiding Principles], *available at* https://documents-dds-ny.un.org/doc/UNDOC/GEN/G11/121/90/PDF/G1112190.pdf?OpenElement [https://perma.cc/A7DU-HSPH].

Principles, such companies should conduct human rights due diligence to "assess whether and how their terms of service, or their policies for gathering and sharing customer data, may result in an adverse impact on the human rights of their users."[93] Meaningful consultation with affected stakeholders would ensure transparency to potentially affected individuals and communities about how their data is being gathered, stored, used, and potentially shared with others.[94] Consultation should be conducted with a view to enabling potential data subjects to make informed decisions about the collection and use of data pertaining to them. Furthermore, business enterprises faced with government demands for access to data should comply with international human rights standards, which may mean "seeking clarification from a Government with regard to the scope and legal foundation for the demand" and "communicating transparently with users about risks and compliance with government demands."[95] The same is clearly true with regard to demands for data from aid agencies, NGOs, and academics. Business enterprises should construe all demands for access to data narrowly — oversharing should be discouraged — and corporations should have a clear understanding of the uses to which the information they supply is being put, lest they be complicit in committing human rights abuses arising from the use of the information.

In order to maximize the benefits associated with using big data for the prevention of human rights abuses, we also need to bridge the translation gap between data scientists and human rights experts. The challenge is to foster collaboration between disciplines, particularly between human rights advocates and computer scientists, statisticians, and technical specialists in such fields as health, economics, and education.[96] Aside from acquiring data analysis or statistical expertise themselves, human rights practitioners should at least become data literate and participate in professional conferences in the science and technology fields that address digital privacy and human rights.[97] Correspondingly, data scientists and other technical experts should seek to better understand the ways in

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[93] U.N. High Commissioner for Human Rights, *supra* note 68, at 15.

[94] *Id.*

[95] *Id.*

[96] *See* Vaitla, *supra* note 43, at 2.

[97] An innovative organization that is attempting to link the science and human rights communities is the Science and Human Rights Coalition of the American Association for the Advancement of Science. *See* http://www.aaas.org/program/science-human-rights-coalition [https://perma.cc/W44Y-UJCU].

which international human rights may bear upon data analytics, as well as the broader relationship between big data and human rights. Without mutual understanding and appreciation for each other's domain of expertise, human rights experts and data scientists will only succeed in talking past one another.[98]

Advocates should also ensure that contextual information is incorporated to best interpret the data, which may be fraught with concerns over representativeness due to sampling selection bias.[99] Big data analysis offers insights about correlation, but not causation or objectivity.[100] By using qualitative, participatory methods (e.g., interviews, focus groups, or direct interpretation of the data itself by stakeholders including the community), agencies and NGOs can facilitate a better understanding of the data that takes into account local variation and cultural context.[101] Cultural practices with regard to data vary widely, as "[d]ifferent populations use services in different ways, and have different norms about how they communicate publicly about their lives."[102] Big data sources should thus be triangulated with other data sources including ethnographic information.[103]

Finally, in an effort to broaden the scope of big data projects in the human rights field, we need to incentivize companies to engage in "data philanthropy" whereby corporations will voluntarily share data for the public good (e.g., to prevent human rights abuses), rather than keep the data "locked up" as proprietary information. As the Director of U.N. Global Pulse asserted, "data philanthropy has

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[98] Brian Root of the NGO Human Rights Watch argues that it is crucial for practitioners to develop a firm understanding in quantitative research methods. *See* Root, *supra* note 11, at 356–57.

[99] *See* Price & Ball, *supra* note 73; Patrick Ball, *The Bigness of Big Data*, *in* THE TRANSFORMATION OF HUMAN RIGHTS FACT-FINDING, *supra* note 11, at 425, 436–37.

[100] *See* Mark Latonero & Zachary Gold, *Data, Human Rights and Human Security*, DATA & SOCIETY RESEARCH INSTITUTE 3 (June 22, 2015), http://www.datasociety.net/pubs/dhr/Data-HumanRights-primer2015.pdf [https://perma.cc/2JJ8-ZR97].

[101] *See* Emilie Hafner-Burton & James Ron, *Seeing Double: Human Rights Impact Through Qualitative and Quantitative Eyes*, 61 WORLD POL. 360 (2009); Ball, *The Bigness of Big Data*, *supra* note 99; Sally Jackson, *Monitoring and Evaluation (M&E) for Big Data*, U.N. GLOBAL PULSE BLOG (June 20, 2014), http://www.unglobalpulse.org/using-big-data-MandE [https://perma.cc/KH4T-2ZXG].

[102] U.N. Global Pulse, *Big Data for Development: Challenges & Opportunities*, *supra* note 48, at 40.

[103] *Id.*

to become a private sector priority."[104] Corporate data philanthropy can be facilitated through several possible frameworks—e.g., "[a] data commons where some kinds of data are shared publicly after adequate anonymization and aggregation; and an alerting network where more sensitive data that can never be shared publicly is nevertheless analyzed by companies behind their firewalls for specific smoke signals."[105] Promoting corporate data philanthropy may further require the establishment of strategies and standards that encourage the compatibility of different datasets collected across various platforms.

Yet there are several reasons why companies may be reluctant to share data about their clients and users, as well as their operations. Existing obstacles include "legal or reputational considerations, a need to protect their competitiveness, a culture of secrecy, . . . the absence of the right incentive and information structures[, and] . . . institutional and technical challenges—when data is stored in places and ways that make it difficult to be accessed, transferred, etc."[106] It may also be the case that companies do not fully appreciate the extent to which the data in their possession may be a valuable resource for preventing human rights abuses. That is, companies may not be fully aware of big data's potential to transform lives by uncovering trends and patterns that assist in protecting human rights and generating positive social outcomes. To overcome this obstacle, education can play a key role. Efforts should be directed at helping companies to understand and appreciate the potential for big data to make a difference on the ground in the field of human rights. By focusing efforts on education, we may discover that there is a groundswell of well-meaning companies that are, in principle, open to making efforts to prevent human rights abuses, but that were simply unaware that they had been sitting on a valuable source of information all along.

Beyond the *external* benefits generated by data philanthropy, companies may fail to fully appreciate the *internal* benefits enjoyed

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[104] Robert Kirkpatrick, *A New Type of Philanthropy: Donating Data*, HARV. BUS. REV. (Mar. 21, 2013), https://hbr.org/2013/03/a-new-type-of-philanthropy-don [https://perma.cc/C8KH-LAHY].

[105] Robert Kirkpatrick, *Data Philanthropy: Public & Private Sector Data Sharing for Global Resistance*, U.N. GLOBAL PULSE BLOG (Sept. 16, 2011), http://www.unglobalpulse.org/blog/data-philanthropy-public-private-sector-data-sharing-global-resilience [https://perma.cc/S5TU-G265].

[106] U.N. Global Pulse, *Big Data for Development: Challenges & Opportunities*, *supra* note 48, at 25.

by the company itself. For example, in "The Competitive Advantage of Corporate Philanthropy," Michael Porter and Mark Kramer discuss the concept of "strategic philanthropy"—the idea that philanthropic efforts can be deployed to generate sustainable competitive advantages for the company, not just the public good.[107] Certain types of corporate philanthropy can, the authors argue, lead to better bottom-line results by significantly improving the competitive business environment within which the company operates. Data philanthropy may be precisely the sort of corporate philanthropy that delivers these competitive advantages, as a company that minimizes the risk of human rights abuses occurring in its business environment is arguably better positioned to generate profit than one that does not. To the extent that the prevention of human rights abuses mitigates the risk of external shocks to the company's business operating environment, data philanthropy is in the company's, and the public's, best interests. Additionally, being seen as a leader in data philanthropy may help a company attract and retain high-performing employees who place a premium on their employer's social and CSR policies. This same "corporate halo effect" applies equally to consumer purchasing decisions, which may be shaped by a company's ethical behavior. Finally, engaging in data philanthropy may result in lasting partnerships between the company and NGOs, other corporations, academics, community groups, and others. Such partnerships may deliver real returns to the company in the form of increased expertise, community support, heightened credibility, enhanced creativity, new business models, and other benefits. Again, education can play an integral role in transforming reluctant companies into data philanthropists by making these benefits better understood.

Despite the understandable concerns among companies regarding data philanthropy, companies are increasingly engaging in this activity. Most of the projects discussed in Section 3 would not have been possible but for corporate donations of data. Furthermore, one may argue that corporations have an ethical duty to share data that can prevent human rights abuses. Going one step further, their refusal to share such data may constitute a failure of their responsibility to respect human rights under the U.N. Guiding Principles.[108] Moreover, there is a debate over whether such data belongs to the

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[107] Michael E. Porter & Mark R. Kramer, *The Competitive Advantage of Corporate Philanthropy*, 80 HARV. BUS. REV. 56, 57 (2002); *see also* Stempeck, *supra* note 75.
[108] *See* U.N. Guiding Principles, *supra* note 92.

corporation in the first place, or whether it simply possesses the data while the user owns the data.

We therefore need to cultivate a norm of data philanthropy among companies and design incentives (economic, regulatory, etc.) to encourage this practice. State governments could mandate corporate data philanthropy in certain contexts by requiring corporations to make available data that could prevent gross human rights abuses or humanitarian crises (of course, assuming that privacy standards are complied with). In such circumstances, corporations should take active steps to increase the amount and detail of the data they collect, and to seek ways of making the data they collect more amenable to preventing human rights abuses. Another possibility is for aid agencies such as the World Bank to make data philanthropy a requirement for companies to bid successfully on development contracts. A further incentive may come in the form of grassroots consumer activism that places pressure on corporations to engage in data philanthropy. Such activism may reward companies that are perceived as data philanthropists and may punish those that keep their data "locked up." Yet, in promoting and incentivizing data philanthropy, it is important to protect the privacy of the individual emitters of the data and balance those concerns against the benefits of using the data for the public good. States and international agencies should develop specific criteria for evaluating the benefits and risks to determine how and in which specific circumstances data should be shared, in order to decrease the risks of inappropriate use of the data. For companies, this may mean obtaining prior informed consent from individuals or providing an opt-in or opt-out decision regarding the use of data.[109]

6. CONCLUSION

This Article is intended to explore how data analytics can be used to focus international human rights law on preventing widespread violations. Future research is needed in order to maximize

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[109] *See* Emmanuel Letouzé & Patrick Vinck, *The Politics and Ethics of CDR Analytics*, DATA-POP ALLIANCE WHITE PAPER SERIES 11–12 (Dec. 10, 2014), http://static1.squarespace.com/static/531a2b4be4b009ca7e474c05/t/54b97f82e4b 0ff9569874fe9/1421442946517/WhitePaperCDRsEthicFrameworkDec10- 2014Draft-2.pdf [https://perma.cc/QA7N-GGRT].

the benefits and minimize the risks of adopting a data-driven approach to human rights. For instance, what are the implications for a data-driven approach to human rights in developed countries versus developing countries (e.g., will the proposed approach be more effective in one context than the other)? What are the specific technological and legal issues with respect to data compatibility and accessibility that need to be resolved? What legal remedies can be invoked in the event of a human rights breach in the context of big data collection? What role can international aid agencies play in a data-driven approach? Moving forward, we should focus our efforts on mitigating risks, avoiding misinterpretations, protecting individual privacy, and establishing mechanisms of accountability. Big data should supplement, but not replace, existing tools and approaches to human rights and needs to be analyzed in the context of other data sources such as field-based research. An approach that encompasses both quantitative and qualitative tools is therefore necessary.[110] While data analysis has its limitations and biases, there is certainly tremendous potential to refocus the international human rights regime on its original goal of preventing human rights abuses.

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[110] Nouvet & Mégret, *supra* note 14.