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Structuring Big Data to Facilitate Participation in International Law

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Structuring Big Data to Facilitate Democratic Participation in International Law

Abstract

This is an interdisciplinary article focusing on the interplay between information and communication technology (ICT) and international law (IL). Its purpose is to open up a dialogue between ICT and IL practitioners that focuses on the ways in which ICT can enhance equitable participation in international legal structures, particularly through capturing the possibilities associated with big data. This depends on the ability of individuals to access big data, for it to be structured in a manner that makes it accessible and for the individual to be able to take action based on it.

Introduction

Much has been written in recent years on the potential of so-called “big data” to transform almost every aspect of modern life. One of the most profound possible impacts of big data is that it will eventually enable our everyday decisions and preferences, our movements and relationships to be measured, tracked and recorded to the extent that we can consume, live and work more efficiently without the need to consult costly trial-and-error experiments or overarching explanatory models that help us to make decisions by extrapolating outcomes from limited datasets. The scientific method, that is, the process of proposing a theory and testing it against current or future observances in reality, it has been suggested, is outdated and unnecessary when natural occurrences and human behavior can be understood in real-time without the need for best-guess approximations.¹ It seems beyond argument that, whatever the shortcomings and inaccuracies of big data management,² we will have access to exponentially increasing volumes of more accurate data in the future, and that decisions which were once out of necessity made largely on the basis of expertise and educated guesses will be able to be made on the basis of raw data analysis.³ This will not only impact the way in which natural science experimentation is conducted, but also our own decision-making processes.

Big data is by definition, just that – big. A recent study defined it as:

« datasets whose size is beyond the ability of typical database software tools to capture, store, manage, and analyze. This definition is intentionally subjective and incorporates a moving definition of how big a dataset needs to be in order to be considered big

¹ Chris Anderson, “The End of Theory: The Data Deluge makes the Scientific Method Obsolete”, *Wired Magazine*, 23 June 2008, <http://tinyurl.com/3tg7c9>.

² See e.g. Massimo Pugliucci’s critique of Anderson’s article in “The End of Theory in Science?” *Embo Reports*, 10(6) June 2009, 534 and Mark Graham’s emphasis on the importance of contextualization in “Big Data and the End of Theory?” *Guardian Data Blog*, 9 March 2012, <http://tinyurl.com/oac7gro>.

³ A good example would be tracking the spread of contagious disease in order to take precautionary measures in a timely, but not unnecessarily hasty, manner.

data...[because]...as technology advances over time, the size of datasets that qualify as big data will also increase. »⁴

In this sense, big data is understood to be that which large organizations / corporations can just about process, and thus as a function of competitive business practices. By its very nature, big data can only be usefully exploited by those entities with access to the necessary processing tools to capture and assemble it, i.e. corporations with large IT spend and government departments. Unsurprisingly therefore, the fruits of big data have thus far been harvested by these organizations, be it a large retailer's ability to individualize incentive schemes based on in-store and online shopping behavior⁵ or be it the all-encompassing data surveillance by national security organizations like the United States' National Security Agency.⁶ It is thus not surprising that most of the attention surrounding the issue of big data, including the attention devoted to it on an international level, has focused on privacy and the boundaries of legitimate business usage.⁷

As important and concerning as these issues are, the era of big data has even further-going ramifications for our own decision-making processes, both nationally and internationally. For if the scientific method makes use of rough models which offer a best-guess approach to explaining the natural laws of the universe, our political processes also offer only a rough approximation of a population's given desires. In fact, democratic decision-making processes have thus far proven remarkably inaccurate when it comes to determining the will of the people.⁸ This inaccuracy is compounded on an international level. Just as scientific research has hitherto been filtered through the prism of expert understanding for general consumption, so too has the international decision-making process been filtered through the intermediary channels of representatives and other "experts" who often engage in months, if not years, of ponderous bickering and analysis before reaching any decision.

However, if we are soon to be technologically at a point where we can record the preferences, opinions and likes of every person in a given nation-State or even the world, why should certain individuals be empowered to make policy decisions on behalf of all others? On the basis of this consideration, this paper argues that big data will not only affect negative rights (i.e. the right not to have one's privacy infringed upon), but positive

⁴ James Manyika, Michael Chui, Brad Brown, Jacques Bughin, Richard Dobbs, Charles Roxburgh & Angela Hung Byers, *Big Data: The Next Frontier for Innovation, Competition and Productivity* (McKinsey Global Institute, June 2011).

⁵ Donna Ferguson, "How Supermarkets Get Your Data – And What They Do With It", *Guardian*, 8 June 2013, <http://tinyurl.com/nt88k7p>.

⁶ James Ball, Julian Borger & Glenn Greenwald, "Revealed: How US and UK Spy Agencies Defeat Internet Privacy and Security" *Guardian Weekly*, 6 September 2013, <http://tinyurl.com/m47p5dc>; Glenn Greenwald, "XKeyscore: NSA Tool Collects nearly Everything a User does on the Internet", *Guardian*, 31 July 2013, <http://tinyurl.com/kxn4ca3>.

⁷ e.g. through international treaty provisions, such as Art. 17 of the International Covenant on Civil and Political Rights; the processes of international institutions, such as the United Nations' Guidelines for the Regulation of Computerized Personal Data Files, adopted by the General Assembly on 14 December 1990 through GA Res, 45/95; or the studies of recognized think tanks, eg. David Bollier, *The Promise and Peril of Big Data* (The Aspen Institute, Washington D.C., 2010).

⁸ This point will be discussed in-depth at p. 7 et seq.

rights as well, i.e. the right to participate in national and international decision-making, including the processes of creating international law. Positive participation in national and international decision-making, however, demands three key components: access to information, the accessibility of that information, and the ability to take action based on the information.

Access

Only a very small circle of experts and representatives have traditionally been involved in the formation of international law, i.e. in determining the existence and scope of the obligations of States vis-à-vis one another and/or their own citizens. International law is formed in several ways: through treaty, through custom, through the general principles of domestic law, through the decisions of courts, and through the teachings of the most highly qualified scholars specialized in the area of international law.⁹ The creation of international law is a flexible process and an international lawyer spends a substantial proportion of his or her time carefully examining the negotiations preceding treaties¹⁰ as well as the various statements and practices of States in order to determine the content of international law. Not only is this a time-consuming process, until recently one was obliged to obtain hard copies of all the records one wished to examine. This was, of course, an expensive undertaking. While some international experts made efforts to propagate their findings to the general public, the public had to be satisfied with the topics that such experts chose to research, as they were virtually the only persons with the resources and training which would allow them to access the relevant information on a sustained basis. Sharing this information was thus a slow and arduous process.

In the past 15 years, the process of sharing data has changed dramatically. The sources of international law-making are almost completely available online in digitized form. The decisions of international tribunals, together with the submissions of the parties involved in any given dispute are posted on their respective websites,¹¹ as are the texts of United Nations resolutions with accompanying debate and opinion of the States concerned.¹² Treaties, often accompanied by commentary and even the *travaux préparatoires* are easily accessible to anyone with an internet connection.¹³ Lobbying activity has become relatively

⁹ Art. 38, para. 1, Statute of the International Court of Justice.

¹⁰ Known as the *travaux préparatoires*.

¹¹ E.g. “Cases” International Court of Justice, <http://tinyurl.com/9pxpyc>; “Situations and Cases” International Criminal Court, <http://tinyurl.com/ao7xekx>; “Dispute Settlement”, World Trade Organization, <http://tinyurl.com/3dtvw>.

¹² E.g. “Security Council Resolutions”, United Nations Security Council, <http://www.un.org/en/sc/documents/resolutions/>; “Meeting Records” United Nations Security Council, <http://www.un.org/en/sc/meetings/>; “General Assembly Resolutions” United Nations General Assembly, <http://www.un.org/documents/resga.htm>

¹³ E.g. the Geneva Conventions and their Protocols with Commentary, available from the International Committee of the Red Cross, <http://tinyurl.com/3ucrtun>; the various negotiations and draft conclusions related to the United Nations Framework Convention on Climate Change, <http://tinyurl.com/ndawvgr>; the WTO “Legal Texts”, <http://tinyurl.com/osw7ukb>; or the commentary on the work of the International Law Commission in formulating the Draft Articles on State Responsibility, <http://tinyurl.com/ncv5sot>. It is estimated that as of 2013 nearly 3 billion people have internet access, with over 1.5 billion unique mobile

easy to trace¹⁴ and one can even observe the process of international law-making as it occurs.¹⁵

However, most of this information is made available in unstructured form and can be difficult to comprehend in a timely fashion. A World Trade Organization (WTO) dispute settlement may ultimately be composed of three to four decisions, each of which may be several hundred pages in length; treaties may consist of hundreds of separate provisions; United Nations resolutions frequently reference earlier resolutions that reference earlier resolutions that reference earlier resolutions, and all of these documents will utilize vocabulary which has an accepted legal meaning, often based on past decisions or practices and known only to the expert.

Thus, although raw data is available in unprecedented quantities, only those possessing many years of training can proficiently search for and collate such information. The circle of people possessing such skills is small and their abilities to communicate their findings to a larger audience restricted. As a result, the primary problem facing more equitable international legal developments is not access to information, but an information gap between those who possess the necessary training to be able to structure this information for themselves and those who do not.

From Access to Accessibility

For this reason, it is necessary to draw a distinction between the two concepts of access and accessibility. This paper defines “access” as the raw availability of information. A door has been opened, in that this information has been placed where it can be viewed by anyone, but only certain people possess the ability to walk through that door, by virtue of having experienced an education which gives them the necessary tools to do so. Others are prevented. Therefore, we need to deal with data access in much the same way as we might approach accessibility for those with physical challenges. We do not simply accept that a paraplegic may not pass through a door and benefit from the knowledge and life experience that lies on the other side; we build him a wheelchair and a ramp. We enable him to access what lies beyond that doorway at a time of his own choosing without dependence on others – hence access-ability (accessibility). Accessibility thus describes the real ability to access rather than the mere theoretical possibility thereof.

broadband users. Significantly, this trend is not restricted to the wealthiest nations – in absolute terms, there are more broadband subscriptions in the developing world than the developed world (“The State of Broadband 2013: Universalizing Broadband” (UNESCO Broadband Commission for Digital Development, Geneva, September 2013), 14 et seq).

¹⁴ See, for example, the agenda and issues pursued by the European Roundtable of Industrialists (<http://www.ert.eu/>) or the lists of NGOs active at the WTO, “For NGOs”, WTO, http://www.wto.org/english/forums_e/ngo_e/ngo_e.htm

¹⁵ For example, by following the lengthy debates at the UN or WTO, the key elements of which are widely publicized on television, in newspapers and on the internet. The debate over the past two years on whether and under which conditions a humanitarian intervention should be authorized in Syria is a prime example of the processes of international law-making at work.

While uploading relevant documents onto the internet has dramatically loosened the bottleneck of information regarding the international law-making process, it is only the beginning of the possibilities IT presents us. The true test will be in transforming access into accessibility, and this transformation is already underway, with several transparency organizations focusing not just on digitizing information, but also on structuring it.

Plus D

The Wikileaks Organisation (WLO) stands out as a prime example of an entity that has made this transition. Originally set up with the mission to release classified or publicly unavailable documents (access), recently the WLO has also shown understanding that information must be sufficiently structured to allow the non-expert to make sense of the information presented (accessibility). As a result, the WLO has produced the Public Library of US Diplomacy (PlusD). For this project, two data sources, one public (US diplomatic cables from the 1970s known as the “Kissinger Files”) and one classified (US diplomatic cables, mainly dating from the past 15 years, known as the “Cablegate Files”) were used to compile an online database. The scope of this project is not to be underestimated as it involved extracting searchable information from barely digitized (i.e. simple PDF scans) files from the 1970s and creating a system of searchability and cross-referenceability.¹⁶

The Cablegate and the Kissinger files are relevant to international law because they can serve as a resource detailing the formation of international law. They provide an insight into the policy goals pursued by States and the interpretation of State officials on what the content of international law is, i.e. has a State taken a given action because it believes that that action is in conformity with international law or has it taken that action despite a perceived non-conformity with international law?

In addition to enabling the user to search scanned documents, the PlusD project also resolved spelling inconsistencies (which could inhibit searchability), created an extensive list of frequently used tags, acronyms and names,¹⁷ and included a reference section at the bottom of each document which hyperlinks references in the present document to other documents and references in other documents to the present document.¹⁸ In doing so, the PlusD and Cablegate database provides both access (as it is available freely online) and a step towards accessibility, in that it provides a rough functional manual on the information provided. While a certain level of training is still needed to proficiently search and fully understand the document content, the level of expertise and training needed has been lowered by incorporating basic structure and explanatory information into the data arrangement.

¹⁶ A detailed description of the methodologies used to create the database is available at “Public Library of US Diplomacy” Wikileaks Organisation, <https://www.wikileaks.org/plusd/about/>.

¹⁷ “Public Library of US Diplomacy”, Wikileaks Organisation, <http://wikileaks.org/plusd/about-ta/>.

¹⁸ See eg. the example of Cable “WW Mr. and Mrs Thomas Jennings” 1976DUBLIN01707_b , available at Wikileaks Organisation, <http://tinyurl.com/of4x5eq>.

Abgeordnetenwatch and The Sunlight Foundation

Because international law is formed through an interactive process with national governments and legislatures,¹⁹ the decisions of national governments and parliaments are also of interest for the formation of international law. Two projects are representative of the opportunities big data could eventually bring in this regard – Abgeordnetenwatch and the work of the SunLight Foundation.

The German Abgeordnetenwatch²⁰ project analyses the voting behavior of elected parliamentarians on state and national level and allows the voting records of representatives to be reviewed. The site also allows individuals to submit questions to their representatives. So far, parliamentarians have answered over 12 000 questions, with 93% of all parliamentarians in the German Bundestag having answered at least one question.²¹

A similar project is run by the Sunlight Foundation in the United States. The Sunlight Foundation is probably best known for its Congress API which makes information on the US Congress available for further analysis and which features an enormous breadth of data (including, inter alia, near real-time voting updates, full biographical data on congress members, committee memberships, floor updates and a full-text bill search). The Sunlight Foundation also provides a host of tools which can make votes taken in Congress more understandable to the public, including Influence Explorer, which tracks political donations, and the House Expenditure Database which gives insight into expense spending by parliamentarians.²²

Significance

These examples demonstrate that while information released by public or corporate organizations is still very much tailored for the specialist (providing access but not accessibility), some civil-society organizations have begun to provide context to the individual user that has traditionally been reserved to the expert researcher.

While not all of these projects represent the accessibility of big data in the sense of the shifting definition presented at the beginning of this paper, they do show how processes could be expanded to make magnitudes of data that currently qualify as big data more accessible to the public. This trend is already underway and its continuation seems assured for the foreseeable future. Thus, in the near future, larger numbers of citizens will be able to understand the current state and history of international law as well as institutional distributions of power. Therefore, sooner or later we will need to ask ourselves whether big data should not only enable us to receive information but also to “push out” our own information. It is part and parcel of big data that not only does it contribute to a raised level of awareness of global issues, it also allows data to be collected from millions, if not

¹⁹ Governments and parliaments not only commit themselves to international legal obligations by signing and ratifying treaties, they also contribute to the formation of customary international law through their practices and opinions.

²⁰ “Abgeordnetenwatch” means “Parliamentarian Watch”.

²¹ “Mehr ueber uns” Abgeordnetenwatch, <http://tinyurl.com/nwg9wsc>.

²² These and other tools can be found at “Tools and Projects”, The Sunlight Foundation, <http://sunlightfoundation.com/tools/>

billions, of source points. Thus, the question inevitably emerges: why engage in the wearisome process of selecting and sending representatives to engage in international law-making when citizens could simply be asked to directly make binding decisions regarding issues upon which they are fully informed?

Action

It is necessary to pose this question, because even complete information access and accessibility matters very little if the individual's only role in the decision-making and international law formation is to cast a vote every few years for someone who may or not act as the voter would like them to, especially when engaging on the distant international plane. This is an extremely important point, because just as in the absence of empirical data, we must hypothesize and create rough approximations of the natural workings of the world, in decision-making processes, representatives can, in the best-case scenario, only guess at the concrete policies their citizens desire.

Skewed Representation

National governments play the single greatest role in formulating international law, but these governments are not always truly representative of their citizens. From time to time governments are, in fact, the product of what is known as a “manufactured majority”. The term “manufactured majority” is used here to refer to one of two situations: either the governing party received only the relative majority of votes in an election, but an absolute majority of seats, or managed to win at least the relative majority of seats while another party won the popular vote.²³

The classic example of a manufactured majority clearly affecting international law-making is the formation of the Free Trade Agreement between the governments of Canada and the USA²⁴ following the 1988 Canadian federal election. In this election, the Progressive Conservative Party obtained 43% of the popular vote while their closest rivals, the Liberal Party, obtained 31.9% of the vote and the New Democratic Party (NDP) 20.4% of the vote. The Progressive Conservatives, however, took 57% of all available seats in the House of Commons, a comfortable majority that easily allowed them to exercise complete executive authority without relying on the support of either the Liberals or the NDP, who between them had received 55.3% of the popular vote, but only 42% of the available seats. The Progressive Conservative government subsequently signed and ratified the Free Trade Agreement with the USA, despite the fact that the Agreement was a major election issue,

²³ While the following examples are taken from first-past-the-post systems, manufactured majorities are possible in all electoral systems, including the single transferable vote system which produces manufactured majorities between 20-33% of the time (David Farrell & Ian McAllister, “Through a Glass Darkly: Understanding the World of STV” in Bowler and Grofman, eds., *Elections in Australia, Ireland and Malta under the Single Transferable Vote: Reflections on an Embedded Institution* (University of Michigan, 2000) at 35; Arend Lijphart, *Electoral Systems and Party Systems: A Study of Twenty-Seven Democracies, 1945-1990* (Oxford University Press, 1994), at 160 et seq; Douglas Rae cited in Arend Lijphart, *Patterns of Democracy: Government Forms and Performance in Thirty-Six Countries* (Yale University Press, 1999), at 165.).

²⁴ The Free Trade Agreement was the precursor to the North American Free Trade Agreement which also includes Mexico.

the other two major parties opposed the Agreement, and the Progressive Conservatives had received considerably less than 50% of the popular vote.²⁵

Due to this skewing of the vote, the governing party sometimes does not even receive the relative majority of votes and a nation is in fact governed by a party which, according to the popular vote, should have formed the opposition. Examples include: the 1896 and 1957 Canadian federal elections,²⁶ the 1951 and February 1974 British elections,²⁷ the 1978 and 1981 New Zealand elections,²⁸ and the 2000 US Presidential election.²⁹

These inaccuracies in representation become even more skewed on an international level, even at those international institutions where voting nominally occurs on the basis of equality between States (the WTO and the UN General Assembly).

Even supposing that each member of an international organisation were a representative democracy and that each government or major coalition partner achieved a generous 48% of the popular vote, that this figure was more than any other single party had achieved, and that each measure they propose to take at international institutions enjoys the same level of backing from the populace, we not only end up with a situation in which the representatives at the IGOs even nominally fail to represent the majority of the world's citizens, their every decision exacerbates this discrepancy. If an absolute majority of representatives' votes is required to carry a resolution, it is (in the worst possible scenario using the figures above) possible to pass a motion with the assent of those representing approximately 24% of the world's population. A decision passed by consensus or a qualified majority gives a better voter-representative ratio, but delivers disastrous results for all decisions blocked by representatives of tiny fractions of the world's population.³⁰

Even this scenario is unrealistically optimistic as it does not take into account the facts that severe inequalities in population distribution mean that voting on a one-State, one-vote basis discriminates in favour of more sparsely populated States, that the vast majority of decision-making is de facto delegated to subcommittees that are often dominated by certain States,³¹ or the fact that many international instruments are pre-negotiated by a select group

²⁵ Ray Argyle, *Turning Points: The Campaigns that Changed Canada* (White Knight Publications, 2004) at 401, 425.

²⁶ Argyle, *Turning Points*, at 91, 323, 349 et seq.

²⁷ Stuart Weir, "Primary Control and Auxiliary Precautions: A Comparative Study of Democratic Institutions in Six Nations" in *Defining and Measuring Democracy*, David Beetham (ed) (SAGE, 1994) at 124.

²⁸ Lijphart, *Patterns of Democracy*, at 23.

²⁹ See summary at: <http://www.infoplease.com/ipa/A0876793.html>.

³⁰ See the example of Ireland's negotiations on the European Convention on Human Rights given in A.W. Brian Simpson, *Human Rights and the End of Empire: Britain and the Genesis of the European Convention*, (Oxford University Press, 2004), at 735.

³¹ For example, ostensibly the General Assembly controls the UN financial apparatus, as it sets membership dues, establishes the budgets for the specialised agencies and examines their spending habits. However, this task is delegated to the Fifth Committee (David Malone, "Eyes on the Prize: The Quest for Non-Permanent Seats on the UN Security Council", in (2000) 6 *Global Governance*, 3 at 3), which, in turn, tends to act blindly on the recommendation of ACABQ (the Advisory Committee on Administrative and Budgetary Questions) which is "composed of sixteen members elected on the basis of regional representation with demonstrated experience in administrative and budgetary matters" (Irene Martinetti, "Secretariat and Management Reform", in *Managing Change at the United Nations*, at www.centerforunreform.org/node/308).

of States before being rolled out to other States in a coordinated and, at times, coercive effort.³²

There is thus a strong case to be made for utilizing the possibilities presented by big data to not only inform citizens of international law-making processes but also to capture their preferences and votes to bypass a fundamentally flawed and inaccurate method of law-making, one that would have the additional advantage of operating in real-time and shortening the lag between problem and solution.

Some efforts in this direction have been made by certain entities who have taken advantage of advances in ICT to offer forms of electronic participation. The e-petition practiced in the UK and the US is a one example, the so-called Liquid Feedback system, adopted, inter alia, by the German Pirate Party is another.

E-Petitions

The e-petitions of the US and UK allow citizens to create an online petition on a government-maintained website which other citizens may sign online. When an e-petition receives a certain number of electronic signatures, a government response mechanism is triggered. In the United States, if a petition garners 25 000 signatures, a White House functionary issues an official response.³³ Thus far, the White House has issued 120 responses, although all of these merely summarize and justify White House policy on the issue at a level of detail that is already easily accessible to the general public.³⁴ The situation is similar in the United Kingdom where if 100 000 signatures are collected, a backbench Member of Parliament may take up the cause and bring the matter forward for debate in the Backbench Business Committee, which may then, in turn, bring the matter forward for debate in the House of Commons.³⁵ From a truly democratic point of view, the e-petition mechanisms are very nearly useless in their present form as they do not provide citizens with an action alternative, but instead demand that they wait passively on the outcome of that decision as made by others. However, they do provide some initial rudimentary indications of how a bottom-to-top decision-making process could be conducted in the future. The following example is illustrative.

In 2011, the British Government planned to introduce a 3-4 pence increase in the price of fuel, a plan which British hauliers strongly objected to. After an e-petition secured the requisite number of signatures, the Backbench Business Committee considered the issue and decided to bring up the motion in Parliament. However, the Government delayed

³² A draft package of WTO agreements is generally negotiated in informal Quad meetings between the US, EU, Canada and Japan. Such negotiations are then extended to Green Room discussions which include representatives from other developed nations, friendly developing nations, such as South Africa, as well as those nations which are too large to ignore completely, such as India and Brazil. The Quad draft is rarely substantially altered during the Green Room meetings, instead these meetings serve mainly to break down potential opposition.

³³ In practice, responses are also issued to petitions that receive fewer than 25 000 signatures.

³⁴ “We the People: Your Voice in Our Government”, The White House, <https://petitions.whitehouse.gov/responses>

³⁵ See description of the process at “Backbench Business Committee” UK Parliament, <http://www.parliament.uk/bbcom>.

allocating time to the point where it seemed likely that the debate would never reach the floor.³⁶ FairFuel UK, however, was a professional organization of not only concerned citizens, but also banks, insurers, transporters and companies who provide fuel-related services to other businesses,³⁷ and which was advised by public relations company Peter Carroll Associates.³⁸ This association of specialized business interests mobilized their members to write to MPs demanding a parliamentary debate, launched an aggressive public relations campaign and actively held several receptions in the Parliament buildings to lobby MPs.³⁹ This resulted in the issue being debated in Parliament and the fuel increase ultimately being rejected. Further attempts to raise the fuel duty have proven unsuccessful.⁴⁰ While this example may be less than inspiring in some respects, it does demonstrate that once citizens have the ability to know that a particular measure enjoys a wide level of support, they may feel more legitimized in taking action on that issue, potentially with far-reaching consequences.

Liquid Feedback

The Pirate Party of Germany has recently gone down another path – the membership of the party can actively set, not just influence, its political agenda by using a system called Liquid Feedback to discuss, debate and decide the party line on any issue. This system – developed by the German Public Software Group – is based on the concept of Liquid Democracy which allows the voter to directly decide on every issue or, due to lack of time or expertise, delegate his vote to someone else (so-called delegated or proxy voting). Liquid Feedback also allows participants to propose new or alternative proposals, and incorporates sophisticated methods for ensuring that “clone” proposals do not skew voting outcomes using the Schulze method of preferential voting, and allowing voters to set conditions on their assent to a particular proposal.⁴¹ As this system demonstrates it is now inexpensive to capture voter preferences in a far more sophisticated and frequent manner than merely voting every four years.

Conclusion

This paper demonstrates that ICT cannot only facilitate understanding of international law-making processes, it can enable citizens to directly participate in international law-making. A radical opening of the decision-making process is now possible, not only on a national, but also on an international level, because ICT can facilitate international law

³⁶ House of Commons, Representations taken before the Backbench Committee, UK Parliament, 11 October 2011, <http://tinyurl.com/mnqo6ul>.

³⁷ “Supporters Backing the FairFuel UK Campaign” FairFuel UK, <http://fairfueluk.com/ffuksupporters.html>.

³⁸ *Ibid.*

³⁹ “Background Information to the FairFuel UK Campaign”, FairFuel UK, <http://fairfueluk.com/background.html>.

⁴⁰ Gwyn Topham “Budget 2013: Fuel Duty Frozen Again” *Guardian*, 20 March 2013, <http://tinyurl.com/cfjw6m>.

⁴¹ Andreas Nitsche, “Interaktive Demokratie durch ‘Liquid Democracy’”, Liquid Feedback, Interactive Democracy, 29 December 2009, <http://tinyurl.com/yb9r9kd>; the method is described in Markus Schulze, “A New Monotonic, Clone-Independent, Reversal Symmetric, and Condorcet-Consistent Single-Winner Election Method”, 2011 36(2) *Social Choice and Welfare*, 267-303.

functioning with a horizontal, rather than (as currently) a vertical, command structure. Thus, limiting ICT aspirations to facilitating international law becoming more transparent would be to fail to recognize the enormous potential of ICT to transform international law into a regime that is not only more transparent, but also more responsive and subject to a collectively-driven agenda.