Transparency & ACCOUNTABILITY Initiative

Impact case studies from middle income and developing countries

New technologies

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Executive summary

Between July and September 2010, our small research team examined seven cases of technology interventions that are attempting to increase the accountability of public and private organisations through technological transparency strategies. Based largely on prior work done by a 'technology for transparency' team from the blogging community organisation Global Voices, we sought cases that seemed to successfully enhance accountability, that were relatively mature and that cut across many different political contexts.

These are the cases that we examined:

CASE	LOCATION	ISSUE	FIELD VISIT DATES 2010
Cidade Democrática	São Paulo, Brazil	Citizen participation in local government	August 8-12
Reclamos	Santiago, Chile	Consumer complaints	August 13-19
Budget Tracking Tool	Nairobi, Kenya	Budget monitoring	August 22-27
Ushahidi & Uchaguzi	Nairobi, Kenya	Election monitoring	August 22-27
Mumbai Votes	Mumbai, India	Legislative Agenda	August 2-9
Kiirti (Ushahidi)	Bangalore, India	Complaint Resolution	August 9-13
Fair Play Alliance	Bratislava, Slovakia	Watchdog, Citizen Journalism, Advocacy	August 13-19

Three categories of technology interventions

Although we examined only seven cases, these cases can be grouped into three categories that may be of more general utility.

1.

The first category consists of 'home run' cases in which a technological intervention almost by itself produces dramatic increases in accountability, because it unleashes the latent wishes of individuals by allowing them to take significant actions that previously were impossible without the technology. This image, or type, is perhaps the most common mental paradigm for technological change more generally. However, only one of our cases – Reclamos in Chile – fits this pattern. We feel that such 'home run' opportunities for technological intervention are exceedingly rare.

2.

A second and more common category consists of interventions that complement traditional media efforts – especially investigative journalism – by making information about politicians, other officials or governmental activities generally available. This strategy is to improve accountability by improving the quality of the public sphere. The two examples examined that fit this pattern are Mumbai Votes and the Fair-Play Alliance. The success of these efforts depends upon the information collected being taken up by journalists or political campaigns and eventually being valuable and actionable to voters.

3.

Our third and largest category consists of technological interventions that are tailored to advance the very specific agendas of particular non-governmental or governmental organisations by amplifying their capabilities and strategies. Cidade Democrática, the Kenyan Budget Tracking Tool, Uchaguzi and Kiirti all fit this pattern. In this category, success depends upon a successful marriage between particular technologies and the capabilities and efficacy of particular organisations that seek to utilise them. We feel that most of the potential for technology to have an impact on accountability will lie in this third category.

What kinds of users?

In discussions of technological interventions for accountability and participation, it is often presumed that information and communication technology (ICT) decentralises, and that the principal users of such platforms are individuals. We find that this is not the case. Instead, it is useful to differentiate between:

- 'Mass' users such as citizens, consumers, residents of particular neighbourhoods;
- 'Organisational' users such as journalists, non-governmental organisations (NGOs), governments and corporations.

To the extent that these platforms increase accountability, only two – Reclamos and Mumbai Votes – did so through chains of action in which the ICT interventions provided information that was then used by 'mass' users.

The other platforms, and even Mumbai Votes and Reclamos, were successful when various more centralised 'organisational' users acted upon the information made available:

- Journalists figured largely as users of the Fair-Play Alliance, Mumbai Votes and Reclamos;
- NGOs were primary users for the Budget Tracking Tool, Cidade Democrática, the Fair-Play Alliance, Kiirti and Uchaguzi;
- Government was a user, at least indirectly, of Cidade Democrática, the Fair-Play Alliance and Uchaguzi.

Context & technology

We urge those who consider technological interventions to pay greater attention to the socio-political context in which a technological intervention is meant to increase accountability. In particular, four questions about context are particularly important:

- What are the **motives** and **incentives** of potential users of the technology platform? For issues concerning public accountability, mass users often lack the incentives to acquire and act on information about corruption and malfeasance or even about budget misallocations (except in hyper-local instances), whereas organised users such as journalists and reform NGOs may be highly motivated to acquire and act on this information.
- What are the **capabilities** of motivated users? Technological platforms should be tailored to the capabilities of potential users. SMS is better than the web when internet penetration is low. Kiirti, for instance, failed to find many NGOs with the capability to utilise its platform.
- Does an ICT intervention reinforce the strategy of potential users? NGOs deploy particular strategies, and some ICT intervention may or may not fit with them. For example, a report by the Carter Center on the utility of Ushahidi platforms notes the difficulty of combining crowd-sourced reports with professional election monitoring standards.
- Which organisations are **efficacious** with respect to accountability problems? Progress on accountability requires an organisation or coalition to possess the authority or resources to affect the problem. ICT helps when it is attached to such efficacious entities. For example, the most successful Kiirti deployment involves a transportation authority with the regulatory power to sanction problematic auto-rickshaw drivers. Uchaguzi is effective in part because it has worked with election regulatory bodies in Kenya.

Conclusions/recommendations

Recommendation 1.

Funders should focus their energies on the second and third categories of intervention. The greatest opportunities seem to be in the third category, of amplifying NGO and governmental strategies of accountability. The second category – improving public sphere efforts – is also important, but doing this effectively requires a deep knowledge of the particular context for journalism and political campaigning.

Recommendation 2.

The first category of 'home runs' – dramatic gains for accountability from an ICT intervention – is difficult to identify and opportunities are rare.

Recommendation 3.

In the second category, ICT interventions succeed when they serve as (i) highly credible sources of information that is (ii) of high interest and utility to (iii) journalists and political and advocacy campaigns.

Recommendation 4.

Interventions in the third category are more likely to succeed when those who create the technology are embedded in local NGO networks, so that they understand the motivations and strategies of organised users and can tailor their efforts to fit them.

Recommendation 5.

An accurate diagnosis of context and theory of action is critical to the success of technology for transparency interventions, but these interventions frequently get both the diagnosis and the theory of action wrong. It is therefore important for those who fund and support technological transparency interventions to help technology entrepreneurs and activists by pressing them to:

- Lay out (i) what their initial assessment of the context is; (ii) what information the ICT platform will provide and who will provide it; (iii) who will use that information and why; and (iv) how that use will result in gains for accountability;
- Periodically revise their contextual assessment and theory of action. In all of our cases, organisations that were successful evolved because they responded to errors in their initial theories of action.

Recommendation 6.

That said, funders should not impose particular assessments or theories on NGOs or technology entrepreneurs. NGOs are generally better situated to make these difficult assessments.

Introduction

The wave of activity from civil society organisations (CSOs), philanthropic organisations, social entrepreneurs, international organisations, journalists and even governments themselves around issues of accountability, corruption, political responsiveness, bureaucratic malfeasance and corporate social responsibility (CSR) seems to have been steadily increasing since at least the 1980s. Then, as now, these efforts for the most part deployed time-honoured methods of social mobilisation, media exposure and transparency generally, and legal reform. Lately, however, those struggling for accountability have availed themselves of a new range of information and communication technologies (ICT). Though these technologies offer much promise, it is fair to say that the coming of ICT has not ushered in a sea-change in the direction of increasing accountability. No one can deny, however, that ICT will continue to play an important role, and perhaps increasingly so, in struggles for accountability and transparency around the world.

The aim of this report is to offer some new perspectives on the relationship between technology, transparency and accountability efforts in developing countries. We intend these perspectives not as the definitive or final word on this issue – that would be an absurd claim given the state of development, paucity of prior work in this field and the limited data and scope of this project – but rather we have several more restrained hopes. We hope that these perspectives are indeed fresh, and so will offer guidance (as well as some cautionary notes) to funders, advocates and entrepreneurs who are beginning or extending technology-for-transparency projects. We also hope that these perspectives will serve the development of knowledge in this area in the future, in particular by directing attention to the non-technological determinants of success – and successful strategies – and to what we see as fundamental differences in the design of technologically enabled transparency projects that arise from (i) the sources of information that they seek to make transparent, (ii) the intended users of that information and (iii) the 'targets' that they seek to hold accountable or whose behaviour they aim to change.

This report should be read in conjunction with important work that has been done in this area by a research team from the blogging community organisation Global Voices. That team assembled some 37 case studies in this area of technology and transparency and produced a comprehensive final report.[1] We picked a small sub-set of seven case studies to extend the field research that they had already conducted. This analytical report develops some perspectives and frameworks for thinking about technology, transparency and accountability that are based upon inductive reflection on these cases studies and upon our prior work in the arena of transparency.

Context and technology

Understanding the relationship between technology and context is essential to assessing the success, both short- and long-term, of technological transparency interventions. Rather than focusing upon the characteristics of a particular ICT platform or on direct impacts, we urge attention to the fit between that platform, the strategies of those who use it and the broader context in which those strategies unfold. Based upon our research, several factors should be taken into account. First, NGOs planning ICT interventions should be very clear about the audience that they hope to reach through the integration of a specific tool or platform. Such audiences may consist of mass users, government, media, political elites or other NGOs.

Further, a nuanced assessment of the peculiarities and needs of the targeted audience is necessary in order to draw a precise picture of the added value of the technology and the way that the NGO can reach its core audience. As part of this assessment, the NGO should conceptualise the motivations and incentives of those who are supposed to contribute information and those who are intended to consume it. It should also analyse the types of technological tool and platform that the specific user group will find most accessible. While the platform does not necessarily need to be organic, organic platforms which have been created with the ideal user base in mind will be the most quickly diffused and are more likely to prove effective.

As part of this preparatory stage, the NGO should ensure that the proposed technology is part of a larger socio-political network, and should identify potential partners among other civil society activists, groups and organisations. Ideally, these partners will share the NGO's values, be willing to support its causes and generally provide a network of support to its technological endeavours. Some of these partners should be in positions of influence (e.g. public officials) that allow them to translate technological interventions into concrete and measurable effects. Others should help the NGO to supplement and amplify the technology by providing non-technological pathways to impact.

Centralised vs. decentralised logics

As part of the task of identifying the audience that the technology targets, an NGO planning an ICT intervention should decide whether to rely on centralised or decentralised mechanisms. In this regard, service and product accountability platforms seem to have a different pattern of information use and collection from that of political accountability platforms. Service accountability platforms are more likely to attract mass users, both as information providers and information consumers, since such platforms offer a redress to the immediate needs of the public and may seem to users to be more effective than political accountability efforts.

It would be a risky strategy for an NGO to rely solely on mass providers and consumers of information in the

[1] "Technology for Transparency: The Role of Technology and Citizen Media in Promoting Transparency, Accountability, and Civic Participation" (2010). http://globalvoicesonline.org/wpcontent/uploads/2010/05/Technology_for_Transparency.pdf

context of a political accountability platform. A safer bet would be to identify appropriate intermediaries – usually journalists or other NGOs – who can take on the leading role of providing and consuming information, and then conveying the messages to mass users or to government. Such intermediaries are likely to be more motivated and more effective than mass users in making a good use of a platform that offers them neutral and credible information and helps them to promote their advocacy goals.

Evolution: learning to harness context

Success for an organisation entails understanding what types of tool and platform a specific context needs. Success has many different manifestations according to the context, and thus must be judged accordingly. Success may mean full resolution of a problem or it may mean the beginning of a crucial process to engage citizens in an unprecedented way. Part of this evolution requires actions by both the donors to and founders of the NGO to ensure a flexible relationship, which is required to harness context. Funders must be patient and realise that success may not be instantly manifested even in the most ideal marriage of context and technology. Rather, success may take place through unconventional pathways, and may take place in some sectors while not in others. This does not necessarily mean a lack of success, but rather may indicate that more time is needed. Even under the best of circumstances, success in one area may not necessarily mean success in another. Additionally, success may happen in increments and in non-congruous ways.

Internal NGO leaders should also heed this advice as well, and also need to be patient with success. Additionally, they must be willing to be flexible and to entirely change their approaches if necessary. Part of any successful implementation will be realistically assessing the evolution of the context. However, given the rapidly developing nature of both NGO's internal politics structures and technological advances, even the most organic and well-thought-out platforms may need to be utterly revamped because of new, changing, on-the-ground realities of implementation. Intended audiences, for example, may turn out not to be interested in using the platform even as new audiences, with different needs and objectives, appear. Partners may turn out to lack the capacity to utilise the platform, or lack the resources or influence to affect the target of accountability.

Part of a project's success will be the interplay between NGOs and funders, realising when to implement swift changes and when not to be discouraged by seemingly slow adaption and utilisation. Funders should not be dismissive of non-traditional measures of success and NGO leaders should be open to changes to their original vision and intent. Slow and discursive adaption may not always be a necessary reason to implement a new strategy. However, the ideal vision for a new technology may not in reality have the greatest impact in a specific context once deployed. A close and realistic relationship between funders and NGOs will ensure a proper dialogue to critically assess when is the right time to make critical changes to a platform.

1. Case studies and research methods

Our objective was to examine some of the more promising interventions in the arena of technology, transparency and accountability, with an eye toward establishing some general patterns and provisional lessons to be drawn from recent initiatives. The time and funding constraints of the project were such that we were able only to examine a relatively small number of cases. Fortunately, as previously mentioned, the Global Voices group had conducted an initial survey that identified a large number of 'likely suspects'. We began with the cases that they examined and discussed with them some initiatives that they knew about but had not yet had time to research. From this set, we picked seven cases using the following criteria:

- Appearance of impact: This was the prime criterion; we sought experiences that seemed to increase accountability in their domains;
- Systematic nature of project (ongoing effort): We sought cases that had been in operation for some time because (i) sustainability is a desired outcome and (ii) we wanted to trace the history and evolution of these efforts;
- Diversity of issue areas: We sought cases that covered various issue areas, such as electoral integrity, public services, corruption and advocacy, in so far as they enabled CSOs to hold governments accountable;
- Diversity of methods of information collection: We sought cases that employed both centralised collection of information (e.g. by journalists, government reports) and crowd-sourced collection (e.g. the Ushahidi platform);
- Geographic diversity: We covered cases from Latin America, Eastern Europe, India and Africa;
- Diversity of pathways to impact: We sought cases that varied according to the causal paths that connected information/transparency to social effect: e.g. shaming, individual self-protection, market mechanisms, political mechanisms, self-help and mutual aid.

The following are the cases that we examined:

CASE	LOCATION	ISSUE	FIELD VISIT DATES 2010	URL
Cidade Democrática	Sao Paulo, Brazil	Citizen participation in local government	August 8-12	www.cidadedemocratica.com.br/
Reclamos	Santiago, Chile	Consumer complaints	August 13-19	www.reclamos.cl/
Budget Tracking Tool	Nairobi, Kenya	Budget monitoring	August 22-27	www.opengovernance.info/BTKenya/index.php
Ushahidi and Uchaguzi	Nairobi, Kenya	Election monitoring	August 22-27	www.ushahidi.com/ http://uchaguzi.co.ke/
Mumbai Votes	Mumbai, India	Legislative Agenda	August 2-9	http://mumbaivotes.com/
Kiirti (Ushahidi)	Bangalore, India	Complaint Resolution	August 9-13	www.kiirti.org/
Fair-Play Alliance	Bratislava, Slovakia	Watchdog, Citizen Journalism, Advocacy	August 13-19	www.fair-play.sk/index_en.php

Cidade democrática

Brazil

A collaborative action platform that enables citizens, organisations and governmental institutions to report problems and propose solutions related to matters of concern in Brazilian cities. The idea underlying the platform is that citizens should assume responsibility for their streets, neighbourhoods and cities, take an active part in local problem solving and promote political causes. The platform covers a wide range of municipal issues, from environment and health to transport, education and planning.

Reclamos

Chile

provides an open forum for consumers to share their experiences and to complain about services they have received from either private or public entities. The initial goal of Reclamos was to establish a robust complaints resolution mechanism and promote a more responsible corporate and consumer culture. While this goal has not been achieved, the platform has evolved into a large and vibrant community of consumers that manages to put pressure effectively on corporations and compel them to change some of their practices. It is now one of the biggest user-generated content websites in Chile.

The budget tracking tool

Kenya

Draws information from the Kenyan Community Development Fund and provides online budgetary data for all constituency-level development projects in the country. The Budget Tracking Tool automatically responds to information requests and sends detailed budgetary information for specific projects via email or SMS. The Tool is primarily oriented to established NGOs and civil groups that are active in constituencies and capable of confronting local politicians in cases of potential corruption.

Uchaguzi

Kenya

A follow-up project to the free technology platform Ushahidi, which was launched during the country's 2007–2008 post-election violence. The goal of Uchaguzi was to monitor Kenya's 2010 constitutional referendum, allowing citizens and civil society to report violations. The platform was tagged on a map, and reports were sent by citizens and trained referendum observers via SMS, verified, and then communicated to public authorities. Due to collaborative and trust-based relations with Uchaguzi, the government responded to the majority of these reports.

Mumbai votes

India

Tracks the behaviour of leaders at all levels of governance, both as they run for office and once they are in office. Using both online and offline mechanisms, the platform creates transparency for governance all year round, positing that citizens need information about their officials not only during election cycles but also throughout their public careers. Mumbai Votes primarily utilises a website that includes social media outlets.

Kiirti

India

A platform which aims to facilitate the resolution of complaints from citizens. It aims to be a tool which NGOs can adapt to their specific needs and which will allow a technologically advanced Ushahidi platform to be used effectively by many different NGOs, even those lacking technological capabilities. Kiirti has established web -based reporting as well as digitised phone reporting, and is SMS-enabled.

The Fair Play Alliance

Slovakia

An advocacy and citizen watchdog organisation that uses technology to aggregate large databases and to communicate campaigns and information effectively to citizens, journalists and governments. Its main database has recently undergone a renovation and is now entirely open source and open data and more accessible. The Fair-Play Alliance runs specific advocacy campaigns that utilise new media and technological innovations to reach a wide audience.

Kiirti and Uchaguzi comprise an in-depth case study of the widely used platform Ushahidi and reflect the transformation it underwent after its initial launch during the violent escalation of the Kenyan elections.

Case study methods

The case study methods used reflect a broad utilisation of technological innovation in a multi-dimensional context. The cases were picked because of their potential effectiveness, topical and geographical diversity, and wide range of causal pathways.

Once the strongest set of cases was selected, the Global Voices researchers who had conducted interviews with these NGOs were contacted. Then the founders of each NGO were contacted to contextualise the development of the platform and its socio-political context. The founders provided their own theories of the impact of the initiatives, which then informed (though not exclusively) the pathways studied. Because each of these NGOs utilises different actors for both the input and output of information, different actors needed to be contacted for interviews in each case. Outlining a potential set of actors to interview included verifying and analysing the NGOs' own theories of change, but also examining the holes and positing alternative pathways that they may have overlooked. Part of assessing alternative pathways of change involved an in-depth study of socio-political factors in the relevant country as well as the history and trajectory of the specific platform's utilisation in similar areas.

Once the NGOs' theories of change, as well as our potential alternative avenues of change, were identified, specific actors were contacted for in-person interviews to take place during the individual field visits. These interviews were scheduled as far in advance of the field visit as possible to try to put together an intense schedule that would maximise effectiveness of time spent within the country. Preparations for interviews included familiarisation with historical and current political structures, as well as an understanding of how each actor fitted into the specific mechanism of action by learning about their individual backgrounds.

The field research aimed to make each interviewee as comfortable as possible in order to facilitate an accurate portrayal of the initiative's impact. The interviews were informal but also well structured to understand 1) the relationship of the individual to the NGO; 2) the individual actor's insights into the impact and functions of the NGO; 3) the individual's personal thoughts and opinions in relation to the NGO as a member of wider society.

2. A socio-political perpective on technological interventions

It is by now commonplace to acknowledge the importance of context – of social and political factors – in determining the success or failure of technological interventions that aim to produce public good. We revisit this platitude now for three reasons. First, many of those who repeat this slogan nevertheless act as though they do not really believe it. The discourse is full of claims that the proliferation of some particular technology – such as crowd-sourcing or mobile phones, or even ICT generally – will have profound positive effects regardless of socio-political context.

Second, the slogan is compatible with many different accounts of how socio-political context affects the success of technological interventions. In one common interpretation, certain social factors are more or less favourable to the success of technological interventions – a robust civil society, independent media, literacy or ICT infrastructure are commonly cited. Kentaro Toyama has offered a fascinating account in which he argues that ICT interventions do not generally add public value to an existing situation, but rather multiply factors and aims that are already part of the underlying social context.[2] In this report, we do not interrogate social context at such a general level of abstraction or at large scale. Instead, we articulate a more fine-grained account that connects particular aspects of a social context to the technical design choices and organisational strategies that those who pursue technological innovations have made. The purpose of this project-level analysis is to help understand the sources of success and failure at the organisational level. Later in the report, we will offer some generalisations about socio-political factors, but they relate to designs and strategies rather than to a kind of blanket relationship such that 'X social factor makes ICT interventions more/less likely to work'.

Third, the claim that context is important is underspecified. What elements of socio-political context should we be attentive to and why? In this analysis, we focus on six particular elements of social context: needs, motives, capacities, efficacy, organisation and resistance. Each of these elements conditions the extent to which the platforms and organisational strategies that we have examined produce the outcomes desired by the advocates and entrepreneurs we interviewed.

Generally, then, we agree that social context is important. The importance of socio-political context for this analysis lies in its relationship to two other concepts: the strategies that an organisation pursues to increase accountability and the technological designs that it hopes will enable communication, the collection and dissemination of information, mobilisation and collective action in the service of accountability. Of these factors, context ought to occupy the greatest 'mind-share', followed by organisational strategy, and then finally by platform considerations. Of these three factors, a particular accountability project controls the design of the platform and its organisational strategy, but not the socio-political context. That is part of the definition of context (though a project may seek changes in the context – the development of civil society or the diffusion of civic motivations – in the medium or long term). (See figure 1 below).

The following section considers these three elements of our socio-political perspective in turn.

Socio-political context

The socio-political context is clearly critical to the success of any technological intervention for accountability. This is because:

A technological intervention aims to alter particular outcomes (e.g. the prevalence of corruption, the performance of public officials, the responsiveness of legislatures, bureaucracies, or corporations) by better enabling individuals or organisations to act on active or latent motivations in ways that increase the sort of accountability sought by the intervention.

Whether or not an intervention is successful in this endeavor depends upon elements of the socio-political context in which the intervention occurs. We focus upon six elements in particular.

First, what *needs and interests* exist in a context? What needs are most urgent, especially for those who are meant to act on the information provided by a technological intervention? Many interventions fail because they suppose that their audience has particular needs that individuals themselves do not consider particularly urgent or a priority.

Second, what are the *motives and incentives* – of potential users, intermediaries or targets (i.e. the individuals or organisations from whom accountability is demanded)? It may be that an intervention has targeted a real need – for example, the need for less corrupt or rapacious officials – but that the motives and incentives of would-be users are insufficient to cause them to behave differently. The classic case is a collective action problem. We might all have an

FIGURE 1. CONTEXT, STRATEGY, AND TECHNOLOGY

[2] Toyama, Kentaro. *Can Technology End Poverty?*. Boston Review, 36(5) (2010).

interest in unseating a corrupt official, but we cannot do so unless we act together and the circumstances are such that it is irrational for any particular one of us to act alone (because we may suffer punishment, lack confidence that others will join and so on). The most familiar form of this problem is the 'prisoner's dilemma', but there are many different kinds of collective action problem[3].

Third, what are the informational and technological capabilities of potential users of information in the socio-political context? Capabilities can depend upon factors such as technological infrastructure – the penetration and availability of internet-connected devices and mobile phones, for example – or upon the character of intermediary organisations from which individuals take their political or consumer cues and which interpret more complex information for mass consumers, or upon individual-level factors such as literacy rates and information search and consumption habits.

A fourth consideration is *efficacy*. Suppose a transparency intervention targets problems of accountability, corruption, unresponsiveness or misbehaviour: who are the individual or organisational actors who have the authority or resources to address those problems? As we shall see, the set of efficacious actors can include voters or consumers acting in concert, media organisations, government agencies and NGOs. In order to succeed, the intervention must provide information or enable communication that – at some point down the causal chain – causes those efficacious actors to take action.

Fifth, *organisations* often play a critical role in these cases as the principal users of the information provided by a technological intervention, interpreters of that information (in the case of financial information in the developed countries, for example, the main users of that information are seldom individual investors, but rather professional financial analysts, journalists, and institutional investors), or as the agents who act on that information in order to enforce accountability and behavioral change upon the 'targets' (malfeasant officials, corporations, or agencies).

Finally, it is important to be attentive to the sources of *resistance* that can hamper technological innovations for accountability. Resistance can take obvious forms, such as refusals to provide relevant information or distorting it, sabotage of the organisations that provide the information or attacks on those who attempt to act upon it. More subtle forms of resistance including 'gaming' the intervention by changing behaviour so that a transparency system no longer registers a target as unresponsive, unaccountable or corrupt, but without affecting the underlying problem (for example, a company might change the formulation of its products to include chemicals that are equally noxious as before, but which are not on a transparency intervention's monitoring list).

Organisational strategy

In light of these elements of context, we can think of an organisation that mounts a technological intervention for accountability as having at least two critical propositions in its strategy.

The first is a descriptive empirical proposition about these elements of context. What are the most urgent needs in its context? What are the motives of would-be users? Who are the individuals and organisations that can affect the problem that it seeks to address? What will be the sources of active or passive resistance to be overcome, if any?

The second is a causal empirical proposition about who will use (and/or provide) information in a technology transparency effort, how that information will change their behaviour, and how the behavioural change will affect the 'targets' and ultimately help address the larger problems of unaccountability, irresponsiveness or corruption that have motivated the intervention in the first place. We call this causal proposition the 'action cycle', and elaborate it below.

An intervention can fail because its descriptive or causal propositions are false, or because it fails to execute its strategy in ways that engage the elements of a true causal proposition.

There is a third, normative, proposition that is important, but which we shall not examine in this report. If an organisation's descriptive and causal propositions are correct, and its strategy thus produces the intended effects, why will those effects be publicly or socially valuable? As we shall see, for example, some technological platforms that aim to serve CSOs may exacerbate underlying inequalities to the extent that NGOs imperfectly mirror the needs in society (e.g. NGOs for the homeless may be weaker than environmental NGOs, though homelessness is more urgent in some social contexts).

Technological design

Finally, the success or impact of a technological intervention relies upon the design of its ICT platform. There is not much to say at this strategic level of abstraction (as opposed to a technical or tactical level) about what makes a good platform design, other than referring somewhat tautologically to the elements of context and strategy just discussed. An effective platform must provide valuable, accessible and actionable information to an audience who will use that information in ways that cause efficacious actors (either themselves or others) to act in ways that address the accountability problems that motivate the intervention. Stated in this way, the central value of crowd-sourced or 'wiki' platforms is that they sometimes collect information that is more valuable than other, more centralised methods.

[3] Prisoner's Dilemma refers to the fundamental problem in game theory where two participants are unlikely to cooperate even if it is in their best interest.

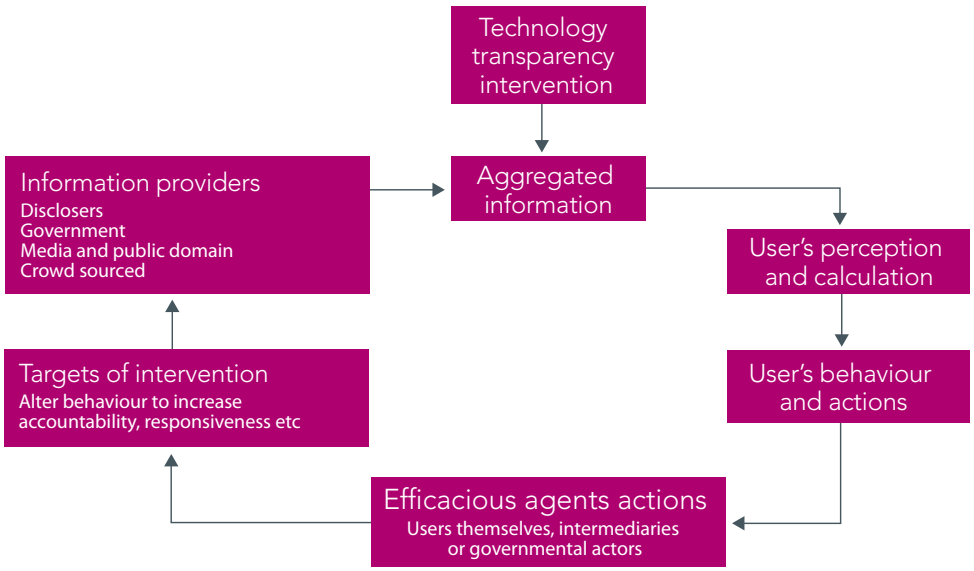
3. Tranparency action cycle

Drawing on prior work,[4] we posit that all of the steps of an 'action cycle' must be in place for a technological transparency intervention to yield substantive outcomes. Simply placing information in the public domain does not guarantee that it will be used or used wisely. Peoples' responses to information are inseparable from their interests, desires, resources, cognitive capacities and social contexts. Due to these and other factors, individuals and organisations may ignore information, misunderstand it or misuse it. Whether and how new information is used to further public objectives depends upon its incorporation into complex chains of comprehension, action and response.

In transparency systems, these chains of actions and response have two primary actors: those whose behaviour must change to increase accountability responsiveness (targets) and those who receive the new information produced by transparency policies and whose choices policy makers hope to improve (users). These information disclosers and users are typically connected in an action cycle (see Figure 2 below).

This diagram is meant to capture the way in which users and intervention targets are linked through an action cycle that conceptually begins with the collection and provision of information by a technological transparency platform. Users draw on information that they find relevant and which affects their perceptions about the official, organisation, service, product or outcome of concern and in turn informs their actions or behaviour (for example, journalists may discover the criminal record of a politician and decide to cover that fact, voters may decide to cast their vote for an opponent). This shift in user behaviour may also entail changes in the behaviour of other actors in this system who have the power to affect the intervention target (voters, law enforcement authorities). If the target (in this case a public official) responds in ways that help solve the problem (by losing an election or cleaning up his act), the information system should register this change, thus completing the action cycle.

FIGURE 2. THE ACTION CYCLE



[4] See Archon Fung, Mary Graham, David Weil, 2007, *Full Disclosure: The Perils and Promise of Transparency*, Cambridge University Press.

The first stage in this analysis is to identify the primary users of information produced by an intervention. In some cases, the primary users of the information are citizens themselves – as in the local public meetings organised by the MKSS in Rajasthan.[5] More commonly, however, we anticipate that the main users of this information will be domestic CSOs – advocacy groups or user associations – aiming to advance associational purposes such as accountability, equity, access or service quality.

Second, how does the content of relevant information and the way in which it is provided mesh – or conflict – with the capabilities and habits of users? Records that are kept in paper files only in a country's capital, for example, are less accessible than digitised records that are accessible through the internet (at least for those who are digitally enabled). From the point of view of an education policy group or a health advocacy organisation, budgets that are disaggregated by sector and place are far more useful than aggregated budgets. The aim of many technological interventions is to provide information that is (i) otherwise unavailable, and/or (ii) is more compatible with the search routines of intended users.

Third, what does information allow users to do that they would not otherwise be able to do? What actions and strategies do they pursue that they would otherwise be unable to, because they possess information? Sometimes, budget information allows CSOs and other stakeholders to pinpoint the places in the chain of public action and implementation where funds leak out – particular agencies, points in contracting or even corrupt individuals. Information is often itself a political resource that enables advocacy groups to strengthen their cases in the public arena of media and constituents.

Fourth, why do the 'targets' of user action respond to the initiatives and actions of users' organisations? For example, political elites may anticipate the shame and reputational cost among their constituencies when advocacy organisations expose inefficiency, inequality or malfeasance. Or the central targets may be line bureaucracies and service agencies. Here, budget information may provide ammunition that allows political masters and popular organisations to rein in bureaucratic misbehaviour. How, in other words, do the entreaties of the users of budget information figure into the political calculus of governmental actors?

Fifth, what responses are available to targets of an accountability intervention? Transparency can only be effective if the actor responsible for the bad behaviour has more socially desirable alternatives that are feasible and available. If, for example, the political or fiscal survival of a bureaucracy depends upon a pattern of expenditure that activists oppose, transparency is unlikely to yield positive outcomes because the target of transparency operates in a highly constrained field. Usually, however, the range of actions available to a targeted organisation is somewhat broader. Part of the challenge of each of the case studies is to characterise the range of feasible actions available to those targeted organisations and to ascertain why particular options were chosen.

[5] Rob Jenkins & Anne Marie Goetz. "Accounts and Accountability: Theoretical Implications of the Right-to-Information Movement in India." Third World Quarterly 20(3), 603 (1999).

4. Information providers and users

One way to parse the seven cases that we have examined is to map the main information providers and users for each of them. Some of the strategic logic of each case follows from an examination of who is providing the information, and who is using it. The table below shows the main categories of providers and users of information. In some cases, users are passive consumers, but in other cases they seem to act on the information that they receive via the technological transparency intervention.

TABLE 1. MAIN CATEGORIES OF PROVIDERS AND USERS OF INFORMATION

KIND OF USER	INFORMATION PROVIDERS	INFORMATION USERS
Mass (citizen, consumer, voter)	Cidade Democrática Kiirti Reclamos Ushahidi & Uchaguzi	Cidade Democrática Budget Tracking Tool Fair-Play Alliance Mumbai Votes Reclamos Ushahidi & Uchaguzi
Journalists (Mainstream Media)	Fair-Play Alliance Mumbai Votes Ushahidi & Uchaguzi	Cidade Democrática Fair-Play Alliance Mumbai Votes Reclamos Ushahidi & Uchaguzi
NGOs (advocacy and civic groups)	Cidade Democrática Budget Tracking Tool Ushahidi & Uchaguzi	Budget Tracking Tool Cidade Democrática Fair Play Alliance Kiirti Ushahidi & Uchaguzi
Government	Budget Tracking Tool Fair-Play Alliance Mumbai Votes	Cidade Democrática (through intermediaries) Fair-Play Alliance Kiirti Ushahidi & Uchaguzi
Corporations		Reclamos
Opinion/Thought "leaders"		Cidade Democrática Fair-Play Alliance Mumbai Votes Ushahidi & Uchaguzi

The Budget Tracking Tool receives most of its budgetary data from the Kenyan government and partially relies on data provided by partner NGOs. The Tool aggregates information and presents it on its website in a searchable and user-friendly manner. The primary users of these data are NGOs, which request information in order to monitor politicians and conduct social audits. Mass users occasionally turn to the Budget Tracking Tool as well, but such information requests rarely translate into concrete monitoring activities.

Cidade Democrática receives information from mass users – mainly city residents and clients of public services – and from NGOs targeting a particular problem in their urban environment. NGOs and mass individual users may then use the information to promote their social and political causes. Journalists and opinion leaders occasionally use the information on Cidade Democrática for their work. Lastly, politicians use information posted on the site following solicitation by NGOs or as part of their campaign strategies.

The Fair-Play Alliance receives information from both governments and journalists. In the former case, the NGO requests information through Slovakia's 2000 Freedom of Information Act (also referred to as "211," according to the law's serial number) to receive information about politicians' finances, procurement and public behaviour. Additionally, the Fair-Play Alliance has an 'Open Politics' database where politicians are encouraged to fill out a more comprehensive personal disclosure form than the one required by the federal election commission. Journalists often approach the Fair-Play Alliance when working on a story to ask for assistance in the investigatory process. In either case, the original information that the organisation generates is picked up by the public, journalists, other NGOs, governments and thought leaders.

Kiirti receives information from mass individual users. In the current prototype, the information from citizens is verified by NGOs utilising Kiirti to work on their specific issues. Once the information is verified, the NGO works with the relevant government officials to resolve the problem and then report back to the citizens. This means that the NGO serves as a conduit to bring the information generated by mass individual citizens to the attention of government, which should then effectively resolve the complaint. In the implementation of Kiirti to report complaints about auto-rickshaw drivers who have faulty meters, overcharge, and take discursive routes, citizens have lodged complaints which Kiirti staff members have then brought directly to the attention of the Department of Transportation for resolution, thus displacing NGOs as the prime information user.

Mumbai Votes aggregates information from government and journalists, presenting, analysing and contextualising it in a credible and easily accessible, comprehensive manner. The information is then used by mass individual citizens, journalists and thought leaders/experts in the field, including by universities.

Reclamos receives information from mass individual users. The platform aggregates and organises the information, which is then used by other individual users (for pressure or research purposes), journalists (for research purposes), and corporations (as a response to consumer pressure or in order to better understand consumer behavior and preferences).

Ushahidi/Uchaguzi receives information from both mass individual users and NGOs.

Ushahidi, perhaps the most celebrated ICT platform in the political accountability domain, is a prime example of political crowdsourcing. Ushahidi (meaning 'testimony' in Swahili) was initially launched by political bloggers to map incidents of post-election violence in Kenya in the beginning of 2008. Uchaguzi (meaning 'decision') is a successive platform that was launched to monitor the Kenyan constitutional referendum in August 2010. After the information is posted and geo-tagged on the site's map, it is used by the public, journalists, NGOs, opinion leaders and sometimes governments (in the case of Uchaguzi, but not in the case of Ushahidi).

Decentralised users for service and product accountability

In table 1, a difference emerges between decentralised providers and users of information – who we have called mass users – on the one hand, and more concentrated, organised entities such as journalists, NGOs, government organisations and corporations on the other (we have put 'thought leaders' or opinion elites in a different category).

One pattern that emerges from our admittedly small number of case studies is that technological interventions that aim at service and product responsiveness (and by extension aim to hold accountable the public agencies and corporations responsible for those services and products) seem to rely more frequently upon more decentralised (mass) providers of information. Similarly, mass users tend more often to be primary users of information in the service and product accountability interventions.

On the information collection and provision side, one reason for this pattern may be that the problems caused by service and product accountability issues are more visible to mass users, compared with political accountability issues. The most successful implementation of Kiirti, for example, collates reports of auto-ricksaw drivers mistreating their customers. Similarly, Reclamos in Chile focuses on complaints about consumer products and services. Cidade Democrática deals with problems experienced by residents in an urban environment. All of these issues are problems that are immediately and tangibly felt and perceived as individual experiences and deprivations.

On the side of information use, two factors may help to explain why mass users are more common in the cases of service and product accountability. The first is that actual needs may be perceived as more important than some of the needs affected by the broader phenomenon of political corruption and other forms of malfeasance (correctly or not, an individual may be more aggrieved by a broken cellphone or a large taxi bill than by a politician who is on the take). The second concerns *efficacy*. It may be that individual, mass users are more motivated because they feel that their actions – especially self-protective actions that involve avoiding some products or areas of poor service, what economists and political scientists call 'exit' as contrasted with 'voice' – have a greater chance of solving their problems for instances of service and product accountability than for political accountability.

Ushahidi and Uchaguzi are the exceptions to this general pattern, at least on the information provision side. Notably, these initiatives collect information in a crowd-sourced way. It may be that the issue of election violence rises to a sufficiently high level of salience that individuals are motivated to provide information to these technological platforms.

Centralised intermediaries for political accountability

In contrast with interventions that aim to increase accountability in the realm of services and products, the interventions that aim to increase political accountability – i.e. the character or behaviour of political officials whose policies have more generalised effects (spending decisions, laws and policies) – seem to rely more upon centralised users for the provision of information, but also seem to use that information to ultimately increase accountability and responsiveness.

Consider the information-gathering side. Mumbai Votes employs students, researchers, staff and volunteers to 'scrape' a variety of sources – not just official records but also news stories – to aggregate and centralise information about the backgrounds of candidates standing for political office and the performance (compared with campaign promises) of those who are elected to office. The central informational contribution of Mumbai Votes is to collect this information, organise it in comparable and easily accessible ways, and to archive it in a credible and legitimate way. Similarly, the Kenyan Budget Tracking Tool relies upon spending information provided by the government and organises that information for its users (predominantly NGOs). A central contribution of the Fair-Play Alliance is to deploy its staff to gather information from a variety of sources that are useful in its various accountability campaigns. Even in the case of Ushahidi and its descendant Uchaguzi, much of the information about electoral malfeasance is reported by organised NGO monitors.

These examples of much more centralised information collection resemble the activities of journalists and think tank researchers much more than the operations of groups such as Reclamos, Kiirti or Cidade Democrática (whose methods more commonly fit crowd-sourcing and wiki methods). One reason for this difference may be that the kind of information that is useful for increasing political accountability is less accessible to mass users than information relevant to service or product encounters. The criminal records of politicians, their legislative actions and allocations of public funds are all, for example, difficult for mass users to discern.

Though not a logical necessity, it also seems that the efficacious users of information are more centralised for political accountability interventions than for service and product interventions. To the extent that they have effects, interventions such as Mumbai Votes, the Fair-Play Alliance, the Budget Tracking Tool and even Ushahidi/Uchaguzi seem to find success because relatively centralised organisational actors – such as journalists in mainstream media and NGOs – rather than the general public make most use the information that they provide.

The reasons for the greater role of centralised information providers and users in the political accountability cases are simply the converse of those that we find in the service and product accountability cases. Mass users may face collective action problems that create low levels of *motivation* to consume the political information provided by projects such as the Kenyan Budget Tool or Ushahidi. For media organisations, however, such transparency projects are attractive because they make it easier for them to conduct research, provide credible sources, enable them to find leads and so on. We see this dynamic with journalists strongly at work in the case of Mumbai Votes.

Groups like the Kenyan Budget Tool and, to some extent, Cidade Democrática focus on the needs of NGOs. To the extent that they can make successful matches, NGOs are motivated to utilise information provided by transparency interventions because that information helps them to advance their prior agendas by strengthening their bargaining ability, mobilising supporters, identifying needs or priorities of constituents, or helping them to make their cases.

In a point closely related to motivation, centralised actors are also often more *efficacious* than mass actors in enhancing political accountability. Political campaigns and candidates, for example, may be far more sensitive and responsive to the criticisms that journalists make than to the more diffuse, harder-to-discern views of mass voters. We see this dynamic at work in Mumbai Votes and the Fair-Play Alliance. Those who lead the Kenyan Budget Tracking Tool and Cidade Democrática (as well as Kiirti, with less success) see themselves as running informational platforms that serve NGOs as primary users and so seek to provide information that will enable those NGOs (relatively centralised actors compared with mass users) to better conduct their various accountability and advocacy campaigns.

Note that centralised actors are also important in explaining the success of service and product accountability interventions. In the case of Kiirti, for example, the most successful deployment has been its highlighting and resolution of problems with auto-rickshaw providers. In this case, the main information *providers* are customers. However, the example succeeds because the main information user is the regulatory agency responsible for enforcing policy. This organisation possesses resources and authority that make it efficacious for this problem.

If a central contribution of these technological transparency interventions is to gather information and make it accessible through relatively centralised means, then one interesting question is how the activities and contributions of such interventions differ from those of traditional media organisations. Though our research offers only limited insight on this question, we offer a number of speculative remarks.

First, we should think of technological transparency interventions as complementing the activities of NGOs in civil society and mainstream media. Second, transparency interventions work in part by reducing the information costs for these NGOs and media organisations. Third, NGOs and journalists find these transparency interventions useful to the extent that they view them – and others view them – as neutral, legitimate and credible brokers of information. Fourth, though mass users may not be the most important or most frequent users of political accountability information, it may be quite important that they can in principle access information from platforms such as Mumbai Votes or the Kenyan Budget Tool. Because anyone can access these platforms, they may be more transparent (and so potentially more credible) than, say, the usual sources and research of NGO reports or journalists. Finally, these transparency innovations typically archive information and organise it in a way that allows comparisons. Such database organisation is very different from the informational organisation of journalists and NGOs, and so may contribute to its credibility and utility.

One upshot of this analysis, then, is that we ought to conceptualise two different logics according to which these interventions operate: centralised and decentralised. These two logics characterise both the provision of information and its use. Centralised information use (or provision) requires very different political strategies and technological designs compared with decentralised use (or provision) of information.

5. Evolution and strategic learning

As laid out in Section 2, the extent to which a technological transparency intervention reaches its full potential depends upon the quality of its empirical and causal propositions. Even advocates and social entrepreneurs who have lived their whole lives in a particular place find it difficult to accurately characterise the nature of social needs and interests, motivations and capabilities of the potential users of their information, which actors are potentially efficacious in addressing an accountability problem, and so on. Getting the causal proposition right is even more difficult than the descriptive task.

Because it is difficult for those who launch transparency innovations to accurately know the truth of the socio-political world that they seek to transform, we can view, as pragmatists like John Dewey put it, their efforts as rebuttable hypotheses about how the world is and what sorts of information will contribute to making various actors in it accountable. Initially, it is highly unlikely that those who launch these efforts will get it exactly right. Therefore, the success or failure – or at least the extent to which these projects reach their potential – depends in part on the ability of their leaders to learn what they have got right and wrong in their propositions and to adjust accordingly.

This section considers some of the strategic propositions in our case studies in light of their presumptions about their own socio-political contexts.

Needs and interests

Each of the interventions studied makes a guess about the informational needs and interests of its intended audience – what they will care about. The guesses of some are remarkably accurate, while others miss the mark widely. Some of the latter have adjusted their strategies in light of their errors, while others have stuck stubbornly to their initial suppositions.

Part of understanding needs and interests relates to the degree to which the given NGO works within existing needs and interests and the degree to which it actively shapes and moulds these interests. The Fair-Play Alliance has followed the needs and interests both of citizens and of leading campaigns, which attempt to actively shape and alter citizens' priorities. For instance, a campaign aimed at raising awareness about judicial nominee Stefan Harabina has been widely noted by officials, journalists and NGO leaders to be one of Fair-Play's most successful campaigns, because it brought the issue of judicial nominees into the public discourse in Slovakia for the first time. Fair-Play Alliance brought to light many questionable aspects of Harabina's background and led a successful online campaign where users generated email petitions urging the judiciary not to appoint Harabina. In response to the negative publicity, the Harabina office responded by inverting the intent of the petition (one clear sign of its import) by "thanking" those who filled out the online petition. In his televised hearing, Harabina even cited the large petition against him. While, the online campaign led by Fair-Play Alliance did not have the intended result, as Harabina was in fact appointed to the court, the campaign effectively raised collective consciousness of judicial nominees in Slovakia in an unprecedented way.

Another illustration comes from Mumbai Votes. One of the main aims of that organisation is to create a kind of performance rating for politicians, gauging the extent to which those who are elected to office deliver on the promises that they made while campaigning. Mumbai Votes also provides information on the character and background of candidates, including any criminal records. When asking interviewees about evidence as to the effect of such interventions, one story that frequently came up was that candidates who were highly tipped to win were upset after Mumbai Votes released information about their criminal backgrounds. There is less evidence that voters (or even journalists) have responded to information about politicians' performances by changing their voting intentions.[6] It may be, then, that certain dimensions of candidates' backgrounds – such as criminality and character – are more salient to voters (and journalists) than other dimensions, such as politicians' performances with regard to campaign promises or platforms. The experience of Mumbai Votes is one test of that organisation's presumptions about what the type of information its users most want to know.

Similarly, the founders of the Chilean initiative Reclamos hoped that their efforts would reveal a latent interest amongst consumers on one side and corporations on the other in creating more collaborative solution to dealing with complaints that emerged about products and services. They got one-quarter of this proposition right – consumers are very interested in filing complaints on the site about bad experiences. Indeed, Reclamos has nearly 800,000 unique visitors and 1.6 million unique page visits per month, and is one the largest websites with user-generated content in Chile.

However, the founders seem to have been dramatically mistaken in supposing that either consumers or corporations generally desire, or would be willing to engage in, trust-building discussions in which corporations become more responsive to the priorities of consumers and consumers engage in collaborative problem solving with corporations to find solutions to common problems. Indeed, the site has turned out to be much more effective as a source of pressure for corporate accountability and

[6] Similarly, we lack evidence (as far as we know) that the massive amount of information about campaign finance required by US Federal Election regulations and collected by sites such as OpenSecrets.org alters voting behaviour.

for corporations to learn where public satisfaction is low. By creating this pressure, Reclamos has compelled many companies to become more responsive, but it has done so in just the way that its founders hoped to avoid – through a culture of complaint. For reasons that we discuss below, Reclamos has not reoriented itself to take advantage of this new descriptive and causal knowledge about its context.

Along similar lines, Cidade Democrática originally aimed to create an open space where anyone could develop a proposal on how to improve the urban environment in their city, spread the idea to their social networks and invest efforts in its promotion and implementation. While in theory the Cidade Democrática platform does indeed allow all of this to be done, in practice it is used largely by established civic groups and NGOs. Mass users, whose voice the platform aimed to amplify, were not sufficiently interested in urban change or political accountability and not willing to invest their efforts in promoting urban reforms via the platform. Hence, while some civic groups and NGOs have enthusiastically adopted the tool and have relied upon it for their advocacy activities, the platform has not managed to attract mass users.

Cidade Democrática was quick to reorient its focus when it understood this dynamic. It no longer expected mass users to independently approach the platform, but rather launched a series of 'web citizenship' seminars, targeting young Brazilians with an interest in civil society and demonstrating to them how to benefit from technology to promote social goals that are important to them.

The Kenyan Budget Tracking Tool followed this logic in a more structural way. After a thorough analysis of the needs and interests of civil society, the founders of the Tool decided to focus their efforts on providing NGOs with precise budgetary information on development projects in their constituencies. They negotiated with the government on the release of data, organised the information on a website, and made it transparent and accessible to all (either via the internet or SMS). The founders understood from the outset that the service they provided would be most helpful for established NGOs and could not directly empower mass users. Hence, they are about to launch a new platform, Huduma – a service-oriented tool that is intended to interact directly with mass users.

The idea of Huduma follows the logic of Ushahidi: while Ushahidi crowdsources election monitoring, Huduma crowdsources service delivery monitoring. The Huduma action cycle works as following. The process is initiated by a citizen who reports via SMS about a specific problem related to service delivery (e.g., lack of water, not enough medicines in a hospital, or absent teachers in schools). The system automatically sends the reporter a confirmation and verifies the report using technological tools. Upon verification, the report is sent to parties responsible for service delivery in public or private sectors. The report is also placed on Huduma's "dashboard," where statistics about the performance of private and governmental entities are aggregated, and on an Ushahidi-style map that visualises all the reports in the system. Then, according to the plan, the responsible party is supposed to solve the problem and notify Huduma. Huduma then sends a report back to the complaining citizen, who is required to verify that the issue was indeed fixed.

In a similar fashion to Huduma, Kiirti was developed to be a tool that NGOs could utilise for their individual ends, thus enabling organisations that may not have the technological capacity to employ up-to-date platforms. However, in its current beta stage, Kiirti has experienced challenges in directly linking its success closely with other NGOs. For instance, some of the NGOs which Kiirti envisioned using the platform robustly are struggling to find the internal capacity and resources to publicise and/or deal directly with complaints lodged via Kiirti. Furthermore, not all of the NGOs are focused on complaint resolution and therefore the Kiirti platform serves as an imperfect pairing with the goals of some of them. Additionally, some NGOs seem to attach less value to Kiirti simply because it is being offered free of charge in its beta manifestation.

Kiirti has been most successful to date in reporting complaints about auto-rickshaw drivers and is currently working with the Department of Transportation to set up direct communication. This implementation of Kiirti was not its original intent, but may prove a more tenable utilisation over time – suggesting that citizens may actually need more direct channels to their government and not only more robust channels to work with government intermediaries such as NGOs.

User motivation

Similarly, those who advance technological interventions may suppose that users or providers of information have certain motivations, only to learn that they were mistaken. Famously, Jimmy Wales began the Wikipedia project with a highly centralised vision in mind, in which articles would be written and vetted by experts in different fields. It turned out that those experts lacked the motivation, but that a much wider field of amateur contributors was, unexpectedly, highly motivated to write and edit articles for what eventually became Wikipedia.

Some of the leaders of the initiatives studied supposed that their information technologies would find motivated users among the mass of citizens (e.g. Mumbai Votes and Ushahidi), but experience showed later that more organised and specialised users – journalists and NGOs concerned with political integrity – had greater motivation to utilise the information that they provided (though mass users figure in both cases as well). That both Mumbai Votes and Uchaguzi cultivated partnerships and alliances with those users testifies to their willingness to learn and adapt. The close relationship of Cidade Democrática with established civic groups in the Brazilian city of Jundiaí is another sign of this trajectory.

The Fair-Play Alliance has launched a competition for the best application built upon its database, which has recently been renamed 'Data Nest' and is now entirely accessible as open data. The aim is to crowd-source 'the best and the brightest' in the field of new media and technology and to propose applications to use the data in innovative ways. A future project of the Alliance called 'Labs' aims to facilitate citizen journalism by providing a forum for citizens to work together to raise awareness about stories and to allow them to investigate information on their own by using technology. The Fair-Play Alliance is aiming to support these endeavours by using technology to strengthen and alter the relationship between consumers and producers of news.

Capacity

Another important factor concerns the extent to which the intended information providers or users in an intervention have the capacity to contribute information or to utilise it. Some aspects of capacity are technical – i.e. ICT skills and infrastructure. Other aspects are strategic and organisational – i.e. does an individual or an NGO have the wherewithal to make use of the information as a component of a broader strategy to accomplish their goals? A lack of capacity in both of these dimensions often emerged as a challenge in the cases that we examined.

Several of the interventions aimed initially to have individuals as primary users, but then later discovered that individuals lacked the capacity to utilise the platform as expected. Cidade Democrática, for example, aims to be a platform that airs the concerns of both individuals and NGOs. However, it seems to have been most useful to a group of NGOs who have the capacity to utilise it technologically and as a strategic mobilisation tool. As many individual users lack the civic capacity to participate effectively, Cidade Democrática invests efforts and resources in civic education.

For NGOs that already have a large impact through traditional mechanisms in civil society, such as the mainstream press, the question arises of the capacity of a platform to expand their reach. The Fair-Play Alliance has used technology to transform its extensive databases into entirely open source and open data information, which can host a range of applications to be built upon it. The Alliance also hosts successful workshop events (BarCamps), which bring together leading individuals in graphic design, technology and public relations to harness the best talent to use technology to reach out in innovative ways, especially to youth. In recent elections, a digital banner announcing that a politician had filled out the Fair-Play Alliance's extensive financial disclosure form was a way in which politicians could exhibit their honesty and transparency. In all of these instances, technology is increasing the Alliance's capacity for both innovation and outreach.

Some of the interventions that we examined cater primarily to NGOs – such as the Kenyan Budget Tracking Tool and Kiirti in India. In both of those initiatives, organisers found that some NGOs lacked the capacity to make good use of the tools. In Kenya, one important feature of the ICT landscape is highly constrained broadband access, so the Budget Tracking Tool takes pains to provide less demanding avenues of access, such as mobile SMS queries and responses. Further, in order to better accommodate the actual capacities of mass users in Kenya, the founders of the Budget Tracking Tool are now launching their service-oriented tool, Huduma. Rather than tackling a specific issue such as budget allocations or election violence, Kiirti is an open-ended deployment of crowd-source mapping technology that its developers hope will be of use to many NGOs. It seems, however, that many NGOs lack capacity – in both the technical and strategic senses – to incorporate this technology into their operations.

This insufficient capacity of independent NGOs led Uchaguzi to focus its strategy on partnerships, where technology was only one part of the equation. While a technology NGO (Ushahidi) was responsible for maintaining the digital platform and mapping election violations, a host of partner organisations were responsible for recruitment and training of monitors, and for publicising and conveying complaints to the appropriate government entities.

Efficacy

Our case studies evolved in the most surprising ways in the dimension of efficacy. If such accountability interventions are to have an effect, they must interact – either directly or indirectly – with actors (either mass actors or organisations) who have some ability to address the problems of accountability that they target. Often, it is quite unclear who those actors are. From this perspective, we can view the early stages of a transparency intervention as aiming in part to identify partners or users who have abilities to increase accountability.

The leaders of Kiirti, for example, thought that their platform would be most useful and efficacious for NGOs (though they did not know which ones). It turns out, however, that the most widespread and effective deployment of the platform involves a consumer problem (complaints about auto-rickshaw drivers) and a government organisation (the Transportation Authority) rather than an NGO. The Kiirti platform seems to have been very useful to the Department of Transporation, while being much less useful to an array of NGOs, because its deployment provides one missing piece of a puzzle (the identities of problematic auto-rickshaw drivers) that the organisation lacked to take action.

Similarly, the original deployment of Ushahidi had a primarily informative aim: to better understand the character and extent of election violence through improved reporting and mapping. An indirect objective was no doubt to address that violence by mobilising public and official pressure against it. The successor project Uchaguzi was much more deliberate in forming partnerships and a division of labour with NGOs with election monitoring expertise and with government agencies (the Independent Interim Electoral Commission responsible for overseeing the Kenyan Constitutional referendum), in order to increase the intervention's efficacy in both the monitoring and response dimensions.

Sometimes, the factors that make some organisations effective relate more to features of the environment – for example, the aims and capacities of the organisation relative to sources of resistance and the complexity of the organisational field. Consider, for example, the contrasting experiences of Cidade Democrática in São Paulo, an enormous city of ten million people, and in Jundiaí, a much smaller city of only 350,000. Whereas NGOs (and citizens) seem to have managed to utilise the platform to effectively publicise complaints, mobilise pressure and obtain redress on a number of issues in Jundiaí, it seems to have delivered fewer successes in São Paulo.

One explanation may be that government decision-makers in São Paolo face many other sources of demand and pressure and the force of those utilising Cidade Democrática is relatively small there compared with Jundiaí. Another explanation may be that, compared with Jundiaí, civic and social movement groups in São Paolo are more mature and better organised, and so the Cidade Democrática platform is less valuable to them as a part of their political strategy.

Similarly, the Fair-Play Alliance has been extremely successful due in part to the dearth of intellectual leadership and to political instability following the Velvet Revolution. The Alliance's founder, Zuzana Wienk, is regarded as having great authority in Slovakia and her presence within the organisation has lent it a tremendous amount of credibility in an atmosphere where few public leaders are trusted by citizens. Wienk is viewed as credible in a country where hard-hitting reporters are easily fired for revealing corporate ties and where daily newspapers are under-funded and under-staffed, lacking the resources to conduct in-depth research. In contrast with the Fair-Play Alliance, other NGOs receive state funding, such as EU structural funds, which make them susceptible to potential conflict-of-interest constraints. In contrast, the Fair-Play Alliance's funding structure, as well as its commitment and resource allocation to investigative journalism, gives it a large amount of credibility and efficacy. It could not be as efficacious as a credible source if it did not receive funding from independent sources, which enable it to be objective and hard-hitting.

The lack of credible news, and the rise of 'paid journalism' – whereby advertising is disguised as real news – have also enabled the efficacy of Mumbai Votes. A confluence of factors has eroded the legitimacy of newspapers in India. First, newspaper circulation is on the rise with the expansion of the literate middle class and rising youth population, and thus news is increasingly being treated as a profit-driven commodity, where those in charge of advertising have more weight than editors. Second, the enlarged influence of advertising has created a new industry of 'paid news' whereby advertisements are subtly disguised as objective news reporting. 'Paid news' is particularly prevalent during campaigns and elections. As a result, mainstream journalists, leading intellectuals and other NGOs now rely upon Mumbai Votes to provide unbiased, methodologically rigorous and objective news about candidates and politics. Mumbai Votes may prove to be most effective in creating a type of institutional memory, akin to the United States' Library of Congress, where the behaviour of a candidate once in office is analysed, thus providing a more robust link between candidates and elected officials. Mumbai Votes current lacks funding, with its only source being the personal finances of its founder from his job as an electrical engineer, and with most of the information being aggregated by unpaid college volunteers. However, this may enhance its credibility and efficacy.

Perhaps the biggest surprise in the efficacy dimension comes, as mentioned above, from the Reclamos intervention in Chile. The founders of the platform had anticipated that it would create social value by fostering dialogue between corporations and consumers. It turned out to be very popular and quite effective for some consumer issues, but not at all for the reasons that the founders had hoped. Indeed, most corporations and consumers do not seem much interested in dialogue. Instead, the platform serves as a power aggregator of complaints that generates pressure on corporations to respond – both through the popularity of the site itself and through its use by mainstream media organisations. Interestingly, the founders of Reclamos do not wish to pursue this new-found route to efficacy – adversarial complaint – because they do not view it as particularly valuable from a social perspective. They seek harmony between consumers and corporations, not discord. Rather than seize upon this lesson about their context – the motives of users and sources of efficacy – and adopt a new strategic orientation, the founders remain committed to their original vision of social change.

In the case of the Kenyan Budget Tracking Tool, efficacy depends wholly on intermediaries – the NGOs that request budgetary information from the Tool and then rely on it for their advocacy needs. Efficacy then depends on a plethora of conditions – the socio-political awareness of the constituency, the reputation and actions of the NGO, the responsiveness of the specific constituency development fund committee and more.

6. Conclusions

Although we have examined only seven cases, several interesting patterns of action emerge that may turn out to be more general.

First, some cases of technological intervention are almost sufficient unto themselves in that the competent implementation of the platform sets into motion social forces and reactions that result in increased accountability or responsiveness. To the extent that there is a paradigm in the ICT-for-governance field, this may be it. One thinks of analogies to efforts such as Wikipedia, Google or Amazon in which the technology effort – all by itself – produces large impacts. We believe that this paradigm is rarely realised in practice, however. Only one of our case studies – Reclamos in Chile – had this character. It seems that there was indeed a great latent desire on the part of consumers to register complaints about consumer experiences. Once registered, the platform made these complaints manifest and set off market and social pressures that have compelled many companies to respond. Though perhaps perceived as the dominant paradigm, we believe that the number of actual and potential interventions of this kind is exceedingly rare. Many other necessary conditions must be in place for a technological intervention to truly be the last piece of a jigsaw puzzle.

In a second and more common pattern, a technological intervention aggregates information that increases accountability by inserting itself into the public discourse of political campaigns and mass media. To operate through this channel, the technological platform usually relies upon interpretive intermediaries such as advocacy organisations and journalists. The two examples from our case studies illustrate this dynamic: the Fair-Play Alliance in Slovakia and Mumbai Votes in India.

The third, perhaps most common, category entails specialised partnerships between technologists who can provide specific information and communication tools on one side and entities such as NGOs or governments whose goals would be advanced incrementally through those tools on the other. Consider how Kiirti was used by the Department of Transportation in India as a way to identify problematic auto-rickshaw drivers. That is a narrow example, but it is not in principle different from the way in which particular Kenyan NGOs – for example those focused on water or other development projects – utilise the Kenyan Budget Tracking Tool to help them tailor and pursue their advocacy and problem-solving efforts. Cidade Democrática and the Uchaguzi efforts exhibit a similar pattern. Indeed, a recent report from the Carter Center that carefully examines the experience of several Ushahidi deployments is a case in point. The Carter Center – an NGO with extensive expertise and a very specific mission based on integrity of elections and human rights, but with little technological expertise – carefully reflects upon the potential and limitations of collaborative efforts with partners who have a very specific technological expertise but little experience in election monitoring or human rights.[7]

It may well be that the future of ICT for governance and accountability will consist for the most part not of 'big bang' solutions – the Google or Wikipedia of the governance domain – but rather of tens of thousands of more incremental, tailored and harder-to-discern efforts in which the locally grounded but sophisticated use of leading technologies helps to provide information and facilitate communication, which civil society groups and governments can use to enhance their current efforts to make government and economies more accountable and more responsive.

[7] Christine Martin. 2010, 'Assessment of the Ushahidi for the Carter Center's Peace Programs', draft, 13 July 2010

7. Recommendations

In light of the analysis of above, we offer a number of recommendations for those funding and otherwise supporting technological interventions that aim to increase public or private sector accountability through transparency.

Recommendation 1. Focus on interventions with incremental ambitions, not revolutionary change

In Section 6, we identified three categories of technology intervention: (i) those that aim to become large very quickly because they catalyse the latent desires and responses of hundreds of thousands of individuals (e.g. Reclamos); (ii) those that supplement mainstream media and campaign efforts to improve the quality of the public sphere (e.g. Mumbai Votes and the Fair-Play Alliance); and (iii) those that amplify the narrower strategies of NGOs working to increase accountability. Funders should focus their energies on the second and third categories of intervention. The greatest opportunities seem to be in the third category of amplifying NGO and governmental strategies of accountability. The second category – improving public sphere efforts – is also important, but doing this effectively requires a deep knowledge of the context for journalism and political campaigning in a particular place.

Based on an admittedly very small base of cases, the first category of 'home runs' seems to us to be very difficult to identify, and the opportunities for this sort of intervention small in number.

Recommendation 2. Public sphere efforts should strive toward credibility and media partnership

In the second category, ICT interventions succeed when they serve as (i) highly credible sources of information that is of (ii) high interest and utility to (iii) journalists and political and advocacy campaigns.

Therefore, those aiming to improve public sphere efforts should seek to establish archives of information that are highly credible (at least more credible as accurate and true) to mass publics than other available sources of information (governmental, other NGO, mainstream media). One source of this credibility may be that ICT platforms provide information that is searchable and in principle verifiable by anyone (even if relatively few mass users actually verify it).

These sorts of platform should provide the kinds of information that are likely to be of interest to journalists and should be designed with journalists and other professional, organised users in mind. Though our data did not permit this analysis, future research should establish the proportion of mass users to professional users of these public sphere platforms. Our sense is that more of the users are professionals than is commonly thought, and that information provided by these ICT interventions yields effects mainly through use by professionals, rather than by mass users.

Recommendation 3. Socially embedded designers

Interventions in the third category are more likely to succeed when those who create the technology are embedded in local NGO networks, so that they understand the motivations and strategies of organised users and can tailor their efforts to fit them.

Therefore, funders and other supporters of technological transparency interventions should encourage platforms that are designed by, or at least whose design is heavily influenced by, indigenous leadership. In some of our examples, the principal designers were well-intentioned expatriates with very substantial technological expertise, but who lacked an accurate sensibility of the local socio-political context. As a consequence, they misdiagnosed the needs and capabilities of potential users early on, and corrections of course were later necessary.

Recommendation 4. Highly explicit and iterated diagnoses and theories of change

An accurate diagnosis of context and theory of action is critical to the success of technology for transparency interventions, but these interventions frequently get both the diagnosis and the theory of action wrong. It is therefore important for those who fund and support technological transparency interventions to help technology entrepreneurs and activists by pressing them to:

- Lay out (i) what their initial assessment of the context is, (ii) what information the ICT platform will provide and who will provide it, (iii) who will use that information and why, and (iv) how that use will result in gains for accountability.
- Periodically revise their contextual assessment and theory of action. In all of our cases, organisations that were successful evolved because they responded to errors in their initial theories of action.

Recommendation 5. Do not micro-manage or second guess

That said, funders should not impose particular assessments or theories on NGOs or technology entrepreneurs. NGOs are generally better situated to make these difficult assessments, for the reasons relating to social embeddedness discussed out above. We did not encounter this problem of overly active funders in our examination, but we include this last caveat so that our recommendations will not be read as a suggestion for tight funder control.

Annexes

Annex I: List of Interviewees

Due to the extensive amount of people interviewed, they are broken down by relevance to each NGO in discussion, please see below for more detail.

The Budget Tracking Tool

Philip Thigo, SODNET

John Kipchumbah, SODNET

Professor Edward Oyugi, SODNET

Christopher Mwambingu, Taita Taveta

Sara Mucha, Cosmos International

Anja Therkelsen, MA Action Aid; Forest Action Aid

James Nduko, Twaweza

George Collins Owuor
Institute for Civic Education and Development in Africa

Allan Jagwa, SODNET

Steve Butler, Uwiano

Douglas Namale, Kcoda

James Kamau, Kenya Treatment Access Movement

Kawive Wambua, Creco

Maina Mugo, Futa Magendo Network

Rebekah Heacock, Global Voices

Cidade Democrática

Rodrigo Bandeira de Luna
the founder of Cidade Democratica

Henrique Parra Parra Filho
Staff at Cidade Democrática and an activist in Jundiai

Luiz Bouabci, partner of Cidade Democratica

Rafael Lira, educator and editor of the journal Viracao

Milton Jung, journalist on CBN radio in Sao Paulo

Fernando Quintino
Lawyer and sponsor of Cidade Democratica

Juliano Prado, the developer of Cidade Democratica

Claudio Vieira
Social activist and the founder of Adote um Vereador

Carmelo Paoletti Neto
Secretary of Social Communications in Jundiai Municipality

Local representative in Jundiai

Perdro Bigardi, federal representative

Cleber, math teacher and social activist in Jundiai

Marcus Vinícius da Silva
Portuguese teaches and social activist in Campinas

Sumara, psychologist and user of Cidade Democrática

Luiz Ballas, social activist in Jundiai

Roger Pescara, social activist in Jundiai

Paulo Teixeira, federal representative of Sao Paulo

Pedro Dória, online content director at
the Estado do Sao Paulo newspaper

Talita Montiel, an employee at the Telefonica Foundation

José Mario Carneiro, founder and director of a public
administration school in Sao Paulo

Humberto Dantas, professor of political science
at the University of Sao Paulo

Celina Marrone, the founder of Vote Consciente

Fair-Play Alliance

Jacub Gornicki, Global Voices

Sylwia Presley, Global Voices

Greg Elin, Sunlight Foundation

Ellen Miller, Sunlight Foundation

John Wonderlich, Sunlight Foundation

Robert Basch, Open Society Foundation Czechoslovakia

Jonas Rolett, Open Society Foundation, Washington DC

Alena Panikova, Executive Director,
Open Society Institute Slovakia

Jana Malovicova, Office Manager,
Open Society Institute Slovakia

Viktoria Mlynaricikova, Program Manager,
Open Society Institute Slovakia

David Ondrackha, Transparency CZ

Zuzana Weink, Founder and President Fair Play Alliance's

Peter Kunder, Project Expert Fair Play Alliance,

Rasto Diovcos, Fair Play Alliance's

Juraj Kovacik, Fair Play Alliance

Igor, Fair Play Alliance

Eva Vozaroba, Fair Play Alliance

Frantisek Pauliny, Fair Play Alliance

Pauliny's mother, aunt, uncle, cousin, and brother

Chief Advisor to the Prime Minister

Miro Beblavy, MP SDKU Party

Dostal MP, Most -Hid, Party

Krnac, MP, SaS Party

Martina Kubaniova, journalist Pulse +1

Monika Todova, Reporter for SME

Igor, Programmer

Malin, Programmer

Eugen Korda, Student and Former Intern
at Fair Play Alliance

Rybar, Political Scientist

Grigorik Meseznikov,
President of Institute for Public Affairs

Juraj Frank, PhD Student in Computer Science

Kiirti

Selvam Velmurugan, Founder and Designer of eMoshka

Gaurav Mishra, Founder of Voter Report India

Namita Singh, Researcher Global Voices

CV Madhukar Founder - PRS India

Rohit – Technology PRS India

Sudha Nair, Kiirti

Uttara Narayanan Janagreagra

Thejesh G N Janagreagra

Syeda K Shataj Janagreagra

P. Srikant, Programme Officer Public Affair Centre

R. Suresh, Director of the Public Affairs Center

Rtn. Y.V., RWA President Board

Seema B. Nair, Hivos Programme Office

Bhargavi S. Rao, Environment Support Group

Leo Saldanha, Founder and President, Environment
Support Group

Srikanth Seshadri,Programmer

Pranesh Prakesh, Programme Manager
Center for Internet and Society

Sunhil Abraham, Executive Director
Center for Internet and Society

Glover Wright, Law Student Columbia University
Intern for CIS

Gautam John, Founder of Voter Report India

Alok Singh, Programmer

Transportation Deputy Commissioner of Transportation
(enforcement), Bangalore

Dvijaya Vikram and the head Commissioner for
Transportation, Bangalore

Vijay Anand, 5th Pillar 'Clean Politics'

Arvind Bhatiya, Founder of Retina India

Amod Padney, Programmer

Mumbai Votes

Vivek Gilani, Mumbai Votes

Professor Aranjy

Annie Shekhar, MLA and Vinod Skehar Corporator

Manjula Srinivia, head of K.C. College on Communication of Mumbai University

Miliand Kokje, former journalist for Times India and coordinator of the asia media forum.

Dr. Aloke Thakore

Shalini Nair, Special Correspondent Indian Express

Dr. Uttara Sahasrabuddhe, Department of Civics and Politics Mumbai University

Kinjal Pandya, Mumbai Votes

Himanshu S. Internet Research Head, Mumbai Votes

Shelly Gopal MLA

Mauli Buch, Senior Reporter for Indo-Asian News Service

Ajit Ranade, ADR's founder

Ashish Shelar,Corporator

Sanjee, Social Outreach, Mumbai Votes

Savita Vijayakumar, Analysis Team Head, Mumbai Votes

Mark Snider, PhD Candidate
Columbia Political Science Department

Group Conference Call
Mumbai Votes Social Media Launch

Krishnakumar Iyer, Public Relations Head,
People's Professional Party

Arpit Garg,Team Head - Communication, Analyst

Menaka D. Lead Anchor News

CV Madhukar Founder - PRS India

Rohit – Technology PRS India

Akash Mittal Mumbai Votes

Sejal Mody Mumbai Votes

Namita Singh, Researcher Global Voices

Reclamos

Rafael Bravo, the Founder of Reclamos

Francisco Chahuan, Senator

Paulina de Allende, TV journalist on TVN

Patricia Berti, TV journalist on TVN

Cesar Olivares, TV journalist on ChileVision

Juan Pablo Olmedo, the Founder of the Transparency Council in Chile

Eolo Espinoza, Transparency Council

SERNAC, the agency for consumer protection

Tomas Fabres, Director of the Consumers Association of Construction Affairs

Patricio Herman, Defendamos la Ciudad

Marco Mora
Owner of the company Chile Sonria & client of Reclamos

Arturo Ariagada, Early developer of Reclamos, PhD candidate at the London School of Economics

Francisca Skoknic, CIPER

Felipe Heusser, Vota Inteligente

Matias Montenegro, Digital activist

Carlos, user of Reclamos

Claudio Ruiz, Global Voices, IP lawyer

Renata Avila, Global Voices

Ushahidi/Uchaguzi

Philip Thigo, SODNET

John Kipp, SODNET

Professor Edward Oyugi, SODNET

Erik Hersman, Ushahidi

James Nduko, Twaweza

Steve Butler, Uwiano

Kawive Wambua, Creco

About the authors

Archon Fung is the Ford Foundation Professor of Democracy and Citizenship at the Harvard Kennedy School. His research examines the impacts of civic participation, public deliberation, and transparency upon public and private governance. Recent books include Full Disclosure: The Perils and Promise of Transparency (Cambridge University Press, with Mary Graham and David Weil) and Empowered Participation: Reinventing Urban Democracy (Princeton University Press). Current projects examine democratic reform initiatives in electoral reform, urban planning, public services, ecosystem management, and transnational governance. He has authored five books, three edited collections, and over fifty articles appearing in journals including American Political Science Review, Public Administration Review, Political Theory, Journal of Political Philosophy, Politics and Society, Governance, Journal of Policy and Management, Environmental Management, American Behavioral Scientist, International Journal of Urban and Regional Research, and Boston Review.

Hollie Russon Gilman is a PhD Candidate in Harvard's Department of Government. Her primary areas of interests include the theoretical and empirical understandings of deliberative democracy as well as the relationship between emerging technology and government accountability and transparency. She holds a BA with highest honors from the University of Chicago and is a Fulbright Recipient. Prior to starting her PhD she worked on the Barack Obama Campaign for Change.

Jennifer Shkabatur is a doctoral candidate (S.J.D.) at Harvard Law School and a Visiting Assistant Professor at the Boston University School of Law. Her research examines the effects of information technologies on transparency, accountability, and citizen participation in various regulatory bodies, such as local governments, federal agencies, and international organizations. She authored several articles in the field, discussing emerging national and international practices such as online participatory budgeting, urban planning, social policy consultations, collaborative monitoring of international regimes (e.g., health, environment, and human rights), online transparency and freedom of information policies, and more. She earned an LLM from Harvard Law School (2007), MA in Political Science (2007) and LLB (2004) from Tel Aviv University. Before her studies at Harvard, she clerked in the Supreme Court of Israel.