

False dawn, window dressing or taking integrity to the next level?

Governments using ICTs for integrity and accountability

Some thoughts on an emerging research and advocacy agenda

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Introduction

The experience of developed and developing countries indicates that electronic reforms in the fight against corruption are the most effective methods in the implementation of the fight against corruption

(Center for Economic and Social Development Azerbaijan: CESD Anti-Corruption Strategy for the Republic of Azerbaijan, April 2011)

E-government is seen more than ever as at the core of public sector reforms

(OECD Government at a Glance 2011)

- Imagine you are an NGO lobbying your government to clean up one of the most notorious areas for corruption: public procurement. In response the government declares that a centerpiece of its anti-corruption strategy will be an electronic procurement system that will make corrupt interference all but impossible. What do you do? Do you applaud this move?
- Imagine you are a policy-maker intent on curbing corruption in the judiciary and you know that case backlogs offer a serious entry point for corruption. Now some IT consultants strongly suggest to install an electronic case management system to tackle this issue head on. Do you purchase and deploy it?
- Imagine you are a public administration expert and the tax authorities in your country turn to you for advice on whether they should follow the example of their peers in a neighbouring country and introduce electronic filing of taxes to root out corruption in tax collection. What will you suggest to them?

This article explores these challenges in a bit more detail and presents some ideas on how to start addressing them. Section 1 sets the scene by providing a brief overview of how pervasive, serious and difficult to fix the problem of corruption is. Section 2 gives a sense of the very exuberant hopes and expectations that ride on new information and communication technologies to evolve into a game-changer in the fight against corruption. Chapter 3 describes the immense scale and scope of governmental ambitions to deploy ICTs for deep reforms of political and administrative systems. It then zooms in on four concrete application areas where corruption risks are particularly rife and detrimental and where governments are particularly focussed on deploying ICT solutions with the express (although not exclusive) aim to tackle corruption. These four areas are electronic reforms in public procurement, judicial case management, tax administration and ID card systems. For each of these areas, examples of technology applications, a first overview of the empirical evidence base on impact and the status of related advocacy and monitoring by civil society are discussed. This section also summarises this first scan of evidence and engagement, arriving at a mixed picture. Some early positive evidence confirms a beneficial potential, yet other studies and lessons from technology adoption more broadly point to high risks of failure or inefficacy. Overall the evidence base is still very limited and inconclusive and critical engagement by civil society in this area is still in its infancy. This means, the extraordinary excitement, ambition and governmental action on deploying ICT as a major weapon in the fight against corruption stands somewhat in contrast to empirically-justifiable expectations and an overall still limited understanding of what design principles, implementation strategies and civil society engagement could make success more likely. In section 4 the paper then speculates on the reasons for this peculiar mismatch and finds some capability constraints and,

equally important, a convergence of interests by different stakeholders to engage in some wishful thinking and believe in the extraordinary potential of technology for integrity.

Chapter 5 moves from diagnosis to remedies and proposes a more in-depth and systematic approach to map these disparities more comprehensively and identify the most critical gaps as well as priority entry points for stepping up research and engagement.

Chapter 6 concludes by suggesting a first list of the most important research questions that would have to be broached, in order to build the empirical knowledge base for effective advocacy in this area. ICT has an enormous potential to tackle corruption. The four application areas that are briefly reviewed are only a small part of this, many other applications from mobile payment systems to computer-administered education tests also fall into this category of government technology use for integrity. But much more close scrutiny, critical appraisal, learning, careful design and constructive engagement by civil society is required to fully unlock this potential. Both the good governance and the technology communities should take note and work together for making this happen.

1 Corruption – everywhere and hard to weed out

Corruption, defined as the abuse of entrusted power for private gain - is commonly recognised and amply documented - to be one of the most fundamental and most vexing societal problems around. Evidence from all over the world shows that corruption from bribery and crony-ism to undue influence and policy capture deprives particularly the poorest of the very goods and services that are fundamental to their livelihoods, such as access to water, health, food or educational opportunities. Corruption fuels ethnic tensions and corrosive public distrust of the central institutions of collective governance. Corruption has been documented to stunt development, stymie our collective response to climate change and blunt our ability to construct fair societies. It is closely linked to impunity, inequality and insecurity.³

The pervasiveness of corruption makes it also very difficult to plot viable paths for reform and change. Rooting out corruption in institutions where it is deeply entrenched presents a daunting and often seemingly insurmountable challenge for government reformers for at least three reasons: first, collective action problems abound. When all your colleagues pay off the boss to gain a promotion or the teacher to enhance their kids' test results, you are hard-pressed to join in so that you are not left behind. Second, sustainable integrity will not only require carrots and sticks, but also a change in values and norms. But changing organisational or communal cultures, however, is a long term, laborious project with uncertain outcomes. Third, corrupt systems are often built on interlocking interests and deep networks of patronage and cronyism across administrative and political hierarchies. As a result well-meaning reformers might find themselves outflanked by higher tiers of the bureaucracy or political principal that stand to benefit from the corrupt system on the ground. This makes corrupt networks extremely resourceful and effective in thwarting attempts to shut them down.

³ For examples and a compilation of empirical evidence on these and many other instances of corruption, see for example, the Global Corruption Report series published by Transparency International that every year invites academic experts and practitioners to explore corruption issue in a specific sector, e.g. construction and post-conflict reconstruction (2005), health (2006), judiciary (2007), water (2008), business (2009), climate change (2010/11) or education (forthcoming 2013). For general overviews see for example P. Bardhan (1997): "Corruption and Development: A Review of Issues", in: *Journal of Economic Literature*, vol. 35 no. 3; or J. Svensson (2005): "Eight Questions about Corruption", in: *Journal of Economic Perspectives*, vol. 19, no. 3.

2 Technologies to the rescue? The potential of ICT to fight corruption

Facing such an uphill struggle, it is not surprising that government reformers and anti-corruption fighters pin their hopes on technology as a potentially transformational tool to help cut the Gordian knot of corruption, shake up these entrenched systems of corrupt incentives and interests and offer real prospects for more integrity and accountability. New ICTs might be – and are indeed often promoted as one of the answers. Just looking at their potential functionalities, they can be plausibly expected to address a long list of institutional deficiencies that are believed to foster corruption. Some of the main expected benefits from ICTs as expressed in the research and policy literature, include the anticipation that they will:

- reduce information asymmetries between principal (office holder) and client (citizen) so that the latter finds it easier to assert his or her rights without corruption interfering
- limit the discretion of office holders to diverge from applicable rules in the exercise of their duties
- automatize specific processes and/or reduce direct, frequent, personal interaction between a specific office holder and an individual citizen, a proximity that can foster collusion and corruption
- cut out gatekeepers and intermediaries that often act as go-betweens to facilitate bribe payments or demand their own illicit cut to make a business deal happen in the first place
- reduce red-tape in public bureaucracies and thus remove potential entry points for extortion and corrupt rent-seeking
- make transactions with public officials and the performance of the latter more transparent, document-able and audit-able thus deterring corrupt behaviour
- provide a growing repertoire of collective action tools and platforms for citizens to organise, report and mobilise against corruption

These and many other expected features are well referenced in a large number of policy reports, prospective essays and conceptual discussions. In a nutshell, hopes that technology can make a very important contribution to the fight against corruption are extremely high.⁴

3 From potential to practice – key government technology initiatives to tackle corruption and boost accountability

Given the high hopes attached to ICT governments around the world – from local to national to regional level - are rolling out high-profile ICT modernisation projects, often tied to bold claims about how these initiatives are meant to boost accountability and integrity. The 15 core EU countries are estimated to have spent as much as 35 billion Euro on ICT in 2004 alone, including 11.5 billion on e-government activities.⁵

Government IT spending in some of the most advanced economies, from US, UK and Canada to Japan or the Netherlands consumes around 1% of GDP.⁶ And by 2010 total annual ICT spending by gov-

⁴ For a summary of expected benefits see for example A. Gronlund et al. (2010): “Increasing Transparency and Fighting Corruption through ICT Empowering People and Communities”, SPIDER ICT4D Series, no. 3; for a forward-looking analysis for policy-makers see V. Frissen et al. (2007): “The Future of eGovernment: an Exploration of ICT-driven Models of eGovernment for the EU in 2020”, Institute for Prospective Technological Studies, European Commission, EUR 22897 EN; or S. Bathnagar (2003): “E-government and Access to Information”, in: Transparency International: Global Corruption Report 2003.

⁵ C. Codagnone (2006): “Expenditure Study, eGovernment Economics Project prepared for European Commission”, E-Government Unit, DG Information Society and Media, European Commission.

⁶ P. Dunleavy, H. Margetts et al. (2004): “Government IT Performance and the Power of the IT Industry. A Cross-National Analysis”, paper presented at American Political Science Association Annual Meeting, Chicago, September 2004.

ernments around the world was estimated to have reached a whopping \$ 423 billion⁷ The transformative impact of these investments is already evident. By 2010 on average more than 80% of businesses and 40% of citizens in OECD countries are already interacting with public authorities online.⁸ This flurry of activity is by no means confined to industrialised countries. As of 2004, for example, more than 90 developing countries were busy developing national ICT strategies.⁹ Almost three-quarters of all World Bank projects between 2003 and 2010 included ICT components and these technology elements were considered particularly important for achieving the intended objectives in public sector governance reform projects.¹⁰

The scope and ambition of public ICT initiatives in the field of integrity and accountability is truly amazing. To illustrate this, I will briefly describe four key corruption hotspots, where ICT led responses have assumed a particularly high profile role.¹¹

Electronic procurement systems – making progress on a “classic” corruption issue?

“Proper adoption of an e-procurement system can ... also contribute to the prevention of corruption. Towards this ... Govt. of India has taken significant steps by issuing instructions to all Govt. Ministries/ Departments/Organisations to switch over to e-procurement regime.”¹²

“In order to fight abuse in public procurement, Romania put the introduction and implementation of e-procurement on the top of its list of priority reforms.”¹³

Public procurement, which often accounts for up to 45% of government expenditure or up to 20% of GDP in any given country is a classic hotspot for corruption.¹⁴ Where private contractors compete for public clients corruption can take many forms from out-rightly bribing procurement officials to land a contract or tailor the tender specifications to one’s own profile, to collusion and price-fixing with competitors, all resulting in major losses for the public purse that estimates put at least at 20-30% of government procurement in countries where corruption is pervasive.¹⁵

Electronic procurement systems are widely credited with the potential to root out the most egregious types of procurement corruption, by providing for a fair, transparent and auditable purchasing and/or tendering process. E-procurement was one of the earliest and most straightforward integrity applications available to government reformers. As a result related initiatives have been around for

⁷ Public Technology Net, Aug 19, 2010, quoting a Gartner Report (<http://www.publictechnology.net/sector/central-gov/global-ict-public-sector-spend-outstrips-market>).

⁸ OECD (2011): *Government at a Glance*, Paris: OECD.

⁹ United Nations World Summit on the Information Society Task Force on Financial Mechanisms (2004): “The Report of the Task Force on Financial Mechanisms for ICT for Development”, December 22, 2004.

¹⁰ World Bank Independent Evaluation Group (2011), “Capturing Technology for Development: An Evaluation of World Bank Group Activities in Information and Communication Technologies”, Washington DC: World Bank.

¹¹ Many other applications could also be considered from mobile payment systems that support conditional case transfer programmes that are vulnerable to local patronage to computer-administered test in education sectors that are rife with grades for money transactions.

¹² From submission by India to OECD Policy Roundtable: Collusion and Corruption in Public Procurement, 2010 DAF/COMP/GF (2010)6.

¹³ From submission by Romania to OECD Policy Roundtable: Collusion and Corruption in Public Procurement, 2010, 2010 DAF/COMP/GF (2010)6.

¹⁴ See World Bank/ IDB/ADB (2007): “Corruption and Technology in Public Procurement”, April 2007.

¹⁵ See World Bank/ IDB/ADB (2007): “Corruption and Technology in Public Procurement”, April 2007.

quite some time and research on their efficacy is relatively more advanced than for other applications.

A nascent body of evidence on realised benefits is available, for example for Korea and Brazil, mainly in terms of significant cost savings, enhanced transparency and more competitive markets for procurement.¹⁶ At the same time, anecdotal evidence suggests that the effectiveness in curbing corruption cannot be taken for granted. An evaluation of electronic procurement in a number of APEC countries found that e-procurement 'remains hampered by the ability of government officials to manipulate the system internally.'¹⁷ This is echoed by an assessment of procurement systems in several European countries that find loopholes and workarounds (tailored tenders, leaking of inside information, excessive use of single vendor exceptions) in countries such as Romania, Czech Republic or Bulgaria.¹⁸

Given this mixed bag of anecdotal evidence, more systematic empirical research is clearly necessary. This should include in-depth case studies that look beyond technology potential and explore the actual procurement practices and interaction with e-procurement systems, as well as comparative work to identify the background conditions, red flags and good design practices that raise the likelihood of making e-procurement work for integrity and accountability.

Public interest advocacy on the integrity dimension of electronic procurement is also gradually evolving. Some NGOs are undertaking procurement monitoring exercises that draw heavily on data made available by e-procurement systems. And there is a nascent, but as yet small cluster of civil society groups seeking greater public involvement in and providing critical commentary in e-procurement design, in order to tackle corruption most effectively.¹⁹

These monitoring initiatives however are hampered by a general lack of recognition in e-procurement design and practice for the critical role that civil society groups can play to make e-procurement work for integrity. As of 2011 a third of OECD countries still do not provide statistics and databases on past procurement activities and more than half of all OECD countries do not provide tracking records of outcomes of contracts on their procurement websites. And in the broader e-government context less than 10% of governments worldwide report systematically on e-government service usage.²⁰

Corruption in tax administrations – electronic filing and payment systems to the rescue?

With governments keenly aware of the role technology can play in revenue generation online, tax payments became available in 40 per cent of [UN member countries] in 2012²¹

¹⁶ See K-S. Choi (2005): Republic of Korea. The potential of E-Procurement, in: OECD: *Fighting Corruption and Promoting Integrity in Public Procurement*. Paris: OECD.

¹⁷ Transparency International USA (2011): "A work in progress: implementation of the APEC government procurement transparency standards in Mexico, Peru, Vietnam, Indonesia and the Philippines", Washington DC: TI US.

¹⁸ See Transparency International (2012): "Money, Politics, Power: Corruption Risks in Europe", Berlin: TI.

¹⁹ For example TI groups in Slovakia and Hungary are utilising procurement data for their analysis, while TI Georgia has commented on the usability of the e-tender system and the data it generates and TI India has developed an electronic procurement integrity matrix.

²⁰ United Nations (2012): "E-Government Survey", New York: UNPAN.

²¹ United Nations (2012): "E-Government Survey", New York: UNPAN.

*Reducing face-to-face interactions between businesses and tax officials limits opportunities for corruption. Automation is a key feature of modern tax administration*²²

*“To try to break a “personal, human” rapport that many Greeks have with their tax collectors ... the state is reducing the number of collection offices ... and introducing a centralized electronic database system”*²³

The inability of states to raise revenues through effective tax collection is widely viewed as a core institutional deficiency whose impact is felt well beyond the public purse. When corrupt tax collectors collude with citizens and businesses to defraud the state they undermine at a very fundamental level the social contract between citizens and their governments. With taxes owed not being paid, people have only tepid interests and low expectations to hold office holders to account for what they do with their money. At the same time cast-strapped governments plunder natural resource assets to fill their coffers or they burden the public sector with levels of debts that are unsustainable and push the country to the brink of financial collapse, as for example can be currently witnessed in Greece. The problem is as pervasive as it is rampant. More than a third of citizens that had contact with the tax authorities in countries as different as Cameroon and Nigeria, Turkey or Uganda, for example, report that they had paid a bribe, a number that reaches a staggering 51% for India.²⁴

For Greece experts estimate that most people only end up paying 20% of what they owe in taxes, while Guatemala is believed to have lost 2/3 of possible tax revenue due to tax evasion.²⁵ Electronic tax filing and payments systems have the potential to cut out the layer of corrupt tax collectors and radically streamline tax administration and compliance enforcement on top of enhancing usability and convenience for tax-payers.

E-taxation reform initiatives have been undertaken in at least 77 countries from Albania, Angola and Bolivia to Uganda and Vietnam.²⁶ Yet, apart from observed benefits with regard to more user convenience and shorter turn-around times, little empirical evidence is available on the actual anti-corruption impact of e-taxation: how reliably, under what conditions and with what crucial design and implementation features does e-taxation live up to its promises with regard to curbing corruption.

The lack of sufficient empirical evidence is mirrored by a relative dearth of critical and detail-oriented civil society engagement on e-taxation issues. Civil society groups are significantly invested in broader reforms in public financial management and revenue collection which are considered essential milestones on the way to functioning and accountable governance structures. Yet, a first, preliminary scan of the advocacy landscape has so far not found any examples of sustained, in-depth NGO advocacy and monitoring on e-taxation projects and their implementations.

Corruption in the judiciary: electronic docket and case management systems for more integrity

²² A. Rahman (2009): “ Tackling Corruption Through Tax Administration Reform”, Investment Climate in Practice No. 3, Washington DC: IFC.

²³ New York Times, 19.06.2011.

²⁴ Transparency International: “Global Corruption Barometer 2010/2011”, Berlin: TI.

²⁵ U4 Anti-Corruption Resource Centre (2010): “Corruption in Tax Administration” U4 Expert Answer, January 2010; New York Times, 19.06.2011.

²⁶ United Nations (2012): “E-Government Survey”, New York: UNPAN.

“Czech lawyers are about to enter a brave new world of paperless communications with courts and official public authorities. As of 1 July 2012, the Ministry of Interior will create mandatory electronic data depository boxes to which all official correspondence from courts and from other public authorities and organs will be deposited.”²⁷

“Money has also been spent automating the courts or otherwise trying to reduce court workloads and streamline case management which, if unaccompanied by increased accountability, risks making corrupt courts more efficiently corrupt”²⁸

High levels of corruption in the judiciary lead to a situation where justice is essentially up for sale and the rule of law is supplanted by impunity for the rich and powerful. A major corruption risk in this area stems from low judge to population ratios and massive backlogs of cases that have been documented to plague the court systems in many countries. In Bangladesh, for example as of 2007 77 Supreme Court justices and 750 other judges are meant to cover a population of nearly 150 million. In India 26 Supreme Court judges were as of 2006 confronted with a backlog of no less than 30,000 pending cases, while in the Philippines an astounding total of 800,000 cases were pending in 2005.²⁹ Such bottlenecks provide serious incentives for bribery, in order to expedite or delay cases. Another major entry point for corruption relates to the assignment of judges to specific cases. Being able to influence these assignments and influence which judges are going to hear what case is a prerequisite for influencing verdicts and thus an attractive strategy for corrupt stakeholders. And underpaid corrupt judges find ample opportunities to manipulate verdicts in favour of the highest bidder when court proceedings are rushed through and take place without public scrutiny.

Electronic docket and case management systems, as well as the electronic recording of court proceedings are believed to have the potential to made progress on all these fronts. Recording court proceedings and making them accessible online on demand provides strong deterrents against blatant manipulations of proceedings. ICT-based case management can help move cases along more quickly to reduce backlogs and provide objective, traceable case scheduling functions. Moreover, these ICT-enabled systems can also be used to assign judges to cases through a fair, transparent matching mechanism.

Seeking to capitalise on this potential a broad array of countries have rolled out electronic reforms of the judiciary. Electronic case files, for example, have been introduced in the court system of Costa Rica ; Nigeria has begun to electronically record proceedings, while the Philippines have introduced an electronic case administration information system and India has embarked already in 2007 on a very ambitious – and ongoing - initiative to wire up its more than 15,000 courts.

The verdict is still out on how effective these ICT-focussed reforms are in tackling corruption in the judiciary. Early evidence confirms benefits mainly pertains to more efficient workflows, and enhanced transparency of court proceedings, while reports about reform processes that got stalled or systems that are not user-friendly have also surfaced.³⁰

²⁷ News clipping on website of International Bar Association (2012).

²⁸ See an overview of judicial reform efforts in 37 countries around the world in: Transparency International (2007): “Global Corruption Report 2007: Corruption in Judicial Systems”, Cambridge UK: University Press.

²⁹ Transparency International (2007): “Global Corruption Report 2007: Corruption in Judicial Systems”, Cambridge UK: University Press.

³⁰ For a sample of positive experiences see for example U4 Anti-Corruption Resource Centre (2008): “Supporting Zambian Judicial Capacity to Handle Corruption Cases”, U4 Expert Answer, Berlin; Transparency International ; for some evidence on stalled or insufficiently impactful projects see World Bank Independent Evaluation Group (2011), “Capturing Technology for Development: An Evaluation of World Bank Group Activities in Information and Communication Technologies”, Washington DC: World Bank; for a mix of successful and rather unsuccessful initiatives see Transparency International (2007): “Global Corruption Report 2007: Corruption in Judicial Systems”, Cambridge UK: University Press. For a typical example of

A first scan of the civil society landscape indicates that NGO engagement on e-justice issues is still very limited. Bar associations and a vast array of NGOs are pushing for reforms in the judiciary on many fronts. They advocate, for example, for stronger provisions to insulate the judiciary from political pressures, call for adequate resources for the system, contribute to capacity building and actively monitor court proceedings to ensure due process. A focussed engagement however with the electronic dimension of judicial reforms appears to be only slowly taking shape, primarily in some of the larger countries and professional associations, such as the International Bar Association.³¹

Corruption in basic social service delivery: empowering the poor through electronic ID cards and application processes

Obtaining an identity card is a cumbersome, highly bureaucratic and high-corruption risk exercise in many countries. As a result, many of the poor and marginalised who cannot mobilise personal networks to navigate the system or afford costly trips and bribes to registration authorities go without formal proof of identification. This leads to a situation, where more than one in three children in urban areas around the world and as many as half of all children in Sub-Saharan Africa and South Asia are not registered at birth.³² This makes particularly the poor even more vulnerable to corruption. Without proper identification social benefits and services, for example, that poor people would be entitled to are difficult to claim, while land tenure is difficult to obtain or proof and an entire range of other rights and opportunities are difficult to harness when one cannot authenticate oneself properly. All this raises the risk that corrupt officials take advantage of such situations and seek to extort bribes from people that lack proper identification.

Modernising both the application process for IDs with the help of ICTs, as well as taking the ID card system itself online (e-ID cards) are believed to have the potential to make the entire system more accessible, accountable, useful and tamper-proof. Biometric proof of identity embedded in electronic authentication systems are hoped to curb arbitrary treatment and corruption in the distribution of social services and benefits, as well as in new aid modalities, such as conditional cash transfer programmes. This means ICT-led modernisation of personal identification is increasingly promoted as a central building bloc for addressing a whole range of corruption issues.

A particularly ambitious and high-profile initiative is underway in India, which aims to equip half a billion people with a personal id number linked to biometric characteristics by 2014, thus making this the largest online ID system in the world. Within 14 months of existence it has already enrolled 200 million people via 27,000 registration points across the country.³³ In tandem influential think tanks that wield considerable clout with large development donors have begun to tout the merits of biometric ID systems for other developing and middle income countries, thus most likely paving the way

massive cost-overruns and delays see The Sacramento Bee, "California Judicial Council halts court management system", March 27, 2012.; for a typical case of insufficient training see Z. Elepano (2010): "Case Management Reform The Philippine Experience", paper presented at 4th Asia-Pacific Judicial Reform Forum Conference, Beijing, 25-28 October 2010; for a very sluggish implementation of e-judiciary transparency aspects see for example Transparency International Hungary (2011): "National Integrity System Assessment: Hungary", Budapest: TI Hungary.

³¹ See for example F. Richardson (2010): "The E-justice Revolution", in: International Bar News, October 2010.

³² UNICEF (2012): "The State of the World's Children 2012", Executive summary. Children in an Urban World", New York: UNICEF.

³³ On India see for example McKinsey (2012): "Innovation in government: India and Estonia", McKinsey Quarterly, June 2012; The New Yorker (2011): "The I.D. Man", October 3, 2011; A. Gelb and J. Clark: "Building a biometric national ID: lessons for developing countries from India's universal ID program", Center for Global Development Brief, October 2012.

for more donor engagement in this area in the near future.³⁴ Some positive impact has been documented in Bolivia with regard to making id card issuance more inclusive and accessible to marginalised communities by means of electronic registration systems.³⁵ Yet, the verdict is still out on whether these systems will really be able to make a significant contribution to the fight against corruption. Attention from some segments of civil society to these ID initiatives is considerable. But it is almost exclusively focussed on the controversial nature of biometrics because of its potentially serious implications for privacy and equity, or it is motivated by concerns about wasteful use of scarce resources. Very few scholars or independent observers however dedicate themselves to scrutinising the claims that these technologies will help root out corruption in basic service delivery.

4 High stakes, yet little empirical evidence to guide implementation and constructive advocacy

As this brief overview of some of the key application areas shows, the stakes are extremely high. Governments around the world have launched a large number of high profile ICT projects not only with the intent to make administrations and governments become more efficient, effective and citizen-oriented, but also to make them more accountable and help stamp out major drivers of corruption. The technology projects that are being undertaken in the name of integrity are of immense ambition and scale as the top-line statistics and empirical examples presented above clearly demonstrates. It is worthwhile in this context to also note that governments tend to be the single largest consumers and users of ICTs in their respective countries. And some of the most ambitious ICT adopters are found in high-corruption contexts. Almost half of the 25 countries around the world, whose governments are believed to prioritise ICT the most are perceived to face rather high levels of corruption the public sector.³⁶

So given these high hopes, large ambitions and grand claims, the questions of how successful the many projects undertaken in the name of enhancing accountability and integrity have been found to be and how they can be most effectively assume their role in the fight corruption are absolutely essential. A first quick scan of the evidence as presented in relation to the four technology areas outlined above has yielded some very uneven and mixed results. It casts some serious doubts on all too inflated claims about a near automatic benign impact of these technological fixes on corruption. And at minimum it strongly suggests that more research and more monitoring and constructive, competent engagement by civil society is crucial to ensure that the integrity and accountability potential of these technologies is fully exploited and related initiatives are not just used as window-dressing by reform-resistant governments.

These findings are consistent with the broader state of knowledge on technology use for integrity. The need for more research is clearly articulated by related analyses. A very comprehensive systematic review of anti-corruption interventions, for example concludes that there is some initial “promising evidence that technology can be an effective anti-corruption strategy, but it would be extremely

³⁴ See A. Gelb and C. Decker (2011): “Cash at your fingertips: biometric technology for transfers in developing and resource-rich countries”, Center for Global Development working paper no. 253.

³⁵ M. Yanez-Pagans et al. (2012): “Information technologies and provision of national identification cards by the Bolivian police. Evidence from two randomized natural experiments”, paper presented at the *Annual Bank Conference on Development Economics*, May 7-8, 2012, Washington DC.

³⁶ High corruption in the sense that they do not rank among the 40 countries around the world that are perceived to face the lowest levels of public sector corruption. Source: authors calculation based on World Economic Forum, Executive Opinion Survey, 2010 and 2011 editions and Transparency International Corruption Perceptions Index 2011.

helpful to see more analysis on this topic”³⁷, while another extensive stocktake finds that “an important area for future research is to understand whether these types of technologies are effective when implemented at scale or whether their impact is undone by the sorts of forces identified (in other seminal work on corruption).”³⁸ In addition the emerging body of empirical knowledge on the anti-corruption impact of a broad range of e-government practices mirrors the high hopes, yet very mixed and inconclusive empirical picture that has also transpired for the four areas that were scanned here.³⁹

Uneven attention, uneven learning and advocacy

Right now, however, there are reasons to doubt that this research will come forth and the related watchdog functions are being filled. The quick scan of civil society engagement included in the four technology areas presented above is admittedly very preliminary and awaiting substantiation through more in-depth examination. Yet this first glance indicates that civil society engagement and an evidence-centred policy discourse on these crucial technology uses of governments for purposes of integrity and accountability are all but very limited.⁴⁰

It appears that much of the public attention and policy analysis in the area of ICT for governance has so far has focussed on the citizen side: how ICT can empower citizens to hold officials to account and mobilise against corrupt rulers and how governments can facilitate this by creating enabling conditions from promoting ICT access and skills to adopting open government standards or devising participatory online processes. These issues are already being abundantly explored from public discourse to specialised research debate and a very active research and policy advocacy community has formed around them.

³⁷ R. Hanna et al. (2011): “The Effectiveness of Anti-corruption Policy: What has Worked, What hasn’t, and What We don’t Know—a Systematic Review”, Technical report. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

³⁸ B. Olken and R. Pande (2011): “Governance Review Paper”, J-Pal Governance Initiative, ALJ Poverty Action Lab.

³⁹ For some widely quoted positive case studies of computerized systems successfully reducing the discretion of officials see for example J. Davis (2004): “Corruption in public service delivery: experience from South Asia’s water and sanitation sector.”, in: *World Development* vol. 32 no. 1.; for a case study on less corruption in land registers R. Chawla and S. Bhatnagar (2004): “Online Delivery of Land Titles to Rural Farmers in Karnataka, India” and for the success of a system in a large industrialized-country metropolis see S. Kim S, H. Kim and H. Lee (2009): “An institutional analysis of an e-government system for anti-corruption: The case of OPEN”, in: *Government Information Quarterly*, vol. 26, no. 1.; for a compilation of some other positive case examples see S. Bhatnagar (2009): *Unlocking E-Government Potential. Concepts, Cases and Practical Insights*. Sage Publications India; for some regression analysis work that finds a positive link between increasing e-governance maturity and stronger control of corruption see T. Andersen (2008): “E-Government as an Anti-Corruption tool”, Department of Economics, University of Copenhagen for a similar macro-structural examination that finds a positive link between ICT and corruption levels see D. Shim and T. Eom (2008): “E-government and Anti-corruption: Empirical Analysis of International Data” in: *International Journal of Public Administration*, vol. 31, no. 3. For an overview of studies that identify a number of problems and ill-fated projects see World Bank Independent Evaluation Group (2011), “Capturing Technology for Development: An Evaluation of World Bank Group Activities in Information and Communication Technologies”, Washington DC: World Bank. For more sceptical accounts see page 13 onwards.

⁴⁰ There are obviously some exceptions to this general observation. For example, TI groups in Slovakia and Hungary are utilising procurement data for their corruption analysis. TI Georgia has commented on the usability of the e-tender system in the country. TI India has developed an electronic procurement integrity matrix, while TI groups in the US and Mexico have undertaken research and advocacy work on electronic procurement (see for example TI USA ‘A work in progress: implementation of the APEC government procurement transparency standards in Mexico, Peru, Vietnam, Indonesia and the Philippines.’ 2011; Transparencia Mexicana (2012): “A New Role for Citizens in Public Procurement”, Mexico City: Transparencia Mexicana.

The other, important side of the coin, however, the use of ICTs for integrity purposes by governments and administrations themselves has received comparatively limited attention in the broader policy community and research community. What are the insights and lessons that could be learnt from the first batch of applications in this area to make them more effective in the future, to help other governments avoid dead ends and interested civil society groups to critically and constructively accompany related government efforts in their own countries?

Why hopes are high but under-examined

At the surface this uneven attention is surprising. To put it provocatively, it looks like all attention has shifted to government 2.0 the empowerment and networked oversight of citizens through ICT, and thus pays rather short shrift to government 1.0 the use of ICT by governments for their core tasks and services.

On closer inspection the reasons for this attention shift are becoming clearer. A peculiar confluence of interests to create big hopes (industry) and to buy into them (governments), compounded by the inability or lack of interest by civil society NGOs to competently monitor and comment prepare the ground for this. The ICT industry is keen on selling high-margin, big ticket technology projects to the public sector, a customer that is perhaps often not as difficult and discerning as private industry clients.⁴¹ In addition, governments are eager to showcase progressiveness and innovation leadership or want to be seen to be active in fighting corruption and find ICT solutions an appealing tool to project this image.

At the same time, civil society groups working on corruption issues are eager to promote practical solutions and they are open to trying out new high-potential weapons against corruption. But they may not have the resources and expertise to evaluate bold technology claims and complex implementations in great detail, while technology activists are inclined to focus on freedom of expression or privacy implications of government technology use and do not view the impact on integrity as a big priority to examine and monitor.

Finally, scholars, no matter if they belong to the camp of technology optimists or sceptics tend to focus their energy on the more popular and exciting social media / citizen empowerment side of ICT or, if they examine government use of technology they tend to focus on the efficiency dimension. The result is a research, advocacy and policy debate that pays only limited attention to tracking, probing and helping to improve the many technology projects that governments embarked upon in the name of tackling corruption and boosting integrity.

Heeding broader lessons on technology adoption

This situation is unfortunate, particularly because anecdotal evidence and what we know about how technologies are being shaped and implemented provide some reason to be sceptical about all too exuberant predictions of how potential functionalities actually translate into impact.

⁴¹ An analysis of e-government projects in advanced ICT countries, for example finds that the risk of project failures or overpricing is closely associated with the power and knowledge advantages of the domestic IT industry vis-à-vis the government clients. See P. Dunleavy, H. Margetts et al. (2004): "Government IT Performance and the Power of the IT Industry. A Cross-National Analysis", paper presented at American Political Science Association Annual Meeting, Chicago, September 2004.

It has long been received wisdom on the industry side, for example, that as many as 2 out of 3 large scale ICT projects fail.⁴² Even if this number may appear a bit exaggerated, it still points at a relatively high failure rate. For governance related projects such a rate is confirmed, for example by a World Bank evaluation report for the Bank's 2003-2010 ICT project portfolio that finds that only "about half of ICT components in projects supporting public sector governance are likely to achieve their intended result."⁴³ Moreover, a vast body of in-depth research on how technologies in many fields are being adopted provides ample evidence that functionalities and impact are by no means predetermined by technological properties, but are being actively shaped, filtered, subverted, altered etc. by contextual factors, unexpected circumstances or influential user groups to make them serve their own interests and/or defy higher authorities. Yet lessons from meticulous studies of technology development and adoption also highlight the role that careful analysis, awareness raising, technology design, enabling policies and related advocacy can play in realising desirable social potential and impacts of technologies.⁴⁴

Taken together all these insights confirm the need and urgency to look more closely at how governments use of integrity technologies works out in practice and how an essential ecology for related research and advocacy can be nurtured.

5 A framework for research and engagement

A useful first step could be to map the status and level of maturity of knowledge and advocacy around specific integrity technologies. The following matrix suggests a descriptive set of classifications for this. The actual descriptions represent a very first preliminary impression, more for illustrative purposes at this point. Much more in depth-research is clearly needed to populate and corroborate this matrix and make it a launch pad for identifying critical gaps and important next steps for research, capacity building and engagement.

⁴² See for example J. Goodman (2009): "Why 70% of Government IT Projects Fail", ESP Solutions Group; R. Nelson (2005): "Project Retrospectives. Evaluating Project Success, Failure and Everything in Between", in: *MIS Quarterly Executive*, vol. 4, no. 3; or B. Flyvberg and A. Budzier (2011): "Why your IT project may be riskier than you think", in: *Harvard Business Review*, September 2011. The latter find that as many as one in six large IT projects turn out into catastrophic failures with cost overruns of 200% and schedule overruns of 70%.

⁴³ World Bank Independent Evaluation Group (2011), "Capturing Technology for Development: An Evaluation of World Bank Group Activities in Information and Communication Technologies", Washington DC: World Bank.

⁴⁴ For a seminal study, see for example W. Bijker (1995): *Of Bicycles, Bakelite, and Bulbs: Towards a Theory of Sociotechnical Change*, Cambridge MA: MIT Press; for an overview J. Wajcman (2002): "Addressing Technological Change: The Challenge of Social Theory", in: *Current Sociology*, vol. 50, no. 3.

A framework for assessing the research and advocacy landscape: where do we stand in relation to what government technology for integrity?

Scale / maturity of evidence and engagement (in descending order)	Integrity technology			
	e-procurement	e-taxation	judicial case management	Biometric / electronic id cards
A Technology potential: features and functions of new technologies are sufficiently describable to envision beneficial applications in the area of integrity and accountability	***	***	**	***
B Governmental and public buy-in: awareness of potential and optimistic presentation of anti-corruption benefits are widespread,; significant resources are being spent on ambitious adoptions, big hopes raised about benign impact	***	***	**	***
C Evidence base for effectiveness: solid evidence for effectiveness with regard to anti-corruption integrity issues (not just efficiency or other potential objectives of the technology) available; independent research projects under way	**	*	0	*
D Thriving advocacy Knowledgeable NGOs, think-tanks, scholars critically and constructively accompany implementation in-country and influence further development and deployment of tech	*	0	0	*

Ratings: 0 = virtually non-existent; * = nascent; ** =partially developed, *well developed**

Moving through the four stylised and inter-related stages of expected technology potential (with regard to boosting accountability and integrity), key stakeholder buy-in (governments, industry), empirical evidence base on actual impact and level of constructive and technical civil society engagement provides a very rough overview of the status quo, but more importantly also makes it possible to identify the most important gaps. These gaps are particularly critical and require priority engagement where the discrepancy between A/B on the one hand and C/D on the other is particularly glaring, i.e. where the levels of hype, hopes and government deployment are particularly high while the levels of evidence and civil society engagement are particularly low.

The matrix summarises such disparities for all the four technologies discussed. The cases of e-taxation and judicial case management particularly stand out for the contract between potential / expectations on the one hand and evidence base / constructive advocacy on the other. But sizeable discrepancies can also be observed for the other two technology applications examined. The evidence base seems most developed, albeit still insufficient for electronic procurement, while the area of electronic id cards enjoys overall quite some attention from civil society advocates and critical researchers, who are however mainly focussing on privacy and surveillance issues without giving much attention to the anti-corruption dimension.

6 Where to go from here?

Having identified the most useful entry points and priorities for research and engagements, a next step would then require to a) select the pieces of empirical information that need to be researched in order to inform advocacy and implementation monitoring in the most effective way. A first stab at the related research questions and required knowledge base for effective advocacy could include the following questions:

- *Where have these technologies been deployed already and what do we know about their impact on corruption and integrity*

This will also require to think carefully about suitable indicators and research strategies to measure realistic impacts on corruption and integrity or some proxy variables)

- *What are the main obstacle and the main enabling conditions to make it work*

This will also require to explore under what circumstances there is a realistic chance of success in the first place that would justify large investments

- *What are the key design features to make this particular technology work?*

The primary focus is of course to investigate how design can best make this technology for accountability and integrity and how to encourage significant uptake and use. Research into design is also important to examine how a deployment for effective integrity interacts with and can be made compatible with privacy, freedom of speech, equity or other potential implications of the technology use.

- *What design and implementation features are essential to facilitate performance monitoring, testing, assessment and continuous learning?*

This includes consultative design processes, feedback mechanisms, as well as the recording and disclosure of detailed usage statistics and patterns and the automatic disclosure of related project data and information in formats that make them easy to analyse and examine.

Finally , in tandem with building an empirical knowledge base on these issues it is also important to scan the related NGO landscape much more thoroughly to see how an effective advocacy alliance can be built and which tech-oriented, governance-focussed or sector-specific NGOs are key players and could be most likely encouraged to get involved in this particular initiative. Building, nurturing, and globalising such a research programme and specialised community of research and advocacy is a prerequisite for making government technologies work for accountability and integrity. There is enough evidence to be optimistic and enough evidence to be cautious, but still not enough evidence on how to best realise this potential. And it is clear that a lot of hard work – analysis, advocacy, constructive engagement - stands between hope and success. If this work can be done, it would help seize the opportunity of one of the most remarkable technological developments in the last decades and make a truly transformational and important contribution to the fight against corruption. So it is both essential and urgent to adopt an open yet inquisitive stance, gear up for the hard work ahead and engage constructively across disciplines and sectors to reap the digital dividend for integrity and accountability. It is definitely worth a shot.