U4 Expert Answer

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Technological innovations to identify and reduce corruption

Query

Please could you provide an overview of the main technological innovations over the last decade (e.g. websites, mobile phone apps, auditing tools) that have had the greatest impact on identifying and reducing corruption, particularly in middle income, low income and fragile states.

Content

Caveat

A number of paragraphs from this paper have been taken from a previous U4 Expert Answer entitled "The use of mobile phones to detect and deter corruption" (Chêne, 2012).

Summary

Information and communications technology (ICTs) are increasingly seen by governments as well as activists and civil society as important tools to promote transparency and accountability as well as to identify and reduce corruption.

New technologies, in the form of websites, mobile phones, applications etc., have been used to facilitate the reporting of corruption and the access to official information, to monitor the efficiency and integrity of social services and of a country's political life, and to make financial information more transparent. ICTs can also support campaigning efforts and help mobilise people against corruption. Over the last decade, governments have launched an increasing number of e-government initiatives to enhance the efficiency and transparency of public administration and improve interaction with citizens.

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Despite these important developments, there is only limited research available on the impact of new technologies on corruption.

1. Information and communications technology against corruption: potential and challenges

Potential benefits

There is a broad consensus that ICTs have the potential to make a significant contribution to the fight against corruption. By facilitating the flow of information between government institutions, between government and citizens, as well as among citizens, new technologies can promote transparency, accountability and civic participation (Chene, 2011).

There are numerous ways in which ICTs can trigger positive change: by reducing the asymmetries of information between public officials and citizens; limiting the discretion of public officials; automatizing processes, cutting out intermediaries, and reducing red tape and bureaucracy. (Zinnbauer, 2012).

The Swedish Program for ICT in Developing Regions (Spider) developed a list of the possible areas in which ICTs can help combat corruption (Grönlund, 2010):

- **Automation**, which can reduce the opportunities for corruption in repetitive operations.
- **Transparency,** which can help reduce the room for discretion;
- **Detection in operations,** to identify anomalies, outliers and underperformance
- **Preventive detection** through monitoring of networks and individuals;
- **Awareness raising** to empower the public and inform it about its right to resist arbitrary treatment;
- **Reporting,** to create complaint channels that can lead to concrete action and help punish violations and close loopholes;
- **Deterrence,** by disseminating information about reported cases of corruption;
- **Promoting ethical attitudes** through public engagement and online discussions.

Impact of ICTs: little evidence but positive signs

Although new technologies are increasingly seen by governments and anti-corruption practitioners as a transformational tool and a game-changer; very limited research has been undertaken to measure the actual impact of ICTs on corruption at the macro-level (Zinnbauer, 2012).

Andersen, in a study of the impact of e-government measures on the World Bank "Control of corruption" index, found that the implementation of e-government solutions often resulted in a considerable reduction of the levels of corruption: by conservative estimates, moving from the 10th percentile to the 90th percentile in the e-government implementation implies a reduction in corruption equivalent to moving from the 10th percentile to the 23rd percentile in the control of corruption measurement. Similarly, Shim and Eom studied the correlation between the usage of ICTs (measured by the UN e-Government readiness index, the UN e-participation index and the level of internet penetration) and the level of corruption (measured by Transparency International's CPI). They conclude that the country's position on the e-readiness and e-participation indices[1] is negatively correlated with the levels of corruption, meaning that a good positioning on the e-readiness and e-participation indices goes together with lower levels of perceived corruption. Both studies argue that the use of ICTs should be combined with administrative reform but that the order of implementation does not matter (Grönlund et al, 2010).

A 2013 study by Garcia-Murillo analysing the correlations between the implementation of e-government innovations (measured by the UN e-Government Readiness index and the UN Telecommunications Infrastructure index) and the level of corruption (measured by the Worldwide Governance Indicators) comes to similar conclusions, that the governments' web presence reduces the perception of corruption in a country.

Challenges and limitations

In spite of its potential, the use of ICTs for anti-corruption is not a magic bullet. The realisation of its full

[1] E-readiness is the ability to use ICTs to develop a country's economy and institutions. E-participation is the use of ICTs for enabling and strengthening citizen participation in democratic decision-making processes.

potential depends on political, infrastructural, social and economic factors. Significant challenges in terms of internet access, confidentiality, and costs related to the implementation of ICT solutions remain to be addressed (Hellström, J., 2009 and 2010).

Political environment

The prerequisite for the success of ICT solutions is an enabling political environment that promotes and protects free speech. This conflicts with the experience of many countries, in which governments have made efforts to control the development and use of ICTs.

Potential for misuse

ICTs can be used and misused for social mobilisation. A case study of the 2007/2008 Kenyan presidential election crisis illustrates how digital technologies can serve as catalyst for predatory behaviours such as ethnicity-based mob violence (Goldstein J. and Rotich, J.). There is also a risk of ICTs being misused by undemocratic governments for control. Such discussions have arisen in Uganda in relation to the debate about the proposed Interception of Communication Bill, which sought to authorise security agencies to intercept phone, e-mails and postal communication for national security reasons.

Infrastructural environments: Worldwide, over a billion people have access to the internet and can use new information and communication technologies for development and good governance. However, a vast majority of the world's population is still without internet access and thus cut off from these tools and innovations (Spider, 2010).

While mobile phone penetration is progressing at rapid pace, obstacles remain to universal internet access. In particular, the lack of backbone links limits the connectivity between different regions of the world. A series of new marine and terrestrial cables is currently under construction and it is expected that it will eventually increase capacity and reduce the cost of internet access worldwide. The first of these, the SEACOM cable, eastern Africa's first modern submarine cable, was completed in 2009 (The Economist, 2009).

The lack of reliable access to electricity in some developing countries can also be an obstacle, making it difficult and costly for people to charge their phones and other devices, especially in rural areas. Tech support systems are also usually weak and hard to reach in developing countries.

Security and confidentiality

There are significant security challenges associated with the use of mobile phones for reporting corruption. If the system is poorly designed or vulnerable, the whistle-blower risks being identified or the message intercepted. In China, for example, the government has allegedly established a SMS monitoring programme to monitor and censor text messages, by setting up SMS surveillance centres around the country (USAID, 2008). According to USAID, plain text messages should not be considered secure, particularly when it is possible that the receiver or sender has been placed under surveillance. Many governments are also putting pressure on operators to register SIM cards to be able to connect a person to the SIM; some countries already require identification for purchasing a SIM card, which may facilitate the identification of the user. The challenge is therefore to secure confidentiality when sensitive information is being communicated.

Operational issues

Operational issues can also be obstacles to the effective use of ICTs. They include usability and the limitations of mobile phones (small screens, short messages, and complicated commands), regulations and legal aspects of mobile applications, costs, payment, revenue sharing, etc. Some services are tied to a specific operator, creating challenges of interoperability between operators and roaming between countries (Hellström, J., 2009).

2. Examples of technological innovations to identify and reduce corruption

There are multiple ways in which ICTs can contribute to identify and reduce corruption and bribery:

- Technology innovations can be used by governments to improve the efficiency and transparency of public administration and to better communicate with and provide information to citizens;
- It can also be used by citizens and civil society to raise awareness about the issue of corruption, to report abuses, to collect data and to monitor government activities:
- The use of ICTs to fight corruption has increasingly served as an avenue to bring the tech community closer to activists and civil society, through the phenomenon of "hackathons". The latest

International Anti-Corruption Conference hosted a hackathon focussed on finding innovative ways to fight corruption using new technologies.

More concretely, a broad range of initiatives have been successfully implemented in the last decade throughout the world as reflected by the examples below.

ICTs for reporting

Technology provides effective new channels to report administrative abuses and corruption, and facilitate the lodging of complaints. Reporting can be done via websites, hotlines or phone applications that solicit and aggregate citizens' experience of corruption.

Reporting bribery and petty corruption

Perhaps the most renowned corruption reporting website is Janaagraha Centre for Citizenship's ipaidabribe.com. Through this website, citizens can report on the nature, number, pattern, types, location, frequency and values of actual corrupt acts that they experienced. Ipaidabribe.com received almost 22,500 reports between 2010 and 2012, some of which were picked up by the media and resulted in arrests and convictions (IACC, 2012). On the same website, citizens can also report on positive experiences they had with honest officers. The initiative started in India but has now been duplicated in Greece, Kenya, Zimbabwe, and Pakistan. New versions of ipaidabribe.com will soon be launched in Azerbaijan, South Africa, Ukraine and Tunisia.

Transparency International has opened over 50 Advocacy and Legal Advice Centres (ALACs) since 2000 to receive citizens' complaints about corruption and engage in strategic advocacy on people's behalf. TI Macedonia has launched an online reporting platform called Draw a Red Line which allows individuals that have experienced or witnessed corruption to report their cases via ONE (Mobile Operator) by sending SMS from their mobile phones, sending an email, using a web form, on twitter by using the hashtag #korupcijaMK or by reporting over the phone. The reports are then verified by TI Macedonia staff and forwarded to the appropriate public institution to solicit follow-up. In 2012, Draw a Red Line received about 200 reports, 60of which were verified.

A number of global reporting platforms have also been developed in recent years. BRIBEline is a reporting website available in 21 languages that was initiated by TRACE. BRIBEline collects information, through anonymous complaints, about bribes solicited by certain official or quasi-official bodies - governments, international organizations, security forces, state-owned enterprises, etc. - throughout the world. The information gathered is used to take legal or investigative action and the aggregated data is made available to the public to raise awareness about specific corruption challenges.

Mapping bribery and petty corruption

Bribe Market is a similar initiative developed in Romania that allows citizens to share their experiences of bribery when interacting with public services and the amount of money they had to pay. This initiative was developed in 2012 thanks to the support of the Restart Challenges competition financed by TechSoup Global, the Central and Eastern European Trust for Civil Society, US embassies and Microsoft. Within its first four months of existence Bribe Market received nearly 650 reports of corruption. Reports are mapped to help people identify which service providers are the "cheapest" and the least corrupt (IACC, 2012).

Reporting electoral fraud

Mobile phone reports have also been adapted for citizens election monitoring. In the Philippines for example, during the 2010 presidential elections, the VoteReportPH project encouraged voters to report electoral fraud and irregularities via SMS, email, Twitter and the website, using a collaborative Ushahidi-based platform[2]. The project has gained much online popularity, attracting around 2,500 unique hits per month (Grönlund, A. et al, 2010). In Uganda, Ugandawatch 2011 is an independent hotline that allows citizens to report problems, fraud and irregularities during the electoral process. The organisations involved then analyse the information and publish reports covering issues such as voter registration issues, money in politics, as well as violence and intimidations (Hellström, J., 2010).

2 The Ushahidi (witness in Swahili) platform was originally developed as a crowd -sourcing tool and used for post-election monitoring in 2007/2008 in the aftermath of Kenya's disputed 2007 presidential election allowing ordinary citizens to report outbreaks of ethnic violence using multiple channels such as SMS, the web, e-mails and Twitter. Cases were then verified, collated and placed them on a Google map.

ICTs for monitoring

ICTs are increasingly used to monitor budgets, projects and government activities, as well as to request official information.

Access to information

Alaveteli is a free social email software that is used by citizens to request information from their government. Alaveteli facilitates the correspondence with the relevant authorities and keeps track of all requests and their responses. Alaveteli was funded by the Open Society Institute and the Hivos Foundation and has supported the launch of many FOI websites, such as the EU's Ask The Eu , Brazil's Queremos Saber and Kosovo's Informata Zyrtare**.**

Budget monitoring

Openspending.org is an Open Knowledge Foundation initiative promoting open knowledge and data, particularly regarding government budgets through a mapping of money flows. The aim of Openspending.org is to help track every government and corporate financial transaction across the world and present it in user-friendly and engaging forms. The project is participative and has been taken up in several countries: Transparency International Slovakia launched Slovakia Openspending in early 2013, presenting budget and expenditure information from more than 20 cities across Slovakia; the World Bank launched Cameroon Budget Inquirer, in collaboration with Opensepending.org, to visualise the national investment budget, to provide a sub-national budget transparency index and to allow people to easily explore the country's financial data.

Monitoring of political life

ICTs can also serve to monitor a country's political life, from political party financing to Parliament activities. Argentina's PoderCiudadano launched the website Dinero y Politica to present data on political party finances. This website has become a point of reference for information regarding political and campaign financing and offers data from national elections dating back to 2007. In France, a group of citizens formed Regards Citoyens to provide official information about the country's political life (votes and debates at the National Assembly and at the Senate, database of lobbying activities etc.) in a simplified manner. The Czech and Slovak website KohoVolit keeps records of the proposals and positions of electoral candidates before elections and monitors whether candidates and parties' actions while in power match their campaign programmes and pledges.

Monitoring of social services

In recent years, many social accountability projects have started using ICTs to monitor the delivery of different social services.

Transparency International Germany recently launched an online platform to monitor the connections between the business community and German Universities. Hochschulwatch maps the money received by German higher education institution through corporate agreements.

A good example of the use of new technologies is the Philippines' Check My School project. Check My School is a participatory monitoring tool combining ICTs and community monitoring to look into use of public funds by schools. The objective of the project is to help the Department of Education identify resource gaps.

ICTs have also been utilized in the health sector. TI Uganda has recently launched a project on "Promoting social accountability in the health sector in northern Uganda". This project empowers health users to monitor local health centres through the use of the radio, call centre operations, mobile phones and web applications.

Monitoring of the judiciary

ICTs can also help monitor the work of the judiciary. Guatemala is a country where impunity is a serious problem, partly due to the politicisation of the appointment of judges. Guatemala Visible is an online platform, set up and maintained by civil society organisations, that monitors the selection of the Auditor General, the General Prosecutor, the Public Defender, the Ombudsman and other key judiciary officials. Guatemala Visible has so far succeeded in publicising information about candidates to senior judicial positions, compelling the nomination committees to conduct rigorous background checks and scrutinize unqualified candidates (TAI, 2010).

Monitoring of illegal logging

The use of satellite images/cameras to monitor illegal logging is currently being explored within the context of the initiative for Reducing Emissions from Deforestation and Forest Degradation (REDD). There are major corruption risks associated with carbon emissions reduction schemes such as REDD. First, REDD takes place in a corruption-prone sector, where corruption is

widespread in the form of state looting, elite capture, theft and fraud. In addition, there are specific governance challenges associated with emerging forest development practices and carbon trading schemes, such as inappropriate validation and verification, misappropriation of carbon rights, double counting and fraudulent trade of carbon credits. Satellite Imaging Technology (Remote Sensing) can be used as a tool for monitoring, assessing, reporting and verifying carbon credit and co-benefits. Such technologies are currently widely tested and suggested as a tool for REDD monitoring, assessment and verification (UN-REDD Programme, 2008).

ICTs for data collection

In parallel to online reporting, ICTs can be used to collect and aggregate data to make certain arguments more compelling. Hungary's K-Monitor has built a database of media reports concerning corruption, searchable by location, political party, sector etc. This initiative had collected, categorised and published over 20,000 reports in 2012.

Similarly, although not directly related to corruption, Cambodia's Human Rights Portal, sithi.org, maps reported cases of journalist assassinations, media harassments, land conflicts and other similar human rights violations. This website aims to provide information on the human rights situations in Cambodia to raise public awareness and improve the understanding of human rights in this specific context.

ICTs for campaigning, social mobilisation and citizen-to-government interaction

Citizen mobilisation

ICTs can also be used for citizen mobilisation and awareness raising campaigns. Mobile applications can be designed to reach the majority of mobile subscribers through outreach/publicity campaigns using SMS. Organisation running such initiatives need to build a substantial data base of targeted subscribers with active phone numbers, which can prove challenging (Hellström, J., 2010). An example of similar approaches is the campaign run by #InternetNecesario in Mexico, which used a combination of twitter, blogs posts and media outreach to put pressure on Mexican legislators to eliminate a 3% tax on internet access which was passed without civil society consultation (Technology for transparency Network, 2010).

ICTs can also be used to mobilise people and raise awareness through art. In Tanzania, Chanjo, a collaborative project between musicians, aims to combat corruption through art, mobile phones and social media. The Chanjo project is structured around concerts and tours throughout the country followed by public discussions and debates about corruption. The music tour organised by the artists through Tanzania is coupled with the free distribution, through mobile phones and internet, of songs about corruption issues. The use of internet and social media allowed the project to reach almost 11,000 people between October and December 2011 (Spider, 2011).

Government-citizen interactions

ICTs can also be used to promote more direct interactions between governments and citizens and empower citizens to influence local governance in their constituency through the use of SMS and the Web. In Kenya, for example, several initiatives enable mobile phone users to pose questions to their local parliamentarians, in order to increase bottom-up communication and citizen-to-government interaction. BungeSMS, a commercial vendor from South Africa, has designed a platform for holding Kenyan Members of Parliament accountable. Citizens can send an SMS to a MP through a designated number which is then routed to the BungeSMS website (Hellström, J., 2010).

E-government initiatives

ICTs are increasingly used by governments all over the world to deliver government information and services to citizens, to enhance the efficiency and transparency of public administration and to better interact with citizens. E-government plays an increasingly important role in the promotion of participatory and inclusive development and democracy, and has grown in parallel to the rising demand for government transparency and accountability (UNPAN, 2012). Numerous e-government initiatives have been successfully implemented in the last decade and those provided below are just a few examples.

E-procurement

E-procurement was one of the first applications of ICTs in government activities. E-procurement is the replacement of paper-based procedures with ICTs throughout the procurement processes. E-procurement can reduce administrative costs, speed up the process, increase transparency, facilitate monitoring, encourage cross-border competition and support the development of a centralised procurement administration (OECD,

2011). South Korea adopted its Government e-Procurement System (GePS) in 2002, providing integrated bidding information as a one-stop shop for customers and enabling the electronic processing of the entire procurement process. The bidding system and procurement information are available through mobile phones. According to the OECD, South Korea's e-procurement system has significantly reduced the risks of corruption, through the enhanced transparency made possible by the digitalisation of information, and increased competition (OECD, 2005).

E-taxation

Governments also use ICTs for tax collection and payment, with the objective of making the system more transparent and efficient, and to cut out potential corrupt tax collectors. E-taxation has been implemented in 77 countries throughout the world, which is equivalent to 40% of the United Nations' member states. An increasing number of developing countries, such as Tunisia, Sao Tome e Principe and Cape Verde, have opted for electronic tax collection to accelerate the tax processing time and ease the process of paying taxes, (UNPAN, 2012).

E-judiciary

ICTs offer considerable potential to improve the way the judiciary operates both nationally (filing, archiving, protection of evidence, reporting, traceability) and internationally (international judicial cooperation, training). E-judiciary has helped make workflows more efficient and court proceedings more transparent (Zinnbauer, 2012). In addition, it informs citizens of their rights and can contribute to simplifying procedures (Velicogna, 2007). India, for example, has implemented a number of ICT-based initiatives in its judiciary, like the e-justice process, to provide better access to justice for Indian citizens. Turkey has launched an SMS judicial information system, offering a legal notification service for citizens and lawyers about any development concerning their cases (UNPAN, 2012).

Electronic identification

New technologies have been used to modernise the process of citizen identification and distribution of social services and benefits. The digitalisation of the procedure to obtain an identity card, E-ID cards and biometric proof of identity captured in electronic authentication mechanisms can have the potential to make the system more accessible, transparent and accountable. Such initiatives can reduce corruption risks in the distribution of social benefits and services, as well as in international aid (Zinnbauer, 2012).

Financial transactions

In 2009, the Afghan National Police began to test paying salaries through mobiles instead of cash, using a text and interactive voice response system. Most policemen assumed that they had been given a significant raise in salaries, while there were simply receiving their full pay for the first time. The new system revealed that in the past at least 10% of payments had been going to ghost policemen and that middlemen in the police hierarchy commonly pocketed a percentage of other policemen's salaries (Rice, D and Filippelli, G., 2010).

The Better Than Cash Alliance, uniting governments, private sector companies as well as the development community, is advocating for organisations to carry out their distribution of benefits, salaries and other payments in electronic form. The Alliance provides research as well as policy and technical assistance on transition to electronic payments.

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