MADRID GUIDELINES 2017

Transparent and accountable cities: innovative solutions for municipal management and finance
This document is the product of the debate generated during the 2017 Uraía “Citizenship Series” that took place in Madrid, Spain on 9 and 10th February 2017 co-organised with the Spanish Federation of Municipalities and Provinces - FEMP. The publication is the result of a collaborative effort by the participants who attended the workshop including representatives of local governments, their associations, city networks, civil society, international organizations and research institutes from all around the world.

We present here different approaches by cities that use SMART technologies to promote innovation to increase transparency, accountability and participation in city management. The document has been put together by the Uraía team (María Alejandra Rico, with the help of Fabienne Perucca and Agyedho Nyaba) under the supervision of Diana López Caramazana, Head of government and decentralization Unit at UN-Habitat.

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I. INTRODUCTION

The main goal of these Guidelines is to offer an overview about how SMART technologies can be used by local governments to improve transparency, accountability and open government in their cities. The report shows how cities are using innovation to prevent corruption and mismanagement happening in urban management, fostering transparency and participation as a better way to engage citizens. It identifies three case studies and recommendations about specific tools and SMART solutions that can be used by decision makers and practitioners alike.

The Uraía Platform

Uraía supports cities in implementing SMART strategies to improve municipal management by sharing experiences and building capacities. Today, the platform has a network of more than 100 partners from around the world, including cities, their associations, research institutions and the private sector. Uraía is a project of UN-Habitat, the United Nations Human Settlement Programme and FMDV, the Global Fund for the development of cities. Once a year, the members of Uraía meet to discuss a topic considered a priority for its members. The product of the meeting takes the name of the city where the event has taken place.

☑ Nicosia Guidelines 2016: the impact of SMART technologies in the municipal budget; increased revenues and reduced expenses for better services.

Uraía 2017 Citizenship Series

In 2017, the Uraía Platform workshop focused on how cities can use SMART technologies to be more transparent and accountable to their citizens. A two day workshop under theme of "Transparent and accountable cities: innovative solutions for municipal management and finance" took place in Madrid, co-organized with the Spanish Federation of Municipalities and Provinces (FEMP).

Cities and partners presented their experiences on the innovative solutions. The call for experiences had an unprecedented success, with over 130 candidates willing to participate and showing the relevance on this topic for city’s leaders and stakeholders.
The experiences gathered around four thematic trails:

1. **Thematic trail BLUE** - Municipal finances: innovative solutions to increase transparency in managing public money.

2. **Thematic trail GREEN**: Innovative solutions for transparent public services.

3. **Thematic trail YELLOW** - Innovative solutions to govern with the citizen: increased participation and citizen engagement in city management.

4. **Thematic trail RED** - Innovative solutions to increase local capacities in the fight against corruption.

**SMART technologies for transparent and accountable local governments**

During the last decades, we have witnessed a growing trend of devolution of responsibilities from the central government to local governments. This has been accompanied in different degrees depending on the national context, with the transfer of regulatory capacities and budgetary resources. Urban management is today decentralized most countries of the world. From basic services such as water and sanitation, to planning, commercial licensing and construction permits, local governments are playing a greater role designing policies and delivering key urban services.

The local sphere is where citizens and the public sector interact most regularly and directly. Therefore, when corruption occurs locally, the impact on citizens’ lives is most damaging, and the poorest are the ones most affected. Decentralization has helped strengthen accountability and citizen participation at local level by bringing government closer to the citizens. This is why opportunities for increased civil society engagement and oversight, control and monitor local spending and performance, are higher at the local level.

It is often perceived that local decision-makers suffer from a high risk of being captured by special interests and that, in many cases, institutions designed to hold local public officials to account are not always adequate (Transparency International, 2016). There is a great need to change this perception. Building trust in the local public administration is essential for any public sector action; trust does not exist without improving the communication with citizens on the one hand, and without eradicating corrupt and ineffective practices, on the other.

There is a growing social rejection and an installed awareness by the public regarding the problem of corruption and its effects (Transparency International, 2016). The development and promotion of policies and initiatives of transparency and accountability are key to improving the living conditions of citizens through the provision of efficient and effective services in an open, competitive and fair manner. These policies and initiatives can improve levels of trust in public institutions and they are an opportunity for citizens to have the tools and information needed in order to play a more active role in society (CAF and UN-Habitat, 2014).

But many local governments lack the necessary support to cope with the challenges posed by new types of governance. Innovation and SMART technologies present great opportunities to link with citizens and to increase efficiency in service management.

The purpose of this document is to explore specific examples about how to do so.
Transparency, accountability and participation: open government for better urban governance.

Over the past years, an increasing number of countries have shown concern about the need for increased transparency, accountability and effective mechanisms for citizen engagement (Cruz-Rubio). This context has allowed the emergence of new public management models such open government\(^1\) based on increased transparency, accountability, participation and citizen collaboration. Cities, due to their scale and greater proximity to citizens and other stakeholders, offer important advantages to initiate these efforts.

The open government phenomenon is marked by the need of citizens to have greater transparency and better access to information regarding their government’s action. This demand has found response in the emergence of new mechanisms of dialogue supported by new technologies, which provides and incredible opportunity in the field of public governance.

A transparent government is one that provides information about what it is doing, about its future plans and data sources: a one that can be held accountable to society. Nevertheless, transparency requires traceability of public decisions to allow a permanent adequate social control by citizens and to really have a positive effect in public management.

Finally, an open government recognizes the need to rethink the way the public operates. In order to benefit from this new model of governance, it is necessary to recognize the talent of governments and the talent emerging in the citizens. Open government involves opening up public administration to the talents of society, it involves explaining its action, how things are done and what their consequences are. It is a model where citizens are involved in decision making, formulation, follow up and implementation of public policies.

In the present context of technological innovation, an open government can benefit from the possibilities offered by new technologies. It is important to notice that open government goes beyond the concept of e-government. An open government model implies changes in the values and principles governing public sector priorities and performance. The concept of open government includes promoting stronger institutions and stronger democracy, while profiting of innovation and SMART technologies as tools to transform and enhance the reach and impact of its action.

Innovation as key factor for transparent and accountable cities

SMART technologies are changing the day-to-day lives of people in both industrialized and developing countries, producing incredible side effects in the local economy, but also accelerating social transformation and generating a direct impact in the lives of the citizens.

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\(^{1}\) Open government is a new paradigm or model of socio-political interaction that, based on the values and principles of transparency, participatory democracy and citizen empowerment, accountability, open data and the use of technological advances, constitutes a way for the design, implementation, control and evaluation of public policies helping administrative modernization processes and prioritizing citizen in needs, thus offering a new alternative for public management (Cruz-Rubio). In recent years, open government (GA) initiatives have advanced in many countries through the development and implementation of commitments under the international initiative Open Government Partnership (OGP). Although the commitment with the OGP are taken at national level, it is important to stress that local governments, in different geographical contexts, have been incorporating new governance models in their political agendas, placing cities as a reference in the conception of open government formulas.
This change of paradigm has also affected the way the citizens are communicating with their local governments, presenting a new opportunity to channel citizenship. Citizens today are increasingly demanding open and accessible information about the action of local governments’, as well as information regarding municipal finances, public contracts, etc.

On the other hand, local governments are seeing the use of technologies as an effective tool to respond to citizens demands and to improve the management of the city. This situation has generated an emerging market of SMART (Sustainable - Measurable - Accountable - Realistic – Transparent) urban services. Hence, the challenge for municipal management now is to adapt to the ongoing and rapid changes of innovation and to take advantage of this new window of opportunity. In this sense, there is a great demand by Mayors and other public managers to know experiences, tools and apps developed by other cities in the interests of greater transparency, accountability and participation in urban management as an effective tool to fight against corruption.

**Transparency and accountability: the necessary link between municipal finances and service delivery**

Local governments around the world struggle to offer accessible and quality services to their citizens with limited financial resources. SMART technologies present great opportunities to municipalities wishing to improve the link with citizens and increase efficiency in service management.

Corruption\(^2\) is, perhaps, one of the most damaging consequences of rapid urbanization, especially when this happens within a context of weak institutional and governance structures. The supply of services, such as access to land, adequate and safe housing, clean water and sanitation, among others, is finite and scarce in some cases (Zinnbauer, 2013). This increases pressure on local governments, sometimes, exceeding their ability to provide services and to respond to the large and vast established demand. As a result, some sectors and services can be prone to corruption, misappropriation and, worst of all, inefficiency and mismanagement. When cities experience corruption, a circle of poor governance perpetuates, limiting the opportunities for cities to be places for opportunity and poverty reduction.

Local governments need to build trust in the citizens as first step to be able to “do their job”. Citizens need to see the taxes they pay are reflected in the services they receive. The absence of this trust is one of the main causes of informality, where citizens do not rely on the public sector for the provision of essential services, and seek those services in the informal market (water, electricity, poor housing construction).

As informal services are not subject to any quality control, they are sometimes harmful to health, dangerous and often more expensive than municipal services (especially in the case of drinking water). Having a general perception that local governments are corrupt, the citizens are not incentivized to pay local taxes, and without local taxes, the administration cannot provide services. Informality particularly affects the poorest groups, who must pay exorbitant prices to access the most basic services.

\(^2\) Transparency International (TI) defines corruption as: “the misuse of entrusted power for private gain”. Corruption flourishes when transparency is absent. Obscure, non-transparent decision making processes create favorable conditions for corruption. The absence of transparent and prescribed regulations can give substantial discretionary power to officials as it creates an opaque environment with few ‘checks and balances’ (UN-Habitat, 2013).
Breaking the cycle of informality requires trenchant policies against corruption and misappropriation of public resources. Local governments will not be able to ensure public services for all without facing the problem of informality, and this feature cannot be resolved without transparent local governments that deserve the confidence of its citizens. Local governments need to communicate better with citizens and SMART technologies presents great opportunities to improve the link with citizens and increase service management efficiency.

I. How can SMART technologies help to build transparent and accountable cities?

There are four technological megatrends that local governments can consider in order to take advantage of innovation to build more transparent and accountable cities:

1. **Massive use mobile technology**: by 2017, smartphones and tablets will be used by 1.5 billion of citizens around the world.
2. **Massive use of social networks**: huge with younger generations that will constitute the 75% of workforce by 2025.
3. **Massive use of cloud computing solutions**: used by 80% of organizations worldwide.
4. **Big data explosion** - digital content will grow to 18ZB by 2017 (700% more since 2011).

In this chapter, we suggest four main categories in which SMART technologies can contribute to build transparent and accountable cities: by increasing transparency in the management of municipal finances and public money, by increasing efficiency in the provision of public services, by increasing participation and citizen's engagement in city management and city's affairs and finally, by increasing the local capacities in preventing and fighting corruption. Furthermore, the chapter presents three case studies that exemplify the work that local governments have doing in the matter, while commenting the main advantages and challenge they have faced in the implementation of these innovative solutions.

**Increasing transparency in managing public money**

SMART technologies can produce a positive impact on municipal finances. First, by increasing participation in budgetary decisions and by increasing transparency on the way public money is collected, managed and spent. This contributes to strengthen the trust of citizens in the local government, and leading to an increase in revenues. It is believed that citizens are more willing to pay taxes when they perceive that their opinions are taken into account by public institutions.

There is evidence that SMART solutions can help managing public money in a more transparent way by facilitating the supervision on government decisions, actions and expenditures, allowing citizens and governments to monitor the flow and use of public money and therefore increasing levels of accountability. SMART technologies have also facilitated the analysis, process, tracking and delivery of financial information and of public procurement processes; allowing for a new level of public scrutiny, facilitating internal financial management and preventing corrupt practices derived from regulatory manipulation, conflict of interest, and lobbying, among others. Additionally, SMART technologies can also help cities to fight corruption and fraud and therefore reduce financial losses due to misuse. These practices have proven to be strong incentives for governments to demonstrate that they are using public money effectively (OECD, 2016).
Box 1. Case study: YELEN TAX(YTAX)

ENDA ECOPOP

ABOUT ENDA ECOPOP

Enda ECOPOP is a Civil Society Organization that promotes the development of African territorial communities. Through the promotion of innovation and inclusive local public policies, it works with grassroots communities in advocacy efforts to influence qualitatively the decisions affecting citizens at different scales of intervention. In this perspective, SMART technologies have played an important role in advancing with this objective, while guaranteeing the inclusion of other stakeholders in local governance decisions and scaling up. Its mission is distributed around three strategic areas: local participatory governance for development to forge an institutional and social platform for sustainable development in local communities in sub-Saharan Africa; human rights and basic social services, working to promote the rights of populations for basic social services; and local economic development by building coalitions to generate income and poverty reduction in local communities by supporting community development initiatives. Enda ECOPOP articulates its intervention from the local (neighbourhood level) to the global (international level), going through the municipal and national scale. Its main activities are focused in the development of studies and research; modelling of interventions to provide tools and methods; capacity building, advocacy and networking for local policy change.

THE TOOL

Starting with the assumption that good financial decentralization should be based first and foremost on the effective mobilization of local revenues, it was therefore urgent to implement innovative solutions for the mobilization of local taxation. It is in this context that Enda ECOPOP has set up a collaborative technological device called "YTAX" (a diminutive of YelenTaxe).

YTAX is a SMART and collaborative system to improve the mobilization of local resources, reinforce transparency and fight fiscal evasion. The tool operates with a cellphone and a mini printer and is operated on the ground by local collectors in municipal markets and bus stations, and managed by the municipal administration. Taxes are parameterized in the device and the terminal further allows locating the place where the collection was made by GPS. Every time a transaction is done, officials can visualize the place and the amount charged. It has been piloted in two Senegalese municipalities in 2015-2016 with the support of Enda ECOPOP and is now in a scale-up phase in eight other municipalities.

In Africa, achieving the autonomy of local governments in a decentralized framework requires the increased mobilization of financial resources to increase the capacity to finance local projects and provide a satisfactory level of basic social services for the local population. In recent years, central State financial transfers fluctuate, on average, around 3 to 7% of the public budget per year in the region. The mobilization of own resources such as tax revenues, remains very weak and it is problematic in most African local governments due to:

(i) an obsolete collection system often subjected to fraud and tax evasion;
(ii) a lack of effective control of collected revenues;
(iii) a lack of information of the taxpayer and communication on the use of the local financial resources collected;
(iv) a lack of transparency on the taxation chain and communication of revenues mobilized in the territory.

Yelen is borrowed from the national languages Ouolof in Senegal (which means awakening) and Bambara in Mali (meaning, light, transparency, smile, ascension). The "Yelen Tax" seeks to put 'light' on the tax and to bring back the 'smile' to Mayors. This innovation is a step forward for the integration of SMART
"YTAX" is a SMART and collaborative technology to improve the mobilization of local resources, increase transparency and combat tax evasion. The device was featured with the objectives to: (i) identify and give reliability to the tax base; (ii) ensure control, transparency and accountability on the fiscal chain; (iii) communicate in real time the financial information collected; and (iv) collect and record the different municipal taxes. Transfers to local governments in Senegal amount to 5.5% of public budget and the latter face a lack of local resources. Enda ECOPOP has worked to articulate the approach on local resources mobilization with local elected leaders in order to identify niche of revenues. This initiative originates from the direct demand and needs expressed by local leaders and Mayors in Senegal.

In 2005-2007, Enda ECOPOP prepared a strategy on local revenues mobilization, linked to participatory budget approach. It completed the first manual on participatory budgeting and one of the components was on local revenues. It has kept on working on this thematic in close relationship with leaders: after the strategy elaboration, it realized that there was a need to demonstrate concrete impact and to help municipalities with concrete tools and solutions.

The initial objective of the YTAX was to identify the tax base (e.g. in markets, local shopkeepers selling their products and using the stands; in bus station, the companies of local and inter urban buses, etc.). The identification of the tax base allows determining the fiscal potential. The taxes collected via YTAX system were not new to taxpayers. Tax collection was already happening and was done manually by collectors coming on sites on a regular basis. However, some transactions were not registered, some partially or subject to corruption, etc. So the Mayor had no real overview of the tax potential on these two sites as the process was discretionary and could be subject to arrangements between collectors, taxpayers and the tax inspector.

Enda ECOPOP started working on SMART technologies, producing the first module of YTAX in 2013. After several evaluations and changes to respond better to the needs, the definitive module was ready in 2015-2016. YTAX has been initially experimented in two Senegalese municipalities, in MBacké (around 300,000 hab, central Senegal) and in Dalifort (100,000 hab., suburbs of Dakar). The two sites of experimentation were the municipal market and the bus station. It applied to taxes related to roads, markets ('souk'), stall, parking, and slaughter.

Every year in January, the municipal council deliberates and decides on the amount of tax applied during the year (Article 195 (CGCL): 'recettes de fonctionnement de la commune'). It is on the basis of this approved municipal decision that Enda ECOPOP supports the fiscal administration to parameterize the data in the mobile phone (tax x; amount y). It is then possible to customize the App to every single municipal situation and decisions and this process is done for each tax the municipality wishes to collect (on publicity, livestock transport, etc.).

This means also that no legislative or regulatory modifications were necessary to implement this experience. The solution works on the basis of the existing competencies of municipalities, for the taxes which the local government is able to decide the base and the rate. The first attempts to implement YTAX encountered resistance from the tax collectors and the administration. The Mayors were on the contrary very eager to implement the experience as they could see its potential. The collector is equipped with the terminal (cell phone and mini printer) and passes to the taxpayers to recover the taxes already codified by a municipal deliberation. Each taxable person receives, on payment of the tax, a receipt containing a
unique number which will permit control at a later date. By issuing the receipt, the geo system locates both the collector and the taxpayer that are registered in the system. The receipt provided supersedes (or supplements) the receipts traditionally issued by the collectors. Previously, they were using a notebook and receipts to collect daily, weekly or monthly taxes. The YTAX system is not replacing the notebook, which is an official document. But what is required to the collector is that every time they collect a tax, they have to key in a specific button of the App. On average, 4 to 6 collectors are employed by the municipality, depending on the size of the territory and amount of tax to collect.

The Mayor (or his representative), thanks to a secure web browsing (on a computer or tablet) can follow in real time the operations of collecting tax resources on the municipal territory. They have access to three major information i) who collected (name of collector); ii) where it has been done (geo-localization); iii) the amount collected. This constitutes an enormous improvement in terms of transparency and municipal management, as previously Mayors were not aware of this detailed information.

In each neighbourhoods of the municipality, there are "Conseils de quartier" or community councils. Selected representatives operates as ‘tax controllers” and they are also given the mobile with the same App installed. As they have a very good knowledge of the territory and the people, they can go and check the tax identification and collection. The citizen and social oversight is key to the process and has enabled a greater application and implementation. It was actually one of the ways to overcome the initial resistance: the peer and social “pressure” obliged the collector to use properly the new tool.

It is worth noting that the resistance did not come from the tax payers or the citizen themselves – who are ready to pay as long as it is transparent and they know the use of it – but rather from intermediaries that had individual interests in keeping the “old system” in place. From the beginning of the experiment, there were expectations from the citizens, eager to know more about this new experiment related to budget and financial resources. Enda ECOPOP supported the municipality to organize communication campaigns to show the link between services and tax. Training to elected leaders, citizens, community councils and local economic actors were also provided.

Finally, in order to increase the citizen ownership, some form of participatory budget has also been introduced. The municipality presented the annual budget to the population and a portion of the investment budget (% depends on the amount of revenues collected and on each city) is dedicated to participatory decision making and investment priorities are decided by the citizens. The next step foreseen is the integration of mobile banking in order to allow the payment of the tax directly via the phone (following the mobile banking model of Mpesa or Orange money).
**GOVERNANCE**

As soon as a municipality joins the system, the different stakeholders involved in managing municipal taxes are registered in the system by the Tax Administration Officer. Each stakeholder, depending of its function (collector, inspector and Mayor’s Office), is given a user account and a corresponding device which enables them to use the system:

- **The Collector** is provided with a terminal (mobile telephone and printer) and visits taxpayers in order to collect the taxes that have been fixed by the municipality.
- **The Tax Inspectors** have an administration interface which can be accessed from any computer or tablet. Thanks to a secure navigation system, they are able to check and monitor the collection operations carried out by each collector. At the end of the working day they can print out the status of each collector in order to facilitate and streamline the transfer of the collected funds.
- **The Mayor’s Office**, as a result of a secure web browsing system (on a computer or tablet) can monitor in real time the collection of fiscal resources in the municipality.
- **The tax controller** is mobilized by the local government (it can be chosen from the neighbourhood councils or the civil society). It is equipped with the mobile phone and can pass after the collector to check the effectiveness of the collection. To do this, they key in the number of the receipt issued by the collector which is in the taxpayer’s possession. This operation allows him to verify the collection, to identify the taxpayers who may have been omitted by the collector and to make the collection operation and the tax base more reliable.

The whole process is supported by **Enda ECOPop** who accompanies the Mayor’s office and trains the collectors’ and controllers teams to use the device.

**RESULTS**

The implementation of this device has achieved some important improvements in terms of municipal and fiscal management:

- the collection of local taxes is more efficient and the revenues have increased.
- an updated database of taxpayers has been created within the municipal boundaries.
- reliability has improved thanks to the geo-localization of taxpayers.
- reinforcement of fiscal evasion tracking.
- better visibility of local government on local fiscal system (tax base, strategy for effective mobilization).
- fighting corruption at local level and cities.

The implementation of YTAX has also impacted the local governance processes:

- improved transparency in local taxation.
- improved accountability relationship and better communication between elected officials and population.
- enhanced citizen involvement through their community councils.
- increased taxpayer awareness leading to better attitudes towards tax payment among citizens, contributing to “fiscal citizenship”.

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There are two major difficulties that have been observed in the implementation of YTAX. The first one is associated with the resistance from two essential actors of the chain: ineffectiveness of the tax collectors who have difficulty operating the kits and inadequate commitment of some tax inspectors from the deconcentrated tax administration. The resistance to change of these intermediaries is still important as the new system disturbs the informal “agreements” between collectors and preceptors (receiving up to 25% of the revenues). The continuous leadership from the Mayors and the relatively good acceptance of the population to pay the tax are the positive factors to balance this trend.

The second challenge is of technological nature. So far Enda ECOPOP has kept and saved the data in a server on ‘the cloud’. However, the server is small and Enda has not the capacity to host and keep big amount of data (cost of the server, of its maintenance). MBacké has withdrawn from the pilot precisely because it could not keep the data and Dalifort will keep on going by itself. Enda ECOPOP sees two options to overcome this constraint:

 to effectively implement a collaboration agreement with the Central state, specifically with the Senegalese State IT Agency (Agence De l’Informatique de l’Etat, ADIE). The Agency could host the server and data and support the institutionalization and systematization of the experience;
 to negotiate and sign a collaboration agreement with interested municipalities. They would reserve a small portion of the revenues to reverse to Enda ECOPOP which would in exchange host the data and maintain the server.

The effective increase of the tax recovery rate. If municipalities manage to recover 50% of their fiscal potential, it can already be considered as a success. In this regard, the introduction of mobile banking directly integrated in the App to dematerialize the collection process is considered as a key element to leverage and improve the tax recovery rate.

Improving efficiency and transparency in public services

SMART technologies can contribute to transform the way politics are practiced towards a more effective and democratic governance. By bringing governments closer to the citizens’ demands, SMART technologies can enhance the efficiency of municipal management and improve the quality of public services. In turn, enhanced transparency and participation resulting from the use of digital tools can increase residents’ knowledge about municipal functioning, which may lead to increased support from the population to the municipality’s projects, while improving satisfaction in public services and perception of well-being within the community.

SMART solutions are currently being used by local governments to manage and provide information to beneficiaries in an easy and accessible manner regarding the types of services offered, the procedures for provision of the services and its costs. Additionally, these solutions are also helping local governments to analyse and certify the satisfaction of beneficiaries, receiving their feedback and taking them into account in order to identify possible fails and proceed to find the corresponding solution (The Union of Municipalities of Montenegro and the International Cooperation Agency of the Association of Netherlands Municipalities, 2012).
Box 2. Case study
WHATSAPP AS A TOOL FOR ENVIRONMENTAL MONITORING
PETALING JAVA, MALAYSIA

Petaling Jaya City (MBPJ) is one of the pioneer local governments in Malaysia for implementing Local Agenda 21 and Low Carbon City Framework since 1996. Developed in 1950s as a satellite town to alleviate the housing problem of Kuala Lumpur, Malaysia Capital, the city has transformed into a self-sustained commercial hub with a total of 170,000 houses to 700,000 people within an area of 97.4 km sq. Presently, many multinational corporations have set foot in Petaling Jaya. The nearly saturated township is undergoing urban renewal programming especially at the dilapidated industrial areas. Many manufacturing activities have been moved out and replaced by commercial services, hospitality and financial activities.

The Mayor is an officer of the Federal Government appointed by the state administration after obtaining the consent of the Chief Minister. The Administrative Council consists of 25 Council members led by the Mayor. Council members are appointed by the Selangor State Executive Council.

The people of Petaling Jaya are among the most educated with high income levels amongst the Malaysian. The urge for greater involvement in the development planning process and information dissemination for greater transparency in governance has implanted with daily routine of the community with town hall meetings on community programs and development planning, stakeholders participatory monitoring mechanisms for urban services, budgetary planning process, property tax rebate for environmental friendly house owners and PJ Food Bank just to name a few are initiatives taken place in MBPJ. The City targeted to achieve sustainability by 2030 through various public engagement activities, implementation of strategic local plan and city carbon action plan.

CONTEXT OF THE PRACTICE

From 2014, the City of Petaling Jaya has used WhatsApp as a platform to monitor in real time the service performance of contractors in waste management and public cleansing and to solve faster the requests and complaints from the citizens as well as possible damages and failures of the services. This gadget, used as a municipal management tool, has proven to improve the efficiency and transparency in public service delivery.

Previously, WhatsApp has been used widely for internal communication between the staff as well as one-to-one directives given and received between staff and service providers. At time, receiving complaints about quality of service from the public through the same platform was increasing. Upon receiving the complaints, Council’s staff had to re-channel it to the service provider for remedy. The Council became a postman acting as an intermediate and the process was time consuming. The challenges were overcome by setting up group chat and using the features of WhatsApp (e.g. files attachment, voice call, etc.).

Dedicated group for illegal signs dismantling
The idea was discussed and well received with various stakeholders. Group was, then established at each service area or neighbourhood with the respective area supervisor acting as an administrator. Group members were included by invitation or recommendation by the Council member of the respective area. It is not uncommon to have more members from one neighbourhood area or absence of any representatives from one particular area if the respective neighbourhood area decided not to be involved. At times, selective participation was done although not common. The group was started in effect with group members on board.

WhatsApp puts in contact the different stakeholders engaged in waste management and public cleansing service delivery (citizens, representative from associations, local officials and government departments, contractors, etc.). It is used to share reports, to communicate the schedule of works and to manage complaints, among others. From October 2014, 68 groups are active for these purposes covering most areas of the city. WhatsApp was considered as a great option since it was immediately available, it is mobile-based, user friendly and inclusive (all stakeholders can easily access, and no skill development is needed), it is low cost, and it provides real time and geo-related communication and information.

The group comprises of a Councillor, Council staff, and supervisor of contractor, residents representatives, representative of elected State assemblymen and other interested individual who have shown interest in participatory management. The Contractor would post their monthly and daily schedule of work onto the group within time allocated as well as photos showing works performed for scrutiny. At the same time, members of the group are empowered to post any photos or comment for immediate response or remedy actions. Penalty would be imposed to the contractor if remedy actions are not taken within time permitted and remedial actions are not informed back to the platform.

Information about any crisis (flash flood, vehicle broke down, temporary closure of landfill disposal site) is also provided so that everyone on board are alerted on progress of works. This has enable residents’ representatives to gather first-hand information on incidents of service disruption so that this information could be disseminated to members of the community and to the city officials. The data collected are tailored with the E-Aduan, a city-wide complaint management system for the municipality. The application has its own challenges such as observing right code of ethics by all parties, check and balance, personality and egoism and other management issues.

The tool has served to monitor performance of contractors and also to spot informal services and illegal activities at inaccessible areas. Video or photos captured are being used as proof for property tax re-evaluation on newly extended building and imposed penalty on public area cleanliness offences. The information is shared with affected stakeholders for further discussion and solution searching. Therefore, the mechanism has further strengthened good governance and partnership on improving urban services delivery. As main innovation of the project, we can highlight that it enables multiple stakeholders’ involvement in real time and online monitoring of urban services delivery without any hindrance of physical, human and time constraint. The initiative in itself is an innovation. Secondly, the application of WhatsApp, a social media platform commonly used by many actors in daily routine is much cost efficiency and easier to start with.

No legislative or regulatory modification was required but the code of ethics has been set for all members to observe. These include the protocol, languages as well as the do’s and don’ts on written messages and photos to be uploaded. For instance, members are not allowed to post messages related to politics, religion and ethnicity. While the relevant stakeholders are invited to join the respective group, interested individuals or community representatives keen to participate are also invited. No barrier has been set for membership acceptance.
GOVERNANCE

The project is run and coordinated by the Department of Solid Waste Management and Public Cleansing of Petaling Jaya City Council. A total of 68 Groups administered by the area supervisor of the Department was formed for each neighbourhood area. The area supervisor is tasked to invite participation of stakeholders, to bridge communication between group members, to monitor the running of the Group, to disseminate information and to receive feedbacks or responses on behalf of the Council and Department. Contractor selected by the Council to provide urban services will have their representative to sit in the Group. The daily task of the representative is to update the Group on services rendered and to take immediate response on complaints lodged over the platform or to inform the Group if any interruption of service is encountered. For example, lorry breakdown, traffic situation affecting the service time or unethical acts of public in environmental pollution. Community representatives could be either the residents nominated by the local neighbourhood group or individual volunteers will provide first hand feedback on the service performance of contractor appointed by the Council. Other members include the council member of the respective zone or State Assembly whom might step in for dispute resolution, if any.

RESULTS

The platform is so popular that other urban services such as road maintenance, landscaping works, public facilities have also been requested to be incorporated. The application has helped in reducing 15% of complaints received for 2016 compared to the previous year. Reporting of local performance issues in urban services has been noticeably reduced.

LIMITATIONS

The experience encountered a number of challenges, from ethical issues and lack of commitment of the public contractors, to the misuse of the tool to demand and request for other services out of the scope of the group. Additionally, the system is still primitive and focused in information and communication, so it very limited for other functions, as retrieving past records, analysing data, or coordinating with other existing Management Information Systems (MIS).

In order to have a better impact and development of the tool, the city has recognized that the city should have enable connection with existing MIS since the beginning and better select stakeholders to be included in the groups in order to improve representativeness.

KEY ELEMENTS OF SUCCESS

Commitment and dedication from all stakeholders is the key components to ensure success of the project. Stakeholders have to play each role well and with due respect to other group members. It is a platform to disseminate and update information on services in which heroic attitude should be avoided. Secondly, sustaining the interest of group members to continue their efforts and role is also critical. Some group members discontinued after initiate enthusiasm gone due to lack of efficiency in problem solving as they envisioned. Thereby, quick response on any correspondence is critically important.
Increasing participation and citizen engagement in city management

Citizens today are increasingly demanding their governments to implement transparency and anti-corruption initiatives. Emerging social mobilization gives evidence that citizens want to stop being passive victims of the problem of corruption and become partners in implementing solutions. This issue makes it clear that improving governance systems and mechanisms of accountability at the local level is essential for the establishment of efficient and strong local governments connected to the real demands of their citizens.

SMART technologies can contribute to empower citizens by improving their access to information, enhancing their capacity of organization and advocacy, facilitating the monitoring of governments’ activities and political processes. SMART tools can also contribute to increasing trust between citizen and administration thanks to a greater exchange of information, communication and participation for a greater number of people from a variety of backgrounds and profiles. Information is no longer a privilege for a few. This leads to more collaborative and participatory relationships, where the citizen is not a passive or a simple user anymore, but actively contributes to shape political priorities, collaborate in the design of public services.

Box 3. Case study: THE ELECTRONIC CITIZEN REPORT CARDS (E-CRC)
FEDERATION OF SRI LANKAN LOCAL GOVERNMENT AUTHORITIES

Established in 2007, as a non-partisan body, the Federation of Sri Lankan Local Government Authorities is the National Local Governments Association of Sri Lanka representing the interest of all 335 local councils including Municipalities, Urban Councils and Pradeshiya Sabhas. It works with the central and provincial Governments’ institutions and state authorities as well as national and international organizations and networks to strengthen the local governments in Sri Lanka. Its activities include: lobbying and advocacy, strengthening the capacities of both elected councillors and officers of the local authorities, sharing good practices and peer learning, facilitating exchanges, and representing local governments in the international platforms.

Sri Lanka was ranked at 95 out of 176 countries in the Corruption Perception Index (CPI) 2016 with a poor score of 36 when compared to 2015 when the country was ranked at 83 among 168 countries, the main anti-corruption laws are the Penal Code and Bribery Act, which criminalize corruption and attempted corruption in the form of extortion, or active and passive bribery. No clear distinction between bribery and facilitation payments is made, but gifts given with a purpose of corruption are prohibited under the Prevention of Corruption Act.

Citizen Report Cards (CRC) were used as a tool to monitor the citizen satisfaction on service delivery. Moreover, the process was costly, time consuming, and sometimes biased on personal reflections. The councils perceived CRC more as negative reflection of the council services and not as a tool used to improve services.

As many of these processes were done by a specific intermediary, the relation between citizens and local governments was prone to be directed eroding the purpose of effectively engaging the community in the city’s affairs.
**CONTEXT OF THE PRACTICE**

To overcome the drawbacks and shortcomings of the CRC, the Federation promoted the development and adoption of Electronic Citizen Report Cards (eCRC), as a more institutionalized initiative promoted by the Councils. This factor will guarantee the legitimacy of the tool and also the continuity and sustainability of the implementations and the use of the results.

The eCRC uses mobile tablets and a custom developed apps for survey and reporting over some of the local government services such as: water and sanitation, waste management, street lighting, Maternity and childcare, cemeteries and burial grounds, parks, libraries, pre-schools, etc. The tool provides accurate, immediate and georeferenced results and with the offering the possibility to track changes over time. It comes from a simple but powerful approach to understand citizens' priorities and needs; provides credible, neutral and representative information about municipal services; helps local government leaders to respond effectively to issues, builds trust between citizens and government and helps to track performance of individual services.

In the early days Citizen Report Cards (CRC) were used to measure the status of the services provide by the councils. These initiatives were supported by external organizers. The system used consisted on a printed set of questionnaires filled by the citizens with a support of a survey field enumerator. The process was costly, time consuming and perceived as a threat or challenge by the council as opposed to a way to improve service delivery. There was no ownership from the side of the council, as the process was initiated by citizens with the support of an external organization. There was no sustainability mechanism after the project period and no commitment or will from the council side.

To overcome the challenges, a new initiative called Electronic Citizen Report Cards (eCRC) was put into place and reversed the system where the councils stepped into the role of the citizen working along with communities to improve the service delivery.

The eCRC is a ground-breaking data tool for local councils to collect and analyse citizen feedback. The eCRC begins with a field survey of individuals with direct experience of specific agencies and services, conducted using an Android-based mobile application, then uses simple back-end solutions to generate real-time analysis of the information, eliminating the costly and time-consuming work of data entry, data analysis, and generating findings and reports. The eCRC's core methodology significantly streamlines the survey process, saving local authorities valuable resources without sacrificing data quality.

For cash-strapped local councils, the eCRC provides a quick, portable, convenient, and cost-effective way to find out how urban services are reaching the public, including the poor and vulnerable population. The tool can be used as an internal management and oversight tool, when information provided can help to identify performance gaps in service delivery and provide inputs for formulating and designing new interventions and solutions.

The eCRC can ensure that investments in provisioning public services are in alignment with the actual priorities and needs of the communities. Finally, the availability of real-time feedback data enables service providers to respond to emerging issues in a timely manner. Further, public disclosure of key performance indicators can foster an environment of improved transparency and accountability.
BENEFITS

For citizens, the tool has proven to be highly effective in galvanizing political and administrative responses. In addition, with areas prone to ethnic conflict, the eCRC has been a valuable tool used to identify patterns of discrimination and exclusion while highlighting spatial inequalities in service delivery.

This tool has further provided a powerful opportunity for citizens to provide feedback on a variety of parameters on the quality of services being delivered to them. Taking into account the specific context of the country (post conflict situation leading mistrust), The tool was presented as a platform to foster a new social compact between the citizens and the local administration.

The depiction of data collection points on a real-time Google map highly enhances the credibility of the exercise. However, the larger impact of the ECRC rests in the fact that there is a strong demand from other local governments to replicate this exercise in their locations. There is also a demand to use the ICT-led model in other sectors, such as business regulation and local infrastructure.

Up to August 2017, survey enumerators have visited over 13,000 households in Central, Eastern, Northern, Uva, and Southern Provinces and in less than two years since the project’s inception, the eCRC is deployed in 14 of Sri Lanka’s largest local governments.

The main innovation of the project is the use of digital devices to assess the quality of services driven by the local government itself. This is the first time that subnational government in Sri Lanka assesses its own services with a view to improve and to respond to the demands of the communities. The eCRC has helped to assess the improvements of the councils over the years.

The project did not require legislative or regulatory modification as it is a field assessment tool and its implementation helps to improve the on-going services. The results will help to identify if there are any legislative or regulatory modification needed to further improve the services to the citizens.

GOVERNANCE

The initiative has involved multiple parties during planning and implementation stages. Project design was done by The Asia Foundation with the support Provincial Councils and Municipalities. Two government institutes provided the insight prior to the development and implementation of the survey at field levels. Data collection from the communities were conducted by Local Government staff (Technical and Development Officers) and the data was submitted to the Commissioner of Local Government of the province for review where the commissioner can compare citizen expectations and Local Government’s level of service to understand the gaps and shortfalls and provide necessary support to improve.

For local governments that missed the computer and e-governance-led public sector reform window, the availability of cheap and ubiquitous mobile technologies offers a chance to leap frog into cutting edge state of the art options. The tools have shown that, the potential of mobile devices in not only in bridging the digital divide, but also in opening up new opportunities for the people who were earlier isolated and unable to benefit from the ICT revolution.

Furthermore, also though the project was implemented with the financial support of an external organization. Several challenges remain at the replication phase of the project, as all councils will not have the required financial and human resources to support such initiatives. In addition, the council
officers may perceive such project as a challenge, as it will reflect the council standing and improvement or decline over a period of time.

The main challenge at the implementation stage was the lack of computer literacy by the high-level officials in the public sector. They were unable to read information on-line hence were supported by a computer literate assistant. This proved to be a challenge for regular monitoring of the outputs of field data. Furthermore, the situation also created low interest from the senior officers in the Departments. The challenge was overcome by continuous effort and support from the field staff of The Asia Foundation.

KEY ELEMENTS OF SUCCESS

The Inclusion of multiple parties for the project, prompted a system of checks and balances in order to ensure an efficient use of the data acquired from the community. Local government’s employees are responsible for gathering information from the local community and the results will be shared with the Commissioner of Local Government (CLG) which ensures transparency and accountability in terms of the interaction among local authority and community. As well as There should be a willingness and commitment from the council to change or improve the systems if the feedback is not satisfactory from the communities.

Fostering local capacities in the fight against corruption

Corruption, even on a small scale, is a major drag on economic and societal growth, and has a direct impact on local government’s revenue. Besides losing money, corruption results in citizens’ dissatisfaction, as they perceive that tax money is being misused and not invested in public goods, breaking the fragile link of trust between the citizen and the government. Corruption is difficult to detect, hard to police, and even harder to eradicate once a culture of bribery has taken hold on society.

SMART technologies are efficient tools to address these issues by promoting transparency and accountability, facilitating rapid collection, analysis and ownership of information between government institutions and citizens. They permit a new level of public scrutiny and can help decision-makers to boost their capacities in fighting corruption, increasing government performance and improving public trust. SMART solutions can increase the probabilities of exposing governmental misbehaviour and can uncover and break corrupt activities by facilitating information and mechanisms for judicial enforcement, and for media and citizens to report and control illegal acts. SMART solutions can also enable inter-departmental collaboration among governments, citizens and civil society and private sector organizations. (OECD, 2016).
II. Innovative solutions to increase transparency, accountability and citizen participation in municipal management

After pointing the benefits that SMART solutions and technologies can provide to the building of more transparent, accountable and open cities, this section will focus in exemplifying some of the tools available that could be useful to local governments.

Innovative solutions to increase access to information

Access to information is one of the key factors to achieve transparency and to foster inclusion in city management. SMART solutions offer local governments the possibility to make information available to citizens and other stakeholders about revenues and expenditures, programs, plans and activities, decisions and procedures, among others. In order to achieve this objective, cities need to ensure that information is easily understandable and accessible.

Examples of tools:

✓ Open portals and online transparency portals

This web where local governments can publish information concerning their activities and finances, have become a common practices today. But many of them could be structured in a better way. It is important to avoid “dumping” raw data, as this may discourage citizens or lead to misinterpretation. Local governments may adopt strategic transparency policies by creating user-friendly interfaces, where only the most relevant information is published in an accessible and easy-to-understand way.

Reporting software systems are easily available today, they can process the data and generate didactic reports allowing users to quickly find the information they are looking for. An interesting visualization method is to show how the municipality is executing its strategic plan, helping citizens to understand how they are delivering on targets initially set. This enables the municipality to present actions, highlight challenges and explain how they are being solved.

While an increasing number of countries are adopting national legislations that require all local governments to create transparency portals, not all of them, and particularly in small municipalities, have the financial and technical capacities to design and maintain such tools. Thus, it is key that national governments and national local governments’ associations assist these smaller municipalities in complying with existing legislation.

Example: Guadalajara, Mexico [www.transparencia.guadalajara.gob.mx](http://www.transparencia.guadalajara.gob.mx)
Open data: more than a tool

Open data policies involve governments (at all levels) making public data available for anyone to access, use or share. Typically, governments create a web platform where they publish datasets with all sorts of information regarding budget, transportation, crime statistics, pollution, etc. These sets are published in an open source format; and regularly updated to be easily used by businesses, developers, researchers, who can create services based on that information. Benefits include:

- Providing new ways of conducting government business by promoting public participation and social engagement in public life, policy-making and service design and delivery. They are also instrumental for the co-development and co-production of services where users are not only passive consumers of content and services, but also active contributors and designers.
- Improving government transparency by enhancing the quality of interactions between the governments and the users, strengthening accountability and resulting in increased government legitimacy.
- Improving the efficiency of government operations. Open data allows governments to re-engineer and to simplify internal procedures; automating processes, increasing integration between city services, optimizing task distributions, reducing workload and paperwork, and producing lower transitional costs.

Example: Chicago, USA https://data.cityofchicago.org

Big data

In a technology-driven world, cities are dealing with ever-increasing amount of information. Data is produced from different sources such as the Internet of Things (IoT), networked sensors and devices, cameras, smartphones, social media, and diverse interactions and transactions across networked systems. A diverse range of public and private bodies collect and process such data about citizens and cities, including utility companies, transport providers, mobile phone operators and government institutions. Big urban data provides actionable information to municipalities to help understand city dynamics and citizen needs, formulate actionable policies, and even to interpret trends and patterns and predict possible future scenarios.
Besides allowing increased visibility of operations and knowledge-driven decision-making processes as well as service-delivery, a citywide data management platform improves management efficiency by eliminating unnecessary duplication and allowing city managers to share data and work across administrative boundaries and organizational silos. Distinct departments can see where activities can be mutually supportive and adopt a collaborative approach, to operate from a common view of the city as a holistic system. As such, SMART technologies can contribute in radically transforming the way municipalities work, including how they are internally organized and manage resources, towards more transparent, inclusive, innovative and collaborative organizations.

**Innovative solutions to increase governments’ accountability**

A key objective of monitoring local government's activities and performance is to increase public knowledge about what local representatives are doing. Another extremely important objective is to inform the local governments themselves about what is going on inside their own departments, including senior staff and elected officials, so that they can take action to improve performance and to work effectively with civil society. An important objective of performance measurement is to provide accountability, including both public accountability as well as internal accountability.

The expectation is also that an effective monitoring process will deter undesirable activities and help improving performance of local governments through increase in effectiveness, responsiveness and efficiency. The advantage of involving civil society in monitoring process is that introduces an independent and knowledgeable external observer in the process. The public can, therefore, be assured that it is receiving impartial and objective information. Monitoring local government can also be used to not only publicize the activities of local government but also to influence the outcome of current issues and to actively support campaigns for greater transparency and responsiveness.

**Examples of tools:**

- **Tools to monitor budgets and municipal finances**

  These tools are used to map money flows, showing how tax money is being used. To increase fiscal transparency, local governments can provide easily accessible public data about infrastructure and services provision and link those expenditures with increased taxes and fees collection to proof that public funds are efficiently used.

  Example: [http://www.utrans.global/](http://www.utrans.global/)
✓ **Tools to increased transparency in budget allocation and registries of public assets**

Technology can assist local governments in making financial information accessible to the public. One possibility is to create online asset registries for public officials. Asset declaration regimes aim at preventing conflicts of interest among public officials and members of the government and avoiding illicit enrichment by monitoring variations in the wealth of senior public officials and civil servants over time. Typically, an independent government agency is responsible for receiving, archiving and reviewing the submissions, verifying and investigating possible wrongdoing and answering to public requests of information. Technologies can help increase these processes efficiently and dedicated software can ensure the available information is useful.

✓ **Tools to monitor political life**

In order to increase interest and social control of citizens in government’s activities, SMART tools can help monitor political party financing or keep track on parliament activities at national level and city council activities at local level. These tools enable citizens to find out in an easy way the issues that are being discussed, to know how councillors are voting, to position themselves on a topic, to deliberate with other users, and to eventually to put pressure on specific topics.

✓ **Tools to monitor delivery and performance of local governments**

These tools facilitate the information about municipal activities and services and to encourage two-ways communication.

Example: Medellín, Colombia "Follow up Medellín" [https://www.youtube.com/watch?v=oY4yzUlkBz0](https://www.youtube.com/watch?v=oY4yzUlkBz0), an application created by the municipal government for citizens to locate public works being developed and to follow up on its execution.

![Image](https://example.com/image)

**Innovative solutions to increase participation in city management**

The linkage between increased participation and transparency is evident. Participation builds trust, promotes accountability, strengthen commitment of all stakeholders towards improved governance, and directly limit possibilities for corruption to happen. Local governments willing to move forward with these initiatives should take into account that the views and contributions coming from the citizens need not only to be heard but also to be reflected in development decisions, consequently making governments responsive and accountable to the community. (Moseti, 2010).
Examples of tools:

✓ Participatory budgeting

Participatory budgeting are processes where citizens participate in budget allocation, investment priorities and in the monitoring of public spending. This model combines two key elements: on one side, it improves information flows between administration and citizens, leaving them better informed regarding priority services; and on the other side, it strengthens accountability as it stimulates frequent checking on public actions.

Originated in 1989 at the Brazilian city of Porto Alegre, up to 2,500 local governments around the world have actually implemented Participatory Budgeting (PB) initiatives. Typically, citizens are invited to propose projects for the city’s improvement; they take part to meetings where they can discuss and vote for the projects of their preference. In average, cities dedicate between 2% to 10% of their investments to participatory budgeting processes. By creating a channel for citizens to give voice to their priorities, local governments can better identify needs and adapt investments accordingly. PBs can make the allocation of public resources more inclusive and equitable. It shifts policies’ priorities, and is particularly strongly associated with improvements in poverty rates, access to water services, and reduction in infant mortality.

PB processes also increase transparency in fiscal policy and public budget management, and promote public access to revenue and expenditure information. Moreover, as the citizen become more aware of the city’s budgetary restrictions and see how the resources are being used to projects that matter to them, PB may increase citizen satisfaction with city services, enhancing the government’s credibility and citizen’s trust.

Evidence demonstrates that citizen participation in budgetary decisions may increase tax revenue and may be even more effective at curbing tax evasion than traditional and commonly adopted deterrence measures, such as fines and controls. Cities around the world are increasingly applying SMART technologies to improve mobilization and participation, but also to give more visibility to government action. Digitalizing PB involves using ICT to: improve communication and mobilization (mobile technologies to raise awareness); allow for remote participation and online voting; facilitate monitoring and oversight of budget execution; enable residents to send proposals to be discussed in assemblies; enable online live stream of assemblies; display proposals in a web-based platform; allow for interaction and deliberation between residents; etc.

✓ Crowdsourcing

Known as the process of obtaining ideas and information by soliciting contributions from large groups of people. Crowdsourcing processes applied to an urban context are able to generate new models for local governance that gather and mobilize heterogeneous social actors around issues of common concern. Cities around the world are using crowdsourcing combined with SMART tools to gather input from residents and to make improvements in communities. Local governments can either use tools from grassroots initiatives, tools developed by the private sector, or taking the initiative to create their own apps bringing local residents into the design and decision-making processes. While such initiatives may increase civic engagement, and improve public services that will be more adapted to local issues and citizens’ needs, they also provide city managers with more accurate information for better decision-making, budget savings and more efficient management.
Crowdsourcing only works if many people use it. The key of success is to define clear needs and engage an important part of the population through awareness campaigns. Concrete examples of SMART crowdsourcing tools applied to local governments may include:

- **Solutions to report and map city’s challenges**: Applications that enable residents to report issues and hazards in the community (potholes, off street lamps). Location-based information helps the municipality identify the issues, reducing telephone calls and emails. They can repair hazards faster if the request is sent directly to the people who can fix them. Local governments can also create such tools specific for municipal employees and community leaders.

  Example: Barrios Activos [https://barriosactivos.org/](https://barriosactivos.org/)

- **Solutions to monitor urban planning**: An interesting example are SMART tools aiming to map informal settlements in developing countries.

  Example: Open Reblock (Bliss & Marshall, 2016), [https://openreblock.org/](https://openreblock.org/) created by Slum Dwellers International, is an example of open-source platform designed to simplify the process of reorganizing slum communities in order to provide an access path to urban infrastructures and services. The tool combines an algorithm that suggests re-blocking solutions in a minimally disruptive way and using knowledge from the slum dwellers.

- **Solutions to collect ideas for specific projects**: Cities can create platforms to launch challenges and competitions to solve a specific issue.

  Example: “Santander City Brain” [www.santandercitybrain.com](http://www.santandercitybrain.com) where residents can make suggestions on how to improve services and the quality of life in the city, and where the Mayor can create “challenges” asking residents to make proposals to solve a specific issue. The best ideas win a prize and the resident responsible for the suggestion is involved in the implementation of the project.
Innovative solutions to optimize municipal management

Local governments around the world have been using ICT to improve management efficiency and service delivery for decades. The rapid evolution of ICT with the advent of SMART technologies (smartphones, Internet of Things, big data, analytics, smart cloud, etc.) have provided renewed opportunities for the optimization of municipal management. Not only technology has changed but also the approach that local governments have towards it, evolving from digitization to e-government and, more recently, towards digital governments. While the first two aimed mainly at improving productivity in administrative services, the digital government approach is more focused on the use of SMART technologies to reflect the user demands.

SMART technologies offer opportunities for local governments to optimize management and employ innovative changes in service design, management and delivery; providing greater openness, transparency, engagement and interaction between the citizen and the administration and between services within the municipality.

Examples of tools:

- **Management platforms**

Even though municipalities around the world have made considerable progress in moving transactional services online, there is still a long way to reach seamless online services’ systems. In fact, we often observe that cities, rather than providing a single website for the entire institution, have different websites for each department, and each department has its own IT support team. This often results in high costs; it is confusing for citizens as they get lost amongst the numerous websites and the huge quantity of information. In addition, even if citizens can process transactions online, many city departments remain unable to share data easily or are still reliant on manual processes to make sense of digital transactions.

Another challenge that municipalities face when digitizing processes is that they have to adapt to different population expectations and profiles. On one side, cities need to take into account residents with low level of literacy, digital literacy or limited internet access, in order to avoid exclusion. On another side, cities have to adapt to the increased use of mobiles to access websites and services, and constant adaptation is needed as websites become obsolete due to lack of mobile accessibility.

To meet the rapidly evolving needs and expectations of residents, local governments can use SMART technologies to further simplify services by moving all transactions in one centralized online platform and fully automating back offices. To go further, two-dimensional city websites can be transformed into interactive digital platforms that connect users with third-party apps and services, and stream personalized content on local public services, jobs, local events and news, etc. providing a space for feedback and communication between the administration and the citizen. Besides, local governments must make sure to fully digitize their back office, which means both automating individual processes and digitizing the organization and workflow. This means breaking down silos, ensure data sharing, integration and interoperability between services. Shifting towards online transactions improves the quality of service delivery, it improves access to information and transparency, and makes processes quicker. Digitization also generates significant savings for municipalities.

Example: Santa Fe, Argentina [http://santafeciudad.gov.ar/blogs/obras/]
City dashboards

To manage this enormous quantity of data, local governments are implementing sophisticated software management systems that aggregate, process, store and analyse the raw data streams from different sectoral systems. The data is then transformed into structured and understandable information that can be visualized through interactive maps and graphs in central control rooms, online city dashboards and open data portals. Operation centres allow city managers to monitor services in real-time and make better informed decisions based on reliable and objective information. City dashboards enable cities to measure progress toward stated goals against a set of key performance indicators (KPIs) which allow city managers to continually monitor and improve their strategies. While dashboards are typically meant for municipal officials, they are increasingly made publicly available to citizen and local businesses, usually through open data portals.

Example: London, UK [http://citydashboard.org/london/]
✓ **E-government**

Local governments can use SMART technologies to fight corruption by automating tax payments, enabling online service delivery, and ensuring transparency in public procurement and contracts. Opportunities for corruption are reduced with eliminating red tape and bureaucratic processes and cutting out intermediaries with automation.

Example: Nairobi, Kenya [http://nairobi.go.ke/ubp](http://nairobi.go.ke/ubp)

✓ **E-procurement acquisitions of goods, services and infrastructure**

Public procurement refers to the purchase by governments and public enterprises of goods and services. As public procurement accounts for a substantial portion of the taxpayers' money, governments are expected to carry it out efficiently and with high standards of conduct, in order to ensure high quality of service delivery and safeguard the public interest. Both national and local governments have been using SMART technologies such as e-procurement to increase efficiency and generate savings in procurement processes. In these systems, the entire procurement process is integrated in an electronic platform and all public tenders and contracts are published online. Such a tool enables cities to get real-time access to a database of suppliers to make price comparisons and make sure to get a fair price, and thus, increase competition.

By replacing printed purchase orders with electronic ones, administrative burdens are reduced and procurement procedure deadlines are shortened, thus lowering operating costs. In addition to efficiency, e-procurement systems can provide integrity benefits, help in the fight against corruption by limiting direct interactions between officials and potential suppliers, and ensure that officials have access to relevant and useful data regarding prior vendor performance, bribery condemnations and other integrity breaches, which can be listed in public databases.

Example: Montreal, Canada [https://ville.montreal.qc.ca/vuesurlescontrats](https://ville.montreal.qc.ca/vuesurlescontrats)
Innovative solutions to prevent, detect and deter corruption

SMART technologies are often seen as efficient tools to address corruption by promoting transparency and accountability, facilitating rapid collection, analysis and flow of information between government institutions and citizens. They permit a new level of public scrutiny. Local governments around the world have been using SMART tools to prevent, detect and deter corruption with two objectives: 1) as a means to empower citizens by raising awareness and offering tools to monitor, identify and report corruption; and 2) to reduce public official corruption through simplifying bureaucratic processes and introducing transparency and accountability in government management. These tools focus on understanding the types and scale of corruption and the degree of transparency in local governance, while creating a baseline against which progress in improving transparency can be measured.

Examples of tools:

✔ Tools to monitor and report corruption

Technology can provide effective channels to report administrative abuses and briberies. Online platforms, phone lines or smartphone applications can facilitate the aggregation and lodging of complaints and dissemination of information about reported cases of corruption. This may help governments to take concrete actions to prevent and to punish violations; it can also serve as a deterrent leading to change of behaviour, thanks to increase visibility and the end of impunity.

Example: Campana, Argentina  http://www.campana.gov.ar/2016/01/27/denuncias-de-corrupcion

✔ Tools to raise awareness in citizens and public officials

SMART technologies can help local governments promote ethical attitudes and raise awareness to empower the public by informing it about its right and methods to resist petty corruption. Such tools are interesting not only to educate the citizen on how to avoid corruption, but also to coach public officials about what constitutes corruption and how to prevent it to happen.

Example: Transparency International Integrity Pacts https://www.transparency.org/whatwedo/tools/integrity_pacts/3
Tools to support campaigns to mobilize people against corruption

SMART technologies can be used to raise awareness and mobilize citizens to pressure governments on specific issues. Digital technologies such as emails, social media, SMS and mobile applications can amplify the citizen collective voice. Technology also helps activism become more organized and inclusive, allowing for a range of diverse voices to mobilize for causes.

Example: the Brazilian NGO, “Meu Rio” https://www.meurio.org.br/ a mobilization platform for civic engagement and people-powered political action, which wants to improve city life and urge local institutions to be more responsive. Meu Rio leverages the collaborative power of technology to pool citizens’ ideas and facilitate coordinated actions to pressure decision makers.

III. Challenges and recommendations

Despite numerous examples of local governments applying SMART technologies to increase transparency and participation around the world, there are still barriers to its full deployment. Hereafter we present a few elements to which local governments must pay attention to when implementing such initiatives.

Open data: what not to miss?

Although benefits emerging from open data initiatives are evident, local governments still faces barriers to deploy open data initiatives; some of them refuse to implement them altogether, while others start the process but do not achieve implementation (known as “open washing”). Usually, this is due to lack of internal capacity to take on such projects, and sometimes to a lack of political will, when the city leadership do not believe the effort it takes to adopt open data analytics program is worth the cost. In addition, new threats such as privacy and data security issues arise; danger of data misuse, poor quality of data, etc. In order to ensure that open data actually creates value, local governments must:
✓ Identify relevant, high-value data for the public.
✓ Ensure data quality in terms of accuracy, consistency and timeliness; and create simple, reliable and publicly accessible open data infrastructure.
✓ Encourage public participation and entrepreneurship by organizing challenges, dedicated events or offering technical and financial support. A good example are hackathons, which are time-limited events that gather programmers with the aim of developing software applications. The most innovative solutions created during these events receive a reward. Cities encourage this type of activity to create apps to generate content or provide services that citizens may find useful. Increasingly, local governments are organizing civic hackathons that gather software developers; but also other profiles of participants such as interested citizens and municipal employees, in a collaborative environment to address issues of shared civic importance.

A resource-costly deployment: planning and preparation needed

Developing and maintaining SMART technology projects can be costly, both financially and in terms of human resources, as it requires strong technical skills. In addition, it can be difficult to predict the reaction of the population regarding its use. Thus, to ensure the success of the project, it is key that local governments make sure:

1. To develop a long-term strategic plan. Participatory and transparency processes take a long time to yield results. Thus, a strategic development plan needs to be defined in coordination with all city departments and broadly supported by the top level of municipal government and civil society organizations. It should establish specific targets and specific actions to be taken on the long-term, and it is important that the goals correspond to the municipality's priorities and residents' needs.

2. To define a clear legal and regulatory framework. Most legal frameworks for citizen participation are several decades old. They overlook the opportunities presented by SMART technologies and do not reflect recent innovations, sometimes even not taking into account key issues such as privacy. Sometimes local governments may even be reluctant to use digital tools because they believe the laws on participation do not allow them. It is key to adapt legislation to ensure flexibility and room for innovation.

3. To strengthen institutional capacity. It is important that citizen engagement and transparency initiatives correspond to the city's management capacity. As such, it is preferable to start with small initiatives and pilots that can be scaled-up if successful. In addition, SMART tools tend to generate huge amounts of data, and it is key that the government is prepared to process it and has the required staff. In particular, this is the case for crowdsourcing tools such as those applications that allow residents to report hazards or bribery. If the administration does not have the capacity to provide feedback and ensure follow-up, it may create frustration and lead to a loss of interest in the tool and increase distrust in the government. Local governments may find useful to establish a team dedicated to citizen engagement initiatives, with a dedicated budget. One of the team's responsibilities would be to ensure the sustainability of the tool, making sure data is regularly updated and feedback provided.
Low participation: when citizens prefer to spend their time doing something else

While SMART technologies can be very useful in generating new opportunities for transparency and citizen participation, local governments often face difficulties to count with enough participants to ensure the success of the initiatives. This may be due to: difficult access to SMART technologies combined with cultural and literacy barriers for marginalized population; highly educated people may not be familiar or comfortable with the latest technologies and may refuse to participate; or sometimes, most of the population may lack of time and interest to participate in such activities. To maximize citizen participation in the initiatives, local governments should:

- Develop on-going awareness communication campaigns. It often happens that despite the many tools that are available for citizen engagement, they remain unknown to the public due to lack of promotion. Hence, local governments must promote SMART engagement tools and show the advantages and risks; explain how the initiative works, the implementation steps, difficulties, etc.
- Collaborate with local leaders. It is recommended that local governments map the network of people they want to engage. Community leaders, and particularly in low-income countries, can be of great help to municipal governments to gain comprehensive understanding of the concerns of residents.
- Pair both traditional and SMART solutions. Technology is an enabler but it is not sufficient by itself. Local governments should combine both online and offline events to ensure participation of people with various backgrounds. As such, it is key to develop engagement strategies that are customized to the concrete needs and capacities of those who will use it. Local governments must choose a mix of technologies, channels and languages mindful of the literacy, income, gender and linguistic dynamics in the community concerned. In low-income countries, for instance, it is important not to rely on too sophisticated technologies that might prevent an important portion of the population to participate. For example, the government may prefer initiatives adapted to traditional mobiles and not only smartphones; opt for low bandwidth web portals in order for the internet network to support it; or in cities where the population speaks several languages and face high illiteracy rates, IVR (Interactive Voice Response) tools may be more adapted than SMS based systems.
- Use pre-existing platforms. Municipal governments may find easier to gain buy-in for residents’ participation if they opt for tools that were already being used by the population, instead of creating completely new and sophisticated tools. Sometimes using Facebook may not be as innovative, but it is often far more effective.
- Ensure data protection. Citizens’ mistrust in government and participatory initiatives is often very high. A key element to reassure citizens and increase their participation is to guarantee privacy protection. This is a particularly challenging topic for smaller cities that might not have the capacity to protect data.
- Ensure data is accessible and easy to understand. Transparency and participation initiatives must be easy to access and understand for all citizens. It may be important to have one single central tool that concentrates all the information instead of having several apps that may confuse the citizen and split their attention and participation.
The challenges of tackling corruption: technology as an enabler

Initiatives to combat corruption are often initiated by civil society organizations or national governments, but local governments can adopt such tools to increase accountability and reduce corruption at their scale. It is important to note that, while SMART technologies make it easier to track corrupt practices technology they constitute an enabler, but it is not the solution. The success of any SMART tool to combat corruption depends both on whether it is used or not by citizens and on how public institutions ensure follow-up. Thus, a series of factors must be taken into account when deploying SMART initiatives to tackle corruption:

- Launch communication campaigns to make citizens more aware about their rights and responsibilities to reduce their vulnerability to corrupt practices and to share mechanisms to report and avert corruption.
- Combine SMART tools with other non-IT tools to ensure participation of people with diverse backgrounds. SMART tools must be user-friendly and adapted to the local capacities.
- An enabling political environment that promotes and protects free speech, plus strong political willingness.
- Collaboration between governmental institutions and civil society organizations.
- Ensure law enforcement by adopting regulatory frameworks to ensure responsiveness from the public authorities, including investigation and prosecution; defining sanctions to end impunity of corrupt behaviour. It is key that local governments recognize the value of the tools created by external stakeholders such as crowdsourcing anticorruption platforms, and integrate them into the existing criminal justice system. As such, the public may be reassured that telling their stories will have some impact.
- Security and confidentiality. There are significant security challenges associated with the use of mobile phones for reporting corruption, as in some cases the whistle-blower risks being identified or the message intercepted. It is key to find ways to secure confidentiality when sensitive information is being communicated and to build trust of citizens in using the tools: anonymity of reports and protection of whistle-blowers must be ensured.

Governing with the citizen: how to improve citizen engagement

Building trust in the local government is essential for local development, it is important to acknowledge that this cannot be possible without improving communication with citizens on the one hand, and without eradicating corrupt and ineffective practices on the other, especially those affecting the provision of basic services that have a direct impact on the daily lives of citizens. Local governments are willing to address the challenge of empowering citizens and building bridges enable them to increase their role in cities affairs. The following key actions, based in the use of new technologies, can help in the objective of improving the way cities relate to their citizens.

- Empower government employees to better collaborate across departments and increase productivity and efficiency. City servants, have to start working closer to the citizen. A change of paradigm where the official is the one who approaches the citizen can have positive effects in the organizational efficiency of the local government administration. With the new technologies, telework and mobile work force become a great opportunity to give better services and much closer to the citizen.
- Engage the citizens through mobile services to better connect with their government. Telematics services given to citizens are not always personalized with the information
that the citizen wants. Every citizen is different and depending of its profile (entrepreneur, student, unemployed, etc.) the information and request will be different. Therefore, the city can personalize that information and give a more tailor-made service to respond to the citizen needs. Tools like the Cloud business processes and citizen’s services can enable the local government to better understand citizen’s needs, increase citizen reach and personalize citizens’ services to improve their satisfaction.

- Optimize the government operations through connected systems, data and people. The use of cloud-enable data centres has given the possibility to local governments to gain actionable insights of citizen’s needs, increase the efficiency in its operations and to improve the accessibility to information. Cities have modernized and consolidated the public ICT infrastructure and services to take the pulse of what is happening in the city and to be permanently connected, listening, analysing and responding to what citizens demand. These interventions have also fostered the way cities are using new technologies to be transparent but most importantly to communicate this to the citizens in a way they can understand and use it.

- Transform the government services to drive innovation and growth and control data service to support public sector decision-making processes. There is a massive amount of data that cities can use for all types of public services. This data, coming from sensors, social networks, etc., can be used to attract new talent and business to the city and to foster research and innovation.

IV. References


OECD. (s.f.). Rebooting Public Service Delivery - How can Open Government Data help drive innovation? Reform of the Public Sector Division - Public Governance and Territorial Development Directorate.


