

ICED Evidence Library

Digital Solutions for Procurement and O&M

Tags: Investment, PPP, Procurement, Digital, Infrastructure, Urban



Role of digital in urban service delivery

There are growing opportunities to utilise digital solutions to solve urban service delivery challenges. Opportunities include the potential to better plan services for citizens, improving the value for money of LGAs investments and leveraging private sector support. In 2017 the ICED programme developed a positioning paper 'Urbanisation in a Digital World', reviewed the potential for a trailblazing east African country to adopt digital solutions to improve service delivery, and assessed the potential for a central Asian capital to become a Smart City. This research highlighted key opportunities for donor programming, where digital solutions could unlock inclusive pro-poor growth. Findings are set out in a series of 3 'ICED approaches' papers, and other ICED research on digital can be accessed via the ICED website.

Digital solutions for improving procurement and contracting

1. Increasing accessibility of government procurement:

An e-procurement system is currently under development in Tanzania and will be trialled for procurement of medicines and central government bulk purchases. Once tested, there is strong potential to promote roll out to regions and local governments in such a way as to promote increased local content, and SME participation. Roll-out would promote increased competition for service delivery contracts, and would also increase transparency of service delivery procurements – see Box 15. There is also potential to promote more innovative procurement routes, such as open competition, and two stage procurement that enables government to co-design future services with shortlisted service providers – thus enabling localised innovation of urban services – see Box 16 for examples.

The value of e-procurement

- Bangladesh's e-GP system provides an on-line platform for public agency procurement with 23,000 registered tenders, has reduced costs by 12.5% via its e-tendering and e-contract management systems.
- In Chile, 10 years after the ChileCompra portal was implemented the share of contracts awarded to small and medium-size enterprises had risen from 24% to 44%.

Using innovative procurement techniques to enable innovation

- Social business 'CityMart' works with cities across the globe to support procurement via a challenge platform. To date they have helped over 100 cities find technology solutions, with 10x more solutions explored than via normal procurement, 80% cost savings to governments resulting from improved competition, and 98% of contracts won by SMEs, startups and social entrepreneurs.
- Bristol and Exeter cities, in the UK, take their staff out to start-ups to work collaboratively on new service design. Challenge or accelerator approaches are then used as a method of solutions selection. Hubs such as Codebase who have also adopted this approach are able to procure solutions in just 7 weeks.

2. **Enabling management of private sector contracts / PPPs:** Many governments are cautious about entering into PPPs due to a number of high profile partnerships that were unsuccessful, in part due to a mismatch in incentives and information asymmetries. Digital solutions focused around efficient collection and monitoring of data relating to PPPs under design or in delivery could help reduce these risks. In Tanzania SUMATRA is currently rolling out GPS tracking systems on inter-city buses and will use this information to monitor road safety, and service delivery. It plans to share data on road traffic infringements with the police so that service providers creating road safety issues are penalised; the agency will also use this data to ensure only providers with good records are issued service licences. The Dar Es Salaam Rapid Transit agency, DART, is also rolling out a similar system that will enable them to manage BRT service providers. Both agencies are investing in core systems that will enable them to collect, manage, interpret and act on information thereby ensuring they are able to effectively manage private sector partners. Increased investment in similar systems, and use of data to inform PPP design could enable greater private sector participation in urban service delivery whilst radically reducing risk to government, and improving their ability to stay in the driving seat of future PPPs.

Pricing transparency empowers citizens

- In Dakar, an Uber-like SMS service has reduced the cost of emptying pit latrines by nearly half – and now customers can sell their waste to be turned into energy. The National Sanitation Utility has a database of 65,000 customers who send an SMS whenever they need their pits emptied. The computer sends out a tender to all the pit emptiers in the vicinity, triggering a bidding war, with the average cost of emptying pit latrines decreased from USD 150 to USD 90 a year, and a target cost of USD 60, creating significant savings for low income communities.
- For more information see: <http://bit.ly/2u3cw62>

3. **Providing transparency on service pricing and contract management:**

In general, the cost of telecomms / internet services borne by urban households is significantly higher than in rural areas. Digital solutions can play a vital role in providing transparent and easily accessible information to urban dwellers on the quality and cost of services, enabling them to make informed choices on how get the best services possible despite household income constraints. Services like findmyschool.co.ke enable poor urban Kenyans to identify and choose between schools based on examination performance, and in Dar es Salaam its urban transport agency SUMATRA

publishes mandatory fare guidelines for intercity bus services. This transparent publishing of pricing information online, or the development of specialised price comparison services could enable improved competition in additional urban services such as waste and sewage collection and transport (as seen in the introduction of DART harmonised tariffs), reducing costs for citizens.

4. **Asset registry:** Digital solutions can be used to both register assets in a database, as well as noting their location. This can make it easier for service operational management teams to locate and maintain assets, as well as prevent losses due to theft or corruption. Asset registry solutions can be complex and expensive however simple solutions such as QR codes, combined with simple database tools or Excel sheets can improve asset management and enable public servants to spend less time on manually updating registries and locating assets, instead prioritising their time for managing and maintaining assets effectively.

Frontier technologies such as blockchain may also play a significant role in asset registration and management in the future. The Republic of Georgia is using blockchain to undertake an ambitious land titling programme. Georgia is fertile ground for blockchain-based innovation in public services, because the country has a solid software infrastructure already in place.

5. **Operations and maintenance (O&M) planning:** In conjunction with asset registry solutions, operation and maintenance planning tools can use data to help government departments and service providers improve service delivery, reduce costs and enable service expansion and sustainability. Data-based tools can help plan and prioritise systems maintenance, and support the efficient management of inventories needed for repairs. This can avoid service disruption caused by lack of spare parts and also reduce costly investments in inventory often unaffordable to cash-strapped cities. The use of digital tools for prioritisation can also aid strategic conversations around O&M prioritisation at senior management level ensuring that service management teams are fully in control of all aspects of service sustainability. Finally, smart data analytics can use data on urban services to propose methods of service optimisation

Smart data analytics help optimise service delivery

- Citymapper is currently trialling smart technologies to continuously optimise bus routes in London. At a simpler level bus and rider information collected on DART can be used to further optimise services over time.
- Alphabet is also developing an analytics tool, Doppelganger, that will help cities model optimal urban transit solutions based on demographic and location data, enabling it to match transport modes and routes to citizens work and family needs, and financial constraints.
- For more information see: <http://bit.ly/2qStfXu> and <http://bit.ly/2bh2vZm>

For more information on how digital solutions can catalyse inclusive urban growth please consult the ICED website or contact the ICED Facility at contact@icedfacility.org