Leveraging on ICT to drive Innovations in the Water Sector
Case of Nairobi City Water & Sewerage Company

Martin Nangole
ICT Director
Nairobi City Water & Sewerage Company
Leveraging on ICT Introduction

Adoption of ICT can transform delivery of basic services, drive innovations and productivity gains and improve competitiveness in the water sector.

Capitalizing on growing mobile and internet penetration, African countries are ready for ICT-enabled transformations in the utility sector.

Mobile phones and internet have emerged as the largest-ever service delivery in the water sector.

They have become a means to increasing accountability, monitoring and transformations and extending the reach of service delivery to the underserved in an innovative, fast, and cost-efficient manner.
People across the content have begun to use mobile phones and IOT in new and innovative ways. New terminology of nomophobia is emerging across the continent. They pay water bills, transfer money back home, and receive cash transfers. They do business on mobile phones. Online. They remotely monitor and switch on water valves.

ICT is an indispensable tool for the development of the water infrastructure sector. Water services provider’s can use ICT to improve service delivery including resolving customer complaints, leak detection, pressure monitoring and network modelling.
Leveraging on ICT Introduction

In the water sector, ICTs have recently spurred huge improvements in water points mapping applications.

Water point inventories are essential in monitoring and repair systems as well as investment planning.

Most water point inventories are still done the traditional way of sending enumerators to fill out paper questionnaire forms on each water point.

The inefficiency of these methods explains in large part why water point inventories often do not exist, or are incomplete and outdated. ICT solutions based on the use of smart phones combined with GPS are less error-prone and allow speeding up the process.

Water point mapping is just one area in which ICT systems can aid the sector.
WSP can deliver ICT services at reduced cost by leveraging appropriate cloud technologies and exploring services, computing opportunities and vertical business process as a service.

In addition they can deploy a range of mobile applications that leverage enhanced Geographic Information Services and location-based services.

Enhance Mobile Strategy to include pervasive connectivity, integrated collaboration suites and workforce convergence.
Continual innovation within the ICT industry has compelled NCWSC to plan for and anticipate the future so that our systems remain as secure, easy to use and sustainable as possible.

While NCWSC has made good progress over recent years moving most IT systems towards converged infrastructure there is need to do more.

NCWSC intends to unlock capacity to deliver customer focused and valued solutions by leveraging information technology and our strategic initiatives in the areas of business excellence and forward thinking.
Key innovations leveraging ICT at NCWSC are as follows:

- Jisomee Meter
- e-Billing
- Tambua Service
- Maji Voice
Jisomee Meter

Introduction

- Jisomee Mita is a Swahili name meaning “Read your Meter”.
- Jisomee meter innovation is a mobile based solution that has enabled the urban poor to efficiently, cheaply and conveniently access water services at the lowest rates.
- It has empowered the urban poor in informal settlement to read their meters on adhoc basis (as they consume) and make payments for the consumptions through the power of mobile phones.
The system allows customers to use a basic mobile phone to:

- Submit Meter reading by SMS
- To have multiple billing in one cycle
- Pay for water as they use
- Query account balance
- Pay loan
- Share resources
Jisomee Meter Pilot

- Jisomee Mita is piloted in Kayole Soweto (Informal sector).
- The owners of over 2200 plots were advanced a loan from a micro finance institute to enable them get metered water connections.
- The loan advanced was facilitated by OBA program under socio connection policy (Maji Mashinani) supported by WSP of World Bank. The network Infrastructure was developed under WASSIP project financed by World Bank and NCSWC.
Jisomee Meter
Outcomes

- Increase in Revenue Collection from Kshs.360,000/= Kshs to 1,200,000/= in the last one year since implementation. Most of it billed from self billing.
- Customers have been empowered to manage their water bills and consumption.
- The system has minimized operations and transaction costs related to billing, meter reading and bill payments (Paperless billing).
Jisomee Meter
Benefits Realized

- Better Service delivery
- Saves customers and company time and money
- Improved revenue collection
- Improved meter reading and billing accuracy
- Customer empowerment
Paperless billing. The company has adopted a paperless billing where all water bill are sent through the mobile phone. The platform allows the customer to register and access their bills using the cellular phone.

The application benefits the customer, environment and the company by reducing time and money.

Efficient revenue management
e-Billing
Advantages

- Receive and pay your water bills online
- Schedule automatic payments
- Set up automatic reminders
- Sign up with the Nairobi Water and Sewerage Company customer service or using company web
- Electronically track your E-Billing PLUS payment history
e-Billing
Service Delivery

- Effective billing and collection system
- Saving on cost of paper (Kshs.100m Per month)
- Internal controls are reduced and timely
- Accurate and transparent billing
Introduction

- Application for identification of staff by customers using employee’s number. Tambua is a Swahili name meaning “Identify”.

- Identification of staff by customers is a critical component in management of the company.

- Accessibility of customer premises is critical for meter reading and revenue collection.

- Customers have been using insecurity as a reason to deny access to Water Meter Readers citing insecurity. Tambua service allows customers to authenticate the person reading or requesting entry are staff of NCWSC by linking a service number to the company database.
Tambua Service
Advantages

- Increase in meter’s read on actual: Fewer staff denied access to premises by customers.
- Reduction of Non-revenue Water.
- Increase in collection and paying Customer.
- Increase in customer confidence.
Maji Voice
Introduction

MajiVoice is a service that enables Kenyan’s to easily and conveniently reach their Water Company (through a mobile phone or the Internet). It was introduced by WASREB (Water Service Regulatory Board).

Nairobi City Water and Sewerage Company was a key contributor in the application development as a key stakeholder and a critical user of the system.
Maji Voice
Service Delivery

- Medium for customer to lodge complains and observations to the company.
- Introduces accountability and transparency – truck resolving – escalation on complains.
- Feedback to customers and management.
- Complains are resolved faster because of follow up
- Customers monitor complains and solutions
- Easier to manage staff
Maji Voice
Revenue Protection

- Complains are resolved faster since the process is monitored by a number of people.
- No underhand deals because of transparency.
- Time:
- Customers can monitor complain movement increasing confidence to pay for services.
Maji Voice
Loss Reduction

- Leaks are reported, monitored and therefore resolved on time.
- Time losses are minimized.
- Expenditure.
- Documentation.
- Transport.
- Free platform.
End

Thank You