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Mobilizing public services in Africa: The m-government challenge

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Driven by constant first-hand contact with the industry, our 60 analysts and researchers produce a range of intelligence services including news and analytical products, in-depth market reports and datasets focused on technology, strategy and content.

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It began with e-government

In 2007, the Connect Africa Summit met in Kigali, Rwanda. The fifth of its five published goals reads: "Adopt a national e-strategy and deploy at least one flagship e-government service ... using accessible technologies by 2012, with the aim of making multiple e-government and other e-services widely available by 2015."

With this in mind, it is refreshing to note that, according to the E-Government Survey published by the UN in 2010, although African countries generally lag behind other markets in the rankings of e-government implementation, there has been improvement in the region since the 2008 survey, particularly in northern Africa. Tunisia and Egypt were two of the highest-ranked countries in Africa alongside Mauritius, South Africa and Seychelles.

Looking at the e-government strategies of many African countries, it is clear that there is a will to be in the vanguard of the region's e-government movement. The Kenyan government recognizes that e-government can be "an economic pillar, a social pillar and a political pillar." The South African government pledges that it will have 50 services automated on e-government platforms in 2014 and has articulated the need for greater "citizen engagement". In North Africa, Algeria's 2013 strategy refers to the development of online services for the benefit of its citizens, as illustrated by the government's H1N1 National Hotline, a portal page with a section for citizens to access medical resources and share information on symptoms to monitor for the H1N1 flu.

Judging from this, policy makers from parts of the region have reacted to Connect Africa – but what of the view from the industry? In a survey commissioned by Informa Telecoms & Media in June 2011, two-thirds of the respondents felt that e-government services remained undeveloped in Africa. In the same survey, two-thirds of the respondents said they believe that education and payments are the most important potential services that could benefit from a state's e-government policy. This is interesting as it suggests C-level executives feel that governments should not only use e-services to benefit their citizens (education/training), but could also use ICT to transform the government's own internal processes (payment of public sector staff) by creating greater efficiencies.

Should mobile have a role?

When looking at e-government strategies in Africa, something is particularly striking: there is no clear articulation of the potential role that mobile devices can play in the spread of e-government services. Given the role that mobile has played in the African economy and culture in the last decade, this is strange.

The mobile revolution has brought communications to hundreds of millions of people across Africa within a short period of time. At the end of 2001, there were just 25.6 million mobile subscriptions across the whole of Africa, representing 3% penetration. Informa projects that by the end of this year – 10 years later – there will be 640 million subscriptions across the continent and SIM penetration will be close to 60%.

Strange then for policy strategists to overlook mobile as a tool in building greater engagement with citizens and for governments not to benefit from potential efficiencies that mobile government can create. Is building a strategy around e-government (while excluding mobile government) sustainable when, according to figures released by Informa, household broadband penetration in Africa is just 3% and is projected to grow to 8% by the end of 2016?

What is mobile government?

Anywhere, anytime

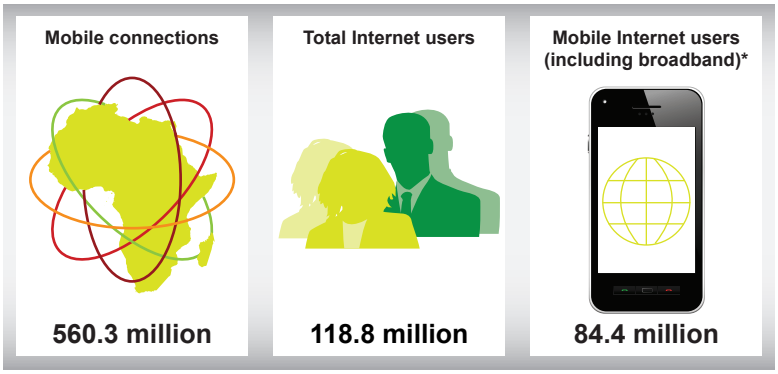
Governments and businesses are learning to accept that consumers expect an anywhere, anytime service. The emergence of wireless technologies and development of mobile applications in Africa means this anywhere, anytime expectation has become an African reality too.

The implementation of e-government can create a greater visibility to the government-citizen relationship and allow governments to become more efficient and effective in fulfilling their service-delivery functions. This is the reason for the focus of one of Africa Connect's goals being around e-government.

So what of mobile government? In many countries, such as Estonia, Germany, Singapore and Hong Kong, it has become a key element of e-government through its "utilization of wireless and mobile technology, services, applications and devices for improving benefits to citizens, businesses and government units" (Ibrahim Kuschchu of Mobile Government Consortium International, 2003).

It is easy to suggest that the move from e-government to m-government is inevitable, but this is especially the case in Africa, where the number of people with access to mobile phones is growing, and exceeds the number of citizens with access to the Internet by nearly five to one (see fig. 1). This is particularly the case in rural areas of Africa, suggesting the need for mobile government is even greater for approximately 60% of the continent's population.

Fig. 1: Africa, snapshot of mobile vs. Internet usage, Mar-11

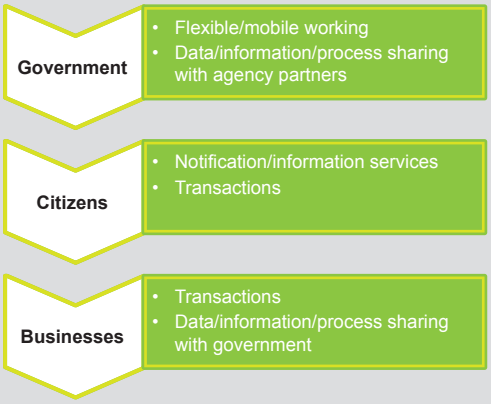


*Includes all users with access to GPRS, EDGE, WCDMA, HSPA, CDMA2000 1X, CDMA2000 1xEV-DO, CDMA2000 1xEV-DO Rev A/B
Source: Informa Telecoms & Media, Internet World Stats

Who could benefit from mobile government?

The beneficiaries of mobile government can be classified as governments, citizens and businesses (see panel):

Mobile government beneficiaries



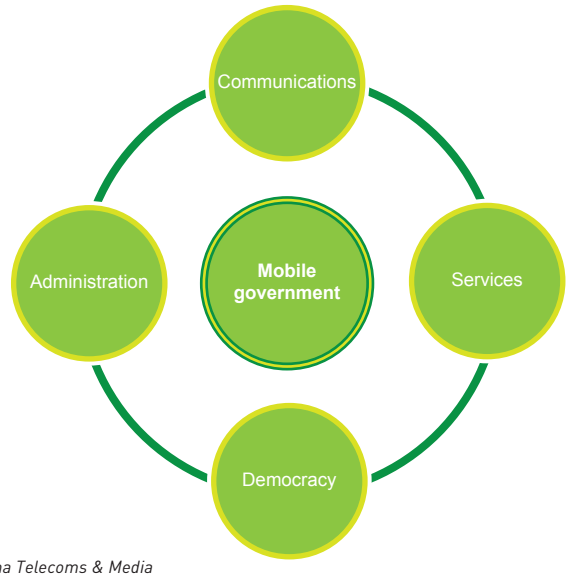
Source: Informa Telecoms & Media

- **Government departments (G2G):** Applications and services can improve organizational and business processes, such as making in-field mobile workers more productive, encouraging the use of videoconferencing or providing secure co-partner services with other agencies (e.g., NGOs).
- **Citizens (G2C):** Applications and services can improve the lives of citizens. Information or alerts on healthcare or agriculture can provide essential information while also creating a link to those with little or no contact with central or local government.
- **Businesses (G2B):** Applications and services can facilitate business interaction between government and private-sector companies or small businesses, such as corporate administration or advisory services, for a positive impact on the economy.

Mobile government can be also classified by different service types (see fig. 2):

- **Communications:** Mobile devices can provide an important delivery vehicle for governments to reach citizens (e.g., SMS alerts for tax renewals, passport renewals, security /emergency notifications).
- **Services:** Mobile devices via SMS can also enable certain transactions, such as payment of fines, public sector employee wages or public transportation ticketing.

Fig. 2: Mobile government services categories



Source: Informa Telecoms & Media

- **Democracy:** Mobile devices can allow citizen input to political decision-making, such as contact with local political representatives and electronic voting.
- **Administration:** Wireless technology allows for opportunities to improve the internal operation of state agencies and create a more integrated platform for public sector employees (whether the data required is on the Internet, network or portable device in their control). The potential use for administration could include telemedicine, handling of citizen grievances or the monitoring of public works.

The mobile government services that are most appropriate for Africa are either as a broadcast delivery vehicle (communications), an enabler of transactions (services) or an instrument for more efficient service delivery both internally and externally (administration).

Why is mobile government appropriate for Africa?

The single most effective communications tool for stimulating the greatest demand and supply of public services in Africa is probably the radio. Its reach is wide, it delivers content in local languages, it provides information to the illiterate, it requires only small amounts of electricity and people recognize it as a traditional and trusted supplier of public information.

But radio as an instrument of government information and services has its limitations: The key to e-governance is a two-way communication between citizen and government, or business and government. Other requirements for effective e-governance include the capacity to reach a wide audience and the need for content to be available in a range of formats. The mobile device meets these requirements: it allows for speedy interaction; access to mobile telephony has become ubiquitous in many of the continent's markets; and the use of SMS, USSD and IVR gives the mobile phone the edge over the PC as a public service delivery vehicle.

Mobile should become an integral part of Africa's e-government delivery platform for the following reasons:

- The continued growth in wireless access ensures a wide audience reach.
- Messaging and data usage shows consumers are savvy enough to recognize mobile as a potential delivery arm for public services.
- The mobile device market is maturing and smartphone penetration will accelerate.

The continued growth in wireless access ensures a wide audience reach

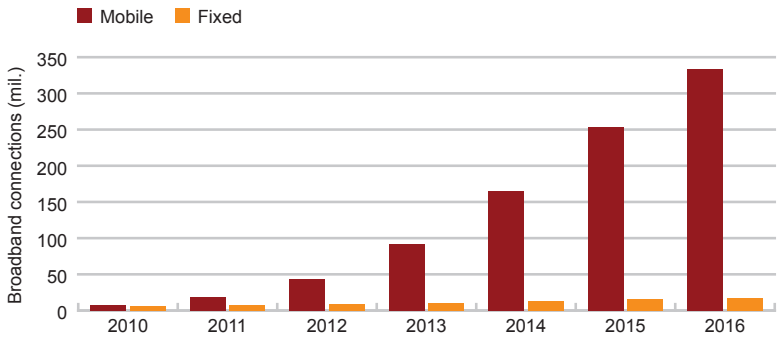
Mobile operators have become the main providers of Internet services in Africa. Informa expects mobile to dominate broadband services in terms of user numbers as a result of recent infrastructure investments in 3G and 4G networks (see fig. 3).

It is instructive too to look at Informa's projected shift of Internet traffic. While fixed Internet traffic exceeds that of mobile Internet, the gap is reducing markedly in Africa, so much so that, by 2015, Informa projects that 18% of its Internet traffic will be carried by cellular networks (see fig. 4) compared with a global figure of just 3%. The fact that mobile networks will be able to host higher bandwidth-intensive services over the course of this forecast period helps to explain this transformation.

Messaging and data usage shows consumers are savvy enough to recognize mobile as a potential delivery arm for public services

Messaging services and other non-voice services are already popular with consumers as the mobile device becomes a central platform for greater interaction, service delivery and Internet access. This will continue to be encouraged by mobile operators as non-voice services are a way of offsetting the decline in their voice-based revenue. The success of mobile government will depend partly on the willingness of citizens to conduct more messaging, browse

Fig. 3: Africa, mobile and fixed broadband connections, 2010-2016



Note: Figures refer to year-end
Source: Informa Telecoms & Media

the Internet with a portable device more regularly and access utility services with greater frequency (see fig. 5).

The mobile device market is maturing and smartphone penetration will accelerate

The limited functionality of entry-level handsets is an inhibitor to the potential of mobile government services. However, the smartphone market is set to grow in Africa too. According to projections from Informa, over a third of mobile connections in South Africa will be via smartphones by the end of 2016, and this figure will be in excess of 15% in Egypt, Kenya and Nigeria (see fig. 6). This provides far greater flexibility to what can be achieved by mobile government.

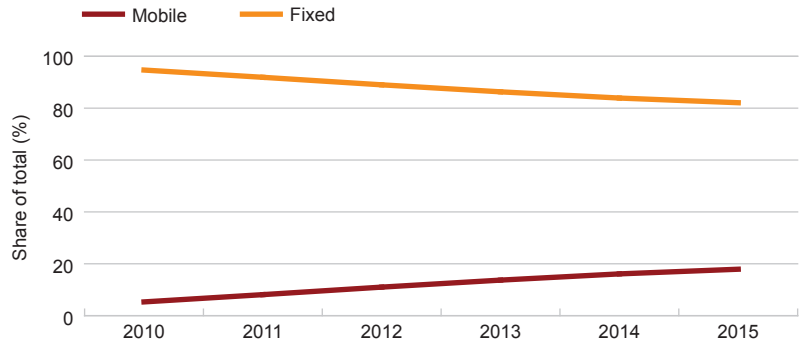
Lessons from India

M-government needs foundation in policy frameworks

The Indian government has thrown its weight behind mobile government as an integral part of its e-government strategy. It views the growth of mobile as an instrument by which the government can interact with citizens in rural areas, especially for the benefit of the economy. Mobile government forms part of its vision to connect the unconnected.

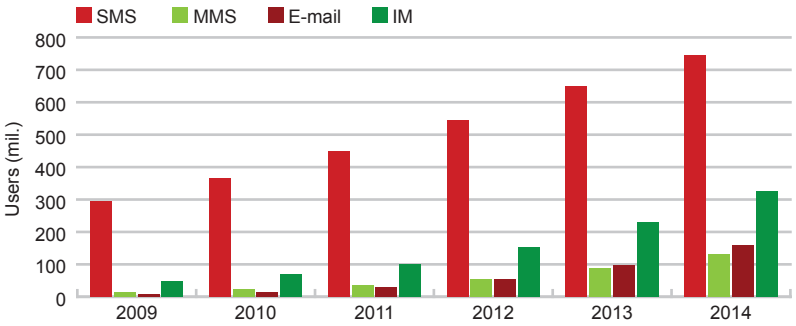
In the words of the government's draft policy on mobile government, "the limited reach of e-governance has made governments think of new technologies, such as mobile phones, to deliver public services ... the huge user base of mobile phones in India presents us with an unprecedented opportunity to expand the reach of public services to every resident, especially in rural areas."

Fig. 4: Africa, Internet traffic, mobile vs. fixed, 2010-2015



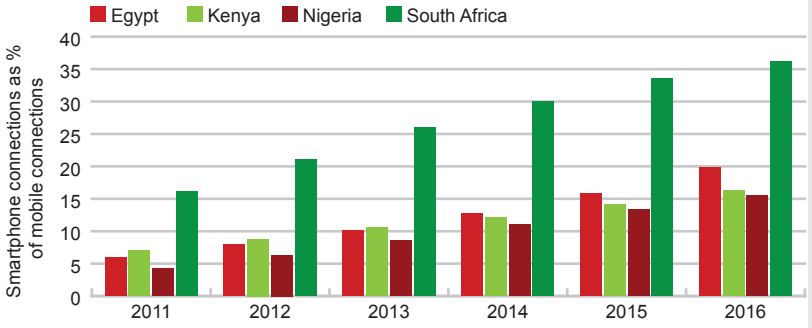
Source: Informa Telecoms & Media

Fig. 5: Africa, messaging users, 2009-2014



Source: Informa Telecoms & Media

Fig. 6: Africa, smartphone connections as % of mobile connections, selected countries, 2011-2016



Source: Informa Telecoms & Media

Having released a consultation paper in March 2011, the government held a number of meetings with interested stakeholders, and has used feedback to create a framework for mobile government implementation.

Central to this formalization is the development of a Mobile Service Delivery Gateway (MSDG), which will be formed as middleware between the government's existing e-governance infrastructure and mobile service users. The MSDG will

be the host of mobile applications for public services and will enable delivery on multiple channels, including SMS, USSD, WAP/GPRS, 3G, IVR or STK.

India's m-government initiative is built on four pillars: joined-up national policy, including support for open technology standards and interoperability; financial commitment; close regulation of telecoms operators; and, crucially, the digitization of public data during the first wave of e-government.

Since the launch of India's National e-Governance Plan in 2006, hundreds of online forms and processes of each state authority have transferred online – such as tax filing and payment of utility bills. But with dismal penetration of home broadband, most citizens rely on public access kiosks, including some 100,000 Common Services Centers.

Has policy led to action?

The government latterly realized that it could reach 10 times the number of citizens by extending services to a mobile platform.

India's m-gov initiative is in its early stages. To date, mobile government projects have been few in number, but include the following:

- A notification service of employment available to those citizens provided for by the National Rural Employment Guarantee Scheme.
- Advisory services, known as LifeLines, providing telephone-based support to farmers.
- An SMS-based m-health information system on health resources and facilities available in Kerala.
- An SMS gateway for the provision of various services to citizens in Goa.
- An SMS tracking service for passport applications.

It is noteworthy that these services fall in the G2C category of mobile government. What there is little evidence of so far – either in terms of live projects, or indeed within the Indian government's vision on mobile government – is the role of mobile in making internal government processes more effective.

Some African countries have started the mobile government journey

Despite a lack of specific policy frameworks on mobile government, there are a number of mobile government projects in place across Africa (see fig. 7). In some cases it is the private sector driving forward the mobile government agenda.

IBM is working closely with the Kenyan government in shaping the framework for the organization of its data-management systems and enabling better citizen access. This is an important pillar in the Kenyan government's drive to improve the efficiency and effectiveness of the delivery of some of its services, using computers and mobile phones as a means of delivery.

HP is about to ramp up its investment in sub-Saharan Africa and it sees the public sector as an important part of its strategy for growth for the region. Examples of its work include improving disease surveillance through mobile health monitoring technology in Botswana and the deployment of a technology platform providing education to those without access to formal schooling in Senegal.

Fig 7: Africa, examples of mobile government projects

Country	Project	Type of service	Notes
Rwanda	TRACnet	G2C	A national program supporting those living with HIV
Kenya	NAFIS/NALEP	G2B	Agricultural information service (farmers call in for recorded information)
Tanzania	Agricultural Marketing Systems Development Program	G2B	Commodity price service by SMS, administered by Vodacom and Ministry of Industry and Trade
Uganda	The Question and Answer Service (QAS) Voucher System (VS)	G2B	Voucher system enables personalized advice for farmers, run by the Rural Empowerment Network
Tunisia	Mobile Gov	G2C	Information service, run by central government and delivered by SMS, providing information on travel, weather and schools
Egypt	Government e-Procurement Portal	G2C	SMS-delivered service on government employment opportunities and health; the Ministry of State for Administrative Development worked in partnership with Vodafone Egypt
Egypt	Free SIMs for farmers	G2B	1 million free SIMs for farmers subsidized by central government
South Africa	ID Track and Trace	G2G	Tracking of ID document application via SMS
Uganda	National Water and Sewerage Corp Payments	G2C	Allows consumers to pay water utility bills via MTN Mobile Money

Source: Informa Telecoms & Media

And yet, such examples are still few and far between. Mobile government has been slow to take off: Governments typically pursue short-term aims with their plans to use technology to improve efficiency and effectiveness often fizzling out though lack of funding and often lack of expertise. Educating government as to how it can benefit from mobile technology is paramount – as is informing the general public. As the growth of mobile banking tells us, if there really is a need for a type of service, people will use it.

There is a technology concern too. Servers are required for electronic records and enabling dynamic access to information requires record-management software and better internal ICT integration. To get to this stage is expensive and once again requires expertise. With funding available from donors, foundations and multilateral agencies, perhaps it is here – in training and supporting ICT integration – where they can make a real strategic difference.

Which African countries are ready for mobile government?

In launching a mobile government readiness index (see fig. 8), Informa has attempted to identify those markets that are most ready to implement mobile government. Live implementations have not been scored for the index, which instead ranks those countries that have the cellular technology landscape, state policies and consumer appetite required to allow mobile government to work.

The parameters used for the rankings are:

- Mobile penetration illustrates cellular accessibility and potential reach of mobile government services (G2C).
- 3G penetration reflects the maturity of cellular networks and the ability with which mobile government services could be used for more than SMS delivery. With the exception of South Africa, access to 3G services remains very limited, suggesting mobile markets still remain largely immature. Mobile government deployments therefore need to remain simple to be effective for the G2C market.
- Mobile broadband penetration forecasts highlight projected consumer demand for data-intensive services. This score acts as a proxy as the fact is that mobile broadband is largely based on dongle rather than handset usage.
- The percentage of the population living in rural areas is included on the basis that mobile government is particularly useful in reaching out to consumers in rural areas. One of the most compelling arguments for mobile government in Africa is as an attempt by the government to engage with citizens that currently have little government contact, and are frankly expensive to reach out to. Looking at these figures gives a nod as to why East African governments tend to be more open to mobile government services. The fact that three-quarters of the population lives in rural areas in Uganda, Rwanda, Kenya and Tanzania is a big incentive for certain public services to be delivered with the help of cellular technology.
- Public sector as a percentage of GDP serves as a consistent comparison of public sector size and therefore provides a hint at those markets where G2G services could be most useful.
- UN's E-Government Readiness Index has been used as a means of identifying those markets that have the best-developed e-government policies. As mobile government is an extension of e-government, it is unrealistic to expect mobile government frameworks where e-government services have not been developed.
- Fixed broadband penetration is low across sub-Saharan Africa. This is one of the main drivers for mobile government with G2C e-government services less likely to be effective where fixed broadband household penetration is very low.
- Illiteracy serves as a barrier to the potential of mobile government services.

Among these examples of mobile government services, three things are worth commenting on:

1. **East Africa appears to be ahead of other regions with governments in Kenya, Uganda, Tanzania and Rwanda prioritizing the use of technology as providing a more effective service to citizens and providing benefits to national economies.**
2. **While G2C and G2B activity is relatively prevalent, governments are slow to use mobile technology as a way of overhauling their own internal processes and providing more flexibility to their own workforces.**
3. **Mobile operators have a part to play – Vodafone, Vodacom and MTN can all point to their role in the deployment of mobile government services, but can they do more in acting as ICT service providers and offering managed-service solutions to create government efficiencies, via shared-service programs or data-center management?**

This panel box relates to fig. 7 (see p7).

Fig. 8: Africa, mobile government readiness index

Country	Rank	Mobile penetration, end-2010 (%)	Cellular 3G penetration, end-2010 (%)	Mobile broadband penetration forecasts, end-2015 (%)	Population living in rural areas (%)	Public sector as % of GDP	UN's E-Government Readiness Index ranking	Fixed broadband penetration, end-2010 (%)	Literacy rates, 2010 (%)
South Africa	1	100.40	15.40	78.00	38.00	15.70	97	11.40	86.00
Kenya	2	57.90	3.60	28.90	78.00	5.00	124	0.40	85.00
Egypt	3	79.40	2.80	37.20	57.00	9.90	86	6.50	71.00
Tanzania	4	42.50	0.30	20.80	74.00	8.90	137	0.70	69.00
Uganda	5	39.30	0.30	15.80	87.00	3.00	142	0.30	67.00
Zambia	6	38.30	0.10	18.40	64.00	2.40	143	0.20	81.00
Rwanda	7	32.70	0.60	4.20	81.00	4.60	148	0.30	70.00
Morocco	8	88.60	3.40	44.60	42.00	9.00	126	9.50	52.00
Nigeria	9	54.50	2.90	32.00	50.00	0.80	150	1.10	68.00
Ghana	10	69.00	1.00	28.50	49.00	6.90	147	3.80	58.00

Note: the rankings table includes only those countries in Africa with a population size of at least 5 million. Libya scored highly but was discounted on the basis of current government changes.

Source: Informa Telecoms & Media, UN, Africa Development Bank

Wanted: Government to spearhead mobile government – is South Africa ready?

It is perhaps no surprise that South Africa sits at the top of our mobile government readiness index. And yet, mobile government has been slow to take off there, with governments in Rwanda, Kenya, Uganda and Tanzania quicker to embrace the consumer benefits of public service delivery by cellular technologies.

There is some world-weariness and cynicism in South Africa as to whether mobile government will take off, while at the same time there is real anticipation as to the benefits and revenue that it can bring.

For mobile government to take off across the whole continent there needs to be a success story in South Africa. But, the cynic might suggest with some justification that the industry has been discussing this issue throughout the decade and there has been little action to go with the talk.

In 2007, South Africa's State Information Technology Agency (SITA) tried to drive through the so-called MOBiGOV service, which it hoped would result in secure mobile and network solutions for multiple government departments enabling more rapid citizen-service delivery. The MOBiGOV service, however, stalled.

Despite this, SITA remains adamant that it wants South Africa to become a world leader in mobile government and is in the midst of developing strategy aimed squarely at aligning mobile government with e-government. The focus of providing facilitated access to government services for all will be via cellular technologies.

For now, though, talk about mobile government implementations in Africa, and instead you think of action from governments in Uganda or Egypt. Here, the governments have worked closely with MTN and Vodafone, respectively, in allowing customers to pay their water bills to the state-owned incumbent using MTN Money, and in delivering services around government employment opportunities. Not only do both of these provide a better service for the citizen, but they also encourage efficiencies for internal processes.

If the continent of Africa is ready for mobile government, the state will have to work with the private sector in ensuring that political vision becomes action.

But, what's in it for the industry? Yes, mobile government has huge potential for the state to become more efficient in its public service delivery (both internal and external) and helps the country's citizens build a more beneficial relationship with the state in making their lives easier. But where's the business benefit for the telecommunications ecosystem?

Where's the money in mobile government?

Selling mobile government to stakeholders

If mobile government services in Africa are to be more sustainable

than previous e-government initiatives, they must benefit all stakeholders. Today, the business model is uncertain. To put it bluntly, governments have limited budgets and the end users with most to gain from mobile government are often living in poverty in remote rural areas. As a result, telecom operators anticipate only modest, if any, return for providing low-cost connectivity and backhaul for these services.

Governments using cellular technologies as a broadcast and transactional vehicle to reach out to their citizens is a fine idea and no-one will argue with the potential benefits, but all stakeholders need to share in these benefits:

- Public service providers must see substantial cost savings that reward the overhaul of processes required for migration to a mobile government delivery model.
- End users must see an almost immediate reward for the costs they incur when they adopt a new way of accessing basic services.
- Providers of network capacity and equipment, data storage and processing, content, and applications require revenue streams that exceed their costs and that help nurture a longer-term relationship with customers.

Lump-sum funding from governments and foundations can seed innovation but is usually insufficient if services are to go on to thrive. Projects that come and go, or services that function irregularly, will fail to deliver the expected benefits at enough scale to produce the socio-economic transformation that governments seek.

The challenge is to rethink established stakeholder relationships and roles. Without such renegotiation, mobile government could end up rolled into license requirements and universal service obligations. Partnerships for mutual benefit, rather than grudging compliance, are more likely to benefit governments and their citizens in the long term.

Mobile operators need to see mobile government as a part of their larger enterprise business. While many governments have successfully launched mobile government services, the enterprise market will be quicker to seize the cost savings that mobility and Cloud services offer. Investment in infrastructure, applications development, processes and skills will spill over from enterprise to the public sector. Benefits can also flow in the opposite direction. For example, MTN has co-developed a data collection service with the South African government to allow field workers to collect census data more productively and without having to return to the office before collating findings. A similar pilot application was later modified for Eskom, the state-owned power utility.

Solving the business case dilemma

A mobile government service may deliver cost benefits to the public service provider and socioeconomic benefits to the end user, but still fail to offer an attractive revenue proposition to other stakeholders. Indeed, most of the services implemented in Africa thus far can be characterized in this way.

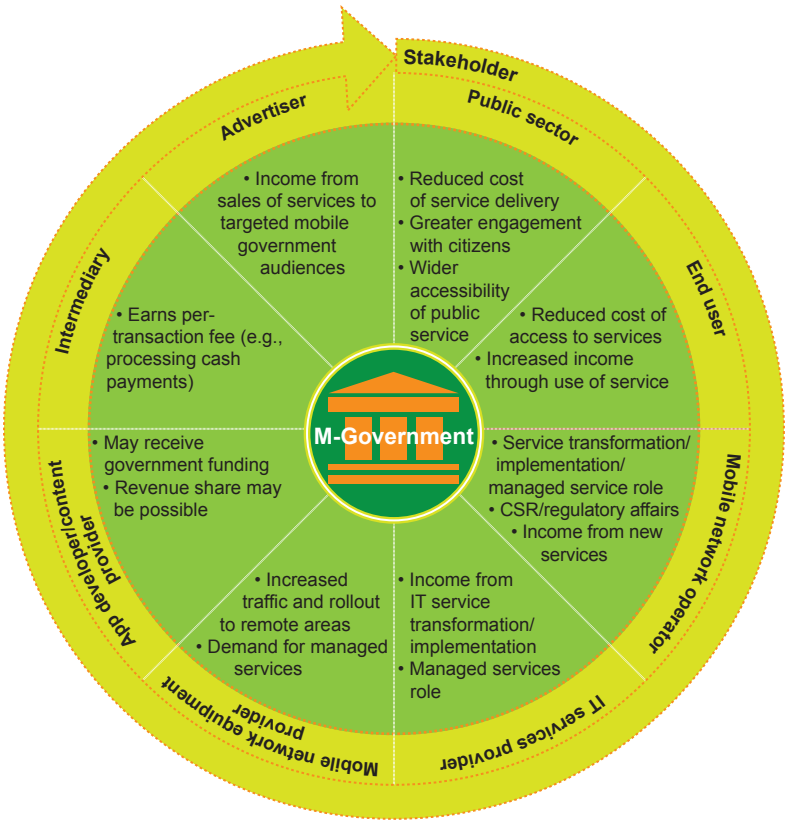
The mobile operator needs, firstly, to understand the opportunity provided by mobile government. Data services are the fast-growing area for operators today, but the humble SMS is unlikely to ever generate much revenue, even at high volumes. M-Pesa is an exception to this rule, the need for an easy-to-use payments service for the unbanked was so great that the traffic generated from M-Pesa has become a significant income stream for Safaricom. It is doubtful that government messages, however beneficial in nature, will reach those levels of interest.

G2C services will represent an important part of mobile government implementations and, as such, mobile operators will have an important part to play as a carrier of government messages or as an enabler of public delivery services. However, the true business benefits will only follow if the mobile operators can transform themselves into providers for government ICT requirements, whether for administration, utilities, education, transportation or healthcare.

A transformation is necessary for operators to design specific solutions around virtualization, data center and storage, or managed solutions for mobile workforces. But if mobile operators can craft the transition from carrier to service provider, enterprise mobility management will be vital to future mobile government projects, not least when it comes to improving security and providing both application and budget management.

The potential benefits for mobile government to IT providers are clearer and it is no surprise to see IBM continuing to accelerate its regional investment. It is providing Cloud-computing services for clients across sub-Saharan Africa through the addition of its Cloud Data Center and Lab in South Africa. This will give the opportunity for enterprise clients, including government departments, to take advantage of software-

Fig. 9: Benefits to the main stakeholders in m-government services



Source: Informa Telecoms & Media

as-a-service (SaaS) or utility computing-based models, managing security, performance, support and transactional workload requirements likely for G2G services, particularly in supporting more mobile working.

The benefit of working with governments may not be so obvious for content providers but it is worth noting the success Google has had in providing university students in Kenya and Uganda with Gmail accounts and how this has led to other applications and an increase in usage of Google Web services. With governments also increasingly signing up for Google services, the prospect of working together with governments in broadcasting alert-service messages and delivering public services will be tempting given the size of the planned audience. It is not just the size of the addressable market that is attractive but the fact that working with government would provide content suppliers with access to local and relevant content.

The mobile government value chain is extensive – it also includes network equipment providers, prospective advertisers and intermediaries such as distribution agents (see fig. 9).

Promise of Cloud delivery

Technology providers in Africa have an opportunity to enable mobile government by encouraging the migration of public sector services to the Cloud. Virtualization of infrastructure and flexible, usage-based costs allow the customers to pay for what they need and flex costs up or down to match demand. This shift of up-front capex to opex reduces the costs of each component of the service – from application hosting to data storage and back-up, security and authentication.

In an ideal world, mobility services would form an integrated part of the public sector's Cloud migration. Unified communications is an obvious place to start. However, in reality, organizations are highly siloed and legacy infrastructure is poor. G2C services and mobility within government (G2G) are often separate activities.

Nonetheless, recent announcements in Africa suggest that investment in Cloud infrastructure in the enterprise market will assist the migration of government services to a Cloud delivery model (see fig. 10).

Fig. 10: Africa, recent investments in the enterprise market

Company	Role	Initiative
HP	IT services, Cloud services, data centers	Expanding presence in 2011 from six African countries to 10; targeting public sector – education and health; PaaS partnership with Microsoft Azure
Orange Business Services	Mobile network operator in Africa	Unconfirmed reports of plans to acquire South African IT services company BCX
Telkom	Incumbent telecom operator in South Africa	Enterprise market partnership with Afinis (Cable & Wireless' brand in Africa) in 30 African countries.
Vodacom	Mobile network operator in Africa	Teraco-Gateway Cloud alliance
Neotel	Converged telco and IT services	Investments in fiber, data centers, Cloud services
SEACOM	Operator of Africa's undersea cable system	Investments in dark fiber links to data centers, IP access points
IBM	IT services, Cloud services, data centers	Extended hybrid private Cloud services for enterprises in South Africa

Source: Informa Telecoms & Media

Critical success factors for mobile government

Service delivery

For successful delivery of mobile government services, providers should:

- **Ensure the service is relevant for end users:** Services must be easy to use with valuable and timely content. M-payments for public sector employees and welfare claimants are among the most valuable mobile government services for a large proportion of citizens who lack easy access to bank accounts. Mobile government initiatives should strive for similarly direct impacts.
- **Deliver at low or no cost to the end user:** The service must be accessible at a lower cost than non-mobile or non-electronic alternatives. For example, a subsidized information service for farmers should provide additional value that is not already delivered over broadcast radio.
- **Integrate with existing services:** Services can reach more end users by using multiple delivery methods. To overcome literacy issues, for example, information sent over SMS can trigger a voice call that directs the user to the information via IVR. Call-ins to radio broadcasts are popular for the distribution of health, educational, agricultural and job market information. Voice and data mobile services can complement these channels rather than try to replace them.
- **Ensure equality of access:** Services should be accessible to all citizens who could potentially benefit. MNOs may need to distribute free SIM cards to a particular target audience, for example.
- **Performance evaluation must be low-cost and accurate:** Services should encourage interaction and generate data for government sponsors, thereby allowing the service to be audited and expanded. Feedback from users can be combined with usage statistics to support the ongoing development of the service. Service evolution may go in unexpected directions. In the Philippines, for example, a modest text-messaging service for collection of retail receipts ended up as a national lottery run over SMS.

Sustainability

Sustainability requires a business case that benefits all stakeholders in the value chain, in terms of both economic and social outcomes:

- **Government must see quantifiable and substantial efficiency gains:** To deliver financial and socioeconomic benefits, public service providers must see clear reductions in the cost of service delivery. The most common services share many similarities in technology and processes. Projects identified as exemplars of best practice should be sources of verifiable data for net cost savings, improvements in GDP per capita and other social or economic metrics.
- **Build on e-government investment:** Transition from manual delivery to e- or mobile government can require an overhaul of existing processes and breaking down departmental silos. Where content and processes are already designed for e-government, the transition to mobile government is more incremental and less disruptive.
- **End users must see real, immediate benefit:** End users also incur transaction costs when they commit to changing habitual working or living practices. Given low incomes, they need a return in the form of financial or efficiency gains in the short – if not immediate – term.
- **Stakeholders must commit:** Projects do end users a disservice when backed by short-term funding that disappears within a couple of years. To ensure longevity, all stakeholders must see the opportunity for net benefits in the short to medium term. This could mean fewer, simpler services initially with stronger marketing support. Simple, narrowband services also help avoid backhaul congestion.
- **Scale is essential if the aim is socioeconomic change:** Large numbers of users for fewer services is the model with the most potential to drive fundamental improvements for countries and citizens. Mass marketing and network effects help drive adoption throughout user groups.
- **Openness and innovation:** Bespoke solutions that lock in the government will not deliver service benefits in the long term. Open standards encourage service innovation and diffusion of the best practice while stakeholders can encourage low-cost sources of innovation that build on a grassroots knowledge of the user base.