

# E-GOVERNMENT IN EUROPE, THE MIDDLE EAST AND AFRICA

Expert views on the UN  
e-government survey

A report from the Economist Intelligence Unit.

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## About this research

*E-government in EMEA: Expert views on the UN e-government survey* is an Economist Intelligence Unit report, sponsored by Oracle. This report focuses on e-government trends in Europe, the Middle East and Africa (EMEA) and also looks at the role of the biennial United Nations survey of e-government development.

The report draws on desk research and interviews with experts and policymakers. Kim Andreasson was the primary author of the report, with contributions by Paul Kielstra. Trevor McFarlane and Aviva Freudmann were the editors. Our thanks are due in particular to the following for their time and insights (listed alphabetically).

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- Omnia Al-Banna, e-government portal manager, Ministry of State for Administrative Development, Egypt
- Frank Bannister, associate professor in information systems, Trinity College, Dublin, Ireland
- Mesfin Belachew, director, e-government directorate, Ethiopia
- Ben Choppy, principal secretary, Department of Information, Communication and Technology, Seychelles

- Lars Frelle-Petersen, director-general of the Agency for Digitisation within the Ministry of Finance, Denmark.
- Richard Heeks, professor of development informatics in the Institute for Development Policy and Management, Manchester University, UK
- Toomas Ilves, president, Estonia
- Tomasz Janowski, head, Centre for Electronic Governance, United Nations University, Macau
- Vasilis Koulolias, director of the eGovLab at Stockholm University, Sweden
- Helen Margetts, director, professor of society and the Internet, Oxford Internet Institute, UK
- Alice Munyua, chair, Kenyan Internet Governance Steering Committee, Kenya
- Shaun Pather, professor, Cape Peninsula University, South Africa
- Haiyan Qian, director, Division for Public Administration and Development Management, United Nations Department of Economic and Social Affairs

## Defining e-government

Definitions of e-government vary, as this activity cuts across the fields of law, technology and public administration. Taking a broad perspective, the 2003 World Public Sector Report, in which the UN survey was first introduced, defined e-government as the use of ICT to transform government, both its internal

organisation and its external relationships. This report defines e-government in similar terms, as the digital transformation of the public sector, and considers stationary and mobile networks and devices to be of equal importance.



## From the back-end to WOG: A summary of e-government lingo

E-government is a diverse field with its own, sometimes confusing, lexicon. Here is a list

of select key terms and trends currently found around the world.



Term	Description
Back-end	Administrative organisation and processes related to e-government initiatives
Digital divide	The gap between those who are able to access, create and use information through ICTs, and those who are not
E-participation	The level of online engagement between government and constituents
Front-end	Information and services delivered to constituents via websites through stationary or mobile devices
ICTs	Information and communication technologies
M-government	Mobile government, referring to the availability of, and access to, government information and services via mobile devices
Open government data	The availability of public-sector information (PSI) in a format that can be accessed and repurposed by users
Portal	The primary website for access to a particular segment of government information and services; typically refers to a country's national portal, which means the central government's primary access point to information and services
UN survey	Formally named the e-government development index, this is a composite index consisting of a telecommunications infrastructure index, a human capital index and a web measurement index, each of which carries a weight of one-third
WOG	Whole-of-government, a connected government online structure that is integrated both horizontally and vertically to enhance service delivery

Source: Economist Intelligence Unit.

## Executive summary

The lower cost and greater efficiency promised by e-government—the digital transformation of the public sector—are particularly appealing in a time of budget cutbacks and economic uncertainty. Yet the benefits of e-government go well beyond cost savings and improved efficiency. They include promoting social inclusion, expanding the digital economy, enabling broader engagement between citizens and their governments, and supporting the wider goals of sustainable economic development.

The study focuses in particular on e-government trends in Europe, the Middle East and Africa (EMEA). It considers the promise of e-government and concludes with an assessment of the role of the UN survey in e-government development in the region.

Here are the key findings of this study.

- **Use e-government to increase transparency and accountability.** The use of electronic channels for delivering government services tends to enhance transparency and accountability in government. For example, using these channels for routine services such as licensing or customs clearance can curb corrupt practices that may flourish in personal, offline interactions. Similarly, publishing government data in countries with a penchant for transparency

can create demand for the same openness in countries with more secretive regimes.

- **Connect the back-end.** Governments wishing to enable citizens to interact with a range of agencies need to ensure co-ordination among those agencies, in cyberspace as well as in the real world. This co-ordination, in turn, requires strong back-end operations to link agencies and their databases electronically. Establishing stronger vertical and horizontal links between agencies is a practical challenge in implementing e-government services. When done correctly, it streamlines communications between citizens and their governments and boosts the efficiency of government services generally.

- **Close the digital/e-government divide through active measures.** Government data and services are increasingly available digitally across EMEA, and online access is on the rise. Nonetheless, actual use of e-government services falls well short of potential use; a large percentage of the population is unaware of its availability and/or lacks the trust to use such channels to deal with officialdom. As some countries start to offer their services primarily – sometimes exclusively – through digital channels, they will need to take more active measures to narrow the gap between supply and uptake of e-government services.

- **Develop multi-channel service delivery.**

Multi-channel service delivery, in particular mobile government, has emerged as an important option for e-government, especially in parts of the Middle East and Africa, where online access is relatively limited. Innovative services, from targeted information-sharing through to transactions, are being provided using technologies ranging from simple SMS to mobile apps that take advantage of smartphones and 3G networks. Along with offering government services through multiple channels, governments should do more to track the uptake of such services. This is particularly challenging when services are offered both digitally and non-digitally—for example, when a non-digital, over-the-counter visit to a government office is recorded on a computer by a clerk.

- **The paper also offers a number of policy recommendations (see Conclusion).**

Governments must demonstrate to their constituents the link between e-government and sustainable development, while also making efforts at improving back-end operations, too. Moreover, a focus on local adaptability—to target what it is the population needs and provide this via a variety of channels, including both stationary and mobile devices—will buttress e-government development further. Finally, e-government will develop as a result of demand-pull from the population as much as from supply-push by governments, so attempts to stimulate demand are vitally important.



## 1

## Benefits of e-government

**Getting the most out of public funds**

E-government has become especially attractive in an era of budget cutting, when governments are looking for ways to deliver public services effectively and cost-efficiently. In a recent OECD survey the most frequently cited e-government priority was reducing administrative burdens (cited by 96% of respondents), followed by cost cutting (86%), spurring innovation (74%), and improving effectiveness and responsiveness (67%).<sup>1</sup> “The economic crisis has given a huge push to e-government,” says Helen Margetts, director of the Oxford Internet Institute and professor of society and the Internet at Oxford University.

The savings from digitalising public services can indeed be striking. Denmark, which ranks fourth in the world in the UN e-government survey, estimates that it will save €160m (US\$211m) annually once all communications are electronic, which they are legally mandated to be by 2015. “We’re taking a business-case approach,” says Lars Frelle-Petersen, director-general of the Agency for Digitisation within the Ministry of Finance, Denmark, about his country’s efforts to put all citizen-government communications online.

In the UK, which ranks third in the world, PwC, a consultancy, estimates that moving to online interactions saves the government between £3.30 and £12 (US\$5.30 and US\$19.35) per transaction compared with an offline transaction.<sup>2</sup> Economic benefits also extend to the private sector. Businesses have rapidly adopted e-government as their preferred method of dealing with the public sector. It saves them money but can also increase crossborder opportunities, hence the idea of creating a borderless single digital market in the EU, in which businesses can compete everywhere.

Legal frameworks can also help boost e-government initiatives more broadly. The EU recently announced an initiative to make certain public-sector websites accessible for people with disabilities.<sup>3</sup> Individual countries also have regulations promoting various aspects of a digital economy. In the UK, services are now delivered “digital by default”, meaning they are electronic in the first instance and sometimes exclusively so.

**Boosting computer literacy**

While the economics of e-government are driving the digital transformation of government services, a rapid increase in Internet uptake is helping as well. This uptake is uneven—both

<sup>1</sup> OECD, *Government at a Glance 2011*: <http://www.oecd.org/gov/governmentataglance2011.htm>

<sup>2</sup> Champion for Digital Inclusion: *The Economic Case for Digital Inclusion*: [www.parliamentandinternet.org.uk/uploads/Final\\_report.pdf](http://www.parliamentandinternet.org.uk/uploads/Final_report.pdf)

<sup>3</sup> <http://ec.europa.eu/digital-agenda/en/news/commission-proposes-rules-make-government-websites-accessible-all>

within countries and across regions—and tends to follow patterns of socioeconomic development. If done with a view towards closing this gap, e-government can bring further benefits of boosting computer literacy and promoting social inclusion.

Clearly, people without access to information and communications technologies (ICTs) and people lacking the ability to use these technologies are economically and socially disadvantaged relative to those who are computer-savvy. By 2015, the European Commission estimates that 90% of all jobs will require some level of ICT skills.<sup>4</sup>

This digital divide is often seen as a barrier to e-government, but equally, e-government can serve as an incentive towards the inclusion of as many citizens as possible in the digital world. The recently adopted European eGovernment Action Plan aims to ensure that by 2015 one-half of EU citizens and 80% of businesses use e-government services. In less developed countries, e-government initiatives aim at broadly similar goals. Indeed, successful e-government depends on finding “a fit between the technology and addressing a real need in the community or society,” says Ben Choppy, principal secretary at the Department of Information, Communication and Technology in the Seychelles.

### Encouraging citizen participation

When done properly, e-government can also include online tools for citizens to have a say in public decision-making. Saudi Arabia, for example, has developed numerous surveys, public consultations and further engagement initiatives using social media, such as Facebook and Twitter.<sup>5</sup> It is worth noting that some of the countries in the UN survey which perform best on this measure—creating online tools for citizen participation—are not Western-style democracies. Among the UN’s top ten performers in e-government participation are Singapore (tied for second), Kazakhstan (tied for second) and the UAE (tied for sixth).

Tools for online engagement between citizens and government can also boost traditional offline engagement. In Botswana, for example, rural areas hold consultations on public issues, prioritise those issues, and communicate the priorities to the national parliament. A new initiative called “Botswana Speaks!”, which was co-funded by the parliament and various foreign agencies, is now digitalising this communication.<sup>6</sup> “We will adapt technology within these traditional values and build a more efficient environment for communication,” says Vasilis Koulolias, director of the eGovLab at Stockholm University, one of the organisations involved.

### Investing in infrastructure and delivery

While widespread use of e-government services—and a concomitant increase in computer literacy—can promote overall economic development, it is important to invest in such services in proportion to a country’s level of development. Spending too much could well mean shifting resources away from other critical areas such as education and healthcare. The implications for e-government planning, especially for developing countries, is to map investment to potential outcomes, according to Richard Heeks, professor of development informatics in the Institute for Development Policy and Management at the University of Manchester. “Set your own agenda based on your own IT infrastructure and your own national priorities,” he advises.

In 2011 Russia’s new version of its national portal was said to be at the core of President Dmitry Medvedev’s efforts to show the country’s link between technology and socioeconomic enhancement.<sup>7</sup> A year later Russia advanced 32 positions in the UN world rankings to become the leader in eastern Europe, ahead of Hungary and the Czech Republic.

<sup>4</sup> See, for example, [http://ec.europa.eu/information\\_society/newsroom/cf/fiche-dae.cfm?action\\_id=215](http://ec.europa.eu/information_society/newsroom/cf/fiche-dae.cfm?action_id=215)

<sup>5</sup> <http://www.saudi.gov.sa/wps/portal/eYourOpinion?language=en>

<sup>6</sup> <http://www.botswanaspeaks.org/>

<sup>7</sup> Moscow Times: <http://www.themoscowtimes.com/business/article/new-e-government-portal-starts/436563.html>



## 2

## Trends in e-government

### Growing demand for transparency and accountability

The drive for public-sector transparency and accountability has received new impetus in the digital age. “The technology seems to make things easier,” says Frank Bannister, associate professor in information systems at Trinity College, Dublin. But the extent of transparency that is desirable remains a tricky question, he adds. For example, governments still need to

decide whether to publish internal discussion documents on public issues, despite concerns that this might curtail the free flow of internal debate, or disclose some data which should remain confidential or which could be sensitive.

Despite the difficulties, greater openness is becoming increasingly common. In the EU the 2009 Ministerial Declaration on e-government in Malmö, Sweden, called for the strengthening of transparency as a way of promoting accountability and trust in government. Neelie

### Kenya: Listen to the readers

When the Kenyan president, Mwai Kibaki, announced the Kenya Open Data Initiative in July 2011, his country became the first in Sub-Saharan Africa, and the second on the continent, to have an open government data portal. When the website was unveiled in mid-2011 it made available 160 sets of data from different public agencies; at the end of 2011 there were almost 390. Usage remains low, however; according to a World Bank report, Kenyan citizens lack the skills to use it.

An important lesson learned was the need to focus on what citizens are interested in; there was no input from the public on what data they might want. “Had we done that,” says

Alice Munyua, chair of the Kenyan Internet Governance Steering Committee, “we wouldn’t [have to] complain about the lack of uptake of open data.” She believes that once there is demand for information, usage will improve and more departments will be forced to open up their data bases.

For Kenya, the inspiration for the opening of data bases was prompted by a similar initiative in the UK. Kenya’s policymakers studied the UK’s process, legislation and provisions governing privacy, among other things. “One day,” Ms Munyua concludes, “our lessons will be very important to someone else.”

<sup>8</sup> See, for example, [http://europa.eu/rapid/press-release\\_SPEECH-12-275\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-12-275_en.htm)

Kroes, the vice-president of the European Commission responsible for the Digital Agenda, keeps repeating these benefits of openness, which she says are clear. Another current international initiative is the Open Government Partnership, endorsed by 40 governments, and more recently the World Wide Web Foundation, which advocates an open and accessible Internet, announced an open data index.

### Targeting corruption

Open government can also support the fight against corruption, as electronic channels are easily inspected and controlled compared with personal interactions between citizens and officials. As Estonia's president, Toomas Ilves, puts it: "You can't bribe a computer." He adds that a low level of corruption has been proved to correlate with stronger economic growth. One reason may be that in a low-corruption environment individuals and companies can take risks, knowing they are operating in a reasonably fair and predictable market place.

Although e-government can reduce corruption, it is no panacea; ultimately systems work only as well as the people who design and implement them. Governments not fully committed to transparency and accountability will remain corrupt. To be taken seriously, therefore, governments must open up their data and achieve the greatest transparency possible within reason. By doing so, citizens may just return the favour and trust government with their own data.

### Connecting the back-end

Recent e-government innovations, such as individual electronic IDs (eIDs), depend on the secure storage of individual user data as well as an organisational structure where government agencies are connected both vertically and horizontally. A good example of such a networked offering is the Swedish website for starting a business. Three separate government agencies are involved in the process: the Companies Registration Office, the Tax Agency

and the Agency for Economic and Regional Growth. They have joined forces to offer a single website where entrepreneurs can register their businesses with all three simultaneously, making the process simpler for users while allowing the agencies access to the same data.

Developing countries are making strides in this direction as well. Mr Choppy of the Seychelles' department of ICT notes that his country has a central body which is responsible for all government ICT issues nationally. But having a common technological platform for all government agencies is not enough, he says, and points to the challenges of connecting the technical building block to policy priorities through a three-step process. "The first step is providing connectivity, which is the infrastructure part. The second is establishing business processes, and the third is the actual service delivery." The public sees only a seamless interaction, he adds. "The only two things visible [from the integrated back-end] are the ID card system and the government e-services gateway."

### Enhancing service delivery

Closely linked to an integrated back-end operation is a user interface that allows citizens to conduct individual business, such as filing tax returns online, with certain personal data available to them through secure channels for this purpose. The Nordic countries have found that collecting and storing data on individual citizens helps to implement an integrated, whole-of-government (WOG) approach to e-government. Today 3.7m Danes have an eID, which they use to conduct more than 1bn government transactions annually. The eID also facilitates rolling out services such as the digital mailbox, which all citizens must have by 2015. Similarly, Estonia's extensive e-government service provision relies on individual access cards.

The biggest hurdle for such eID cards may be cultural, involving trust in the government and its electronic systems. Protection of personal

privacy is an issue that looms larger in some countries than in others. Estonia's President Ilves notes that, in discussing this issue internationally, "it is hard to convince English-speaking countries that if you want to have secure access [to online government services], then you need to have your own chip [card] and your own code." Similarly, Mr Frelle-Petersen, says: "There is a big difference between the Nordic countries and the rest of the world because citizens [here] trust the government." He adds that if an e-government system cannot hold extensive amounts of data about people, then it cannot offer automated services, such as pre-filled tax forms.

### Closing the e-government divide

E-government, by its nature, depends on widespread access to ICT and the ability to use it. While the trend across the EMEA region is for increased computer literacy and growing online access, the gap between the digital haves and have-nots remains large. Further, the gap between the universe of the computer literate and the subset of those who use e-government

services is even larger. This suggests a need for further efforts to boost online access and promote e-government services.

In the Nordic countries, for example, around 90% of citizens used the Internet regularly in 2011, according to Eurostat, the European statistics office. The average for the EU27 countries was 68%. The proportions using e-government services, however, were much smaller: 75% in Nordic countries and 41% in the EU27. This represents a challenge for governments wishing to digitalise public services. As Ms Margetts of the Oxford Internet Institute notes: "If people don't use [e-government], there is not much point in it and it does not cut costs." The gap in e-government usage is a particular problem as countries start to offer their services primarily—or even exclusively—through digital channels.

Governments have started to promote the usage of e-government services, mindful of data showing economic gains from such a shift.<sup>9</sup> Among other measures, governments are conducting public education campaigns to

## Egypt: Reaching out

Egypt provides a good example of measures to close the e-government divide, starting from the grassroots. "People will use e-government when there is a clear benefit," says Omnia Al-Banna, the e-government portal manager at the Ministry of State for Administrative Development in Egypt. Her agency conducts in-person paper surveys to find out what people think about e-government, allowing her to reach those who do not use the portal or the Internet. "We found that awareness of e-government is not very high," she says. "But once we tell them what they can do on the portal, then they become more interested."

The outreach does not end there. Egypt takes a multi-channel approach. For example, it has established kiosks around the country providing access to the e-government portal. It also holds

workshops to find out what citizens want from it, and has set up m-government initiatives and telephone helplines. The outreach to mobile-phone users is particularly useful in a country where the number of mobile-phone subscriptions is approximately triple the number of landlines.

Beyond that, Egypt focuses on involving disabled people—a group estimated at 10% of the population—in its digital communications. In addition, the portal offers different entry points based on topics that users identify as important. "Every enhancement we're doing comes from the [UN] survey in some form," Ms Al-Banna says. "We need more guidelines ... and they should be transparent."

<sup>9</sup> See, for example, *Smart policies to close the digital divide: Lessons from around the world*, an Economist Intelligence Unit report: <http://www.managementthinking.eiu.com/digital-divide.html>

raise awareness of online public services. In Bahrain, for example, the government publishes a magazine solely to promote e-government.<sup>10</sup>

Nonetheless, the digital divide remains a challenge everywhere and is a severe problem in at least 60% of countries in the UN survey, according to Haiyan Qian, the director of the Division for Public Administration and Development Management, UN Department of Economic and Social Affairs. “Governments have to pay more attention to this issue,” she suggests.

### Offering multi-channel service delivery

Multi-channel service delivery—giving constituents a choice of accessing services via multiple online and offline channels—is an important tool in bridging e-government divides. Innovative initiatives in the Middle East and Africa frequently focus on reaching citizens via their mobile phones. The reason is the stunning proliferation of mobile devices. According to a recent OECD report, the number of mobile-phone services as a percentage of the world population has soared from 5% in 1998 to 55% in 2008, and 86% by 2011.<sup>11</sup> According to the International Telecommunication Union (ITU), there were 641m mobile subscriptions in Africa in 2011, more than triple the 202m recorded in 2006.

This creates opportunities for inventive use of SMS-based information to reach citizens. If you apply for a passport or ID card in South Africa, says Shaun Pather, a professor at the Cape Peninsula University of Technology, the department of home affairs has a system that allows users to send an SMS with an identity number to track the progress of the application. Despite such successful initiatives, a problem is that they happen in an ad hoc way. “The government has not taken a step back to review the environment and assess the value proposition inherent in mobile services; the offering of m-government via text-based applications that are cheap for people to use presents enormous potential,” adds Mr Pather.

Eventually, governments could expand that offer

to include sophisticated interactive applications and fully-fledged transactional services for those with smartphones and access to 3G networks. “We are trying to have as many services for mobile as possible,” says Omnia Al-Banna, the e-government portal manager at the Ministry of State for Administrative Development in Egypt. She notes, for example, that Egypt is developing application programming interfaces (APIs) in addition to an m-government portal and traditional SMS-based services.

But according to the UN survey, only one-eighth of countries either offer a separate m-government website or mobile applications. “I think the potential for m-government is unfortunately largely untapped,” says Mr Pather. “Governments need to move faster,” agrees Mr Koulolias of the eGovLab at Stockholm University.

### Beyond m-government

Although mobile devices are the centrepiece of multi-channel delivery, different approaches are being taken according to local norms and expectations. In Africa, kiosks or telecentres offering free access to computers are popular rural options. In Europe, research on inclusion has shown the importance of continuing face-to-face interaction, something which is typically done through human intermediaries who use ICT tools on behalf of those who cannot.<sup>12</sup> In Denmark, for example, citizens who get a three-year exemption from the mandated digital communication with the government go to community centres for personal assistance in accessing e-services.

Others believe that maintaining multiple channels is needlessly costly. “What you see in countries which have tried to maintain older, traditional channels of access to government while introducing digital ones is that this is far too expensive,” says Ms Margetts. “There are some segments of the population that have virtually universal access – such as students or tax consultants – so you don’t have to give them

<sup>10</sup> <http://www.emagazine.gov.bh/>

<sup>11</sup> *M-Government: Mobile Technologies for Responsive Governments and Connected Societies*, a joint study by the OECD and the ITU, in collaboration with UNDESA; for the most recent figures, see the statistical highlights 2012: <http://www.itu.int/ITU-D/ict/index.html>

<sup>12</sup> *MC-eGov: Study on Multi-channel Delivery Strategies and Sustainable Business Models for Public Services addressing Socially Disadvantaged Groups*, 2009 (research conducted for European Commission): [http://ec.europa.eu/information\\_society/activities/einclusion/library/studies/docs/mc\\_egov\\_final\\_report.pdf](http://ec.europa.eu/information_society/activities/einclusion/library/studies/docs/mc_egov_final_report.pdf)

a choice. In times of austerity, offering digital access only to groups with high levels of Internet penetration is the best way forward.”

### The role of the UN e-government survey

The UN's e-government survey, begun in 2003 and conducted biennially, is an important touchstone to identify trends and gaps in the provision of e-government services, as well as a source of experience that is shared internationally. Although there are several other reports which track progress with regard to the information society, the UN survey is the only one which provides an in-depth, global benchmarking of e-government. As such, it is closely read by policymakers everywhere, including in EMEA, according to the interviews conducted for this report.

### The view from Europe

A particular challenge for any benchmarking exercise is to capture rapidly evolving technology developments as well as emerging topics, such as the introduction of electronic IDs. The UN's Ms Qian concedes that the fast pace of technological change poses a problem owing to complexity of measurement and the cost of doing so.

In Europe, many experts believe the study performs reasonably well within the constraints of what is possible in such a report. Nevertheless, they also feel the UN survey either does not capture their latest innovations or does not provide enough guidance to be useful in practice.

Asked if Denmark's place in the overall ranking (4th) and the online service index (13th) is a fair assessment, Mr Frelle-Petersen concludes that this is not the case: “The survey seeks to capture the amount of services offered, but in Denmark we have advanced past that and are now trying to offer fewer services.” For example, Denmark has automated its tax filing process, which means there is no longer a need to file taxes, online or offline.

Another difficulty is assessing qualitative differences between similar services. “They don't really look at changes in the quality of what different systems do,” contends Mr Ilves. He points out, as just one example, that the UK spent billions on failed e-health records, whereas Estonia has a very successful system in place, yet the UK ranks well ahead of Estonia in the UN survey.

## Ethiopia: The mobile hope

Ethiopia ranks third from the bottom in the UN survey's telecommunications infrastructure index, indicating a very weak ICT environment. It lags behind most other countries in mobile uptake as well. According to data from the International Telecommunication Union (ITU), Ethiopia has only eight mobile subscribers per 100 inhabitants, and what mobile devices there are tend to be at the lower end of the technology scale. Low as that figure is, it is about eight times the number of Internet users and more than 20 times the number of Internet subscribers.

Therefore, m-government remains the best opportunity to supply e-government services,

according to Mesfin Belachew, the director of the country's e-government directorate. His vision is that “any activities we undertake should be geared towards mobile government”. Currently, there is a SMS-based pilot project to deliver three government services. The first allows users to send an SMS to request the daily exchange rate from the National Bank of Ethiopia (the central bank). The second lets users send an SMS and receive their account balance from the relevant authority. The third, which Mr Belachew describes as very successful, is the ability to check the scores for central school examination in grades 10 and 12.

European commentators also point out that the UN survey looks at government websites from the perspective of the services they offer, rather than the sophistication of their internal processes. That, says Mr Heeks, “gives you a very limited perspective on what is actually happening within e-government ... [and] it focuses on benchmarking e-government outputs, not e-government processes.”

This is a practical challenge to the implementation of e-government services as well as a particular hurdle to the UN survey, which is designed to measure the availability of information and services. “We are still struggling with that,” says Ms Qian. “One of the ways that we are trying to address this challenge is to look for more details on how front-end services are provided – for instance, whether front-end services are provided in a seamless fashion or in silos, and if the services provided are institutionally based or service-category based. Those can give us a good idea on how the back-end operates in government.”

### The view from the Middle East and Africa

In the Middle East and Africa, policymakers say the UN survey helps them in practice by learning from the examples it highlights and identifying emerging trends. Ethiopia’s Mr Belachew, for example, says the UN survey gives him ideas for improvement: “We see not only the ranking and results, but the content and what their experiences are.”

But much to the chagrin of observers here the report does not disclose the measurement indicators used for its online service index. “The UN survey is a very effective tool for benchmarking,” says Mustafa Afyonluoglu, an e-government expert in the Turkish Prime Minister’s Office, referring to the survey’s role in spreading information on best practices. But he questions the lack of transparency about the specific indicators used, which makes it hard to know whether they are relevant and up-to-date.

At the United Nations University in Macau, Tomasz Janowski, the head of the Centre for Electronic Governance, adds: “As one assessment model is applied to all countries regardless of their size, levels of development and policy objectives, the ranking has limited accuracy to represent actual situations within countries, and in general should not be used to directly guide investment decisions.” He calls on the UN to increase the usefulness and trust in the survey and its results by “openly publishing the indicators and calculation methods, so that governments are able to select, amend and assign weights to the indicators to reflect local conditions and priorities.”

Despite limitations, the UN survey continues to serve its main objective, namely raising the profile of e-government and familiarising policymakers with e-government options and trends. “Its greatest strength is that it has been making an impact on the policy- and strategy-making of [UN] member states,” says Ms Qian. This is evident, in part, from the interviews in the Middle East and Africa. “We read the document from page one until the end and take what is appropriate for our country,” says Mr Belachew. Interest in the survey is clear: the 2012 edition was downloaded more than 600,000 times in the first six months of publication; the 2010 edition was downloaded 1.6m times between its release and November 2012.

“Governments certainly pay attention to benchmarks,” says Mr Bannister. “If they are at the top, governments use them to promote their country’s image. If they are at the bottom, they probably won’t mention them, but they will make efforts to raise their score.”

### Methodology

The survey is a composite measure of e-government, which draws on three sub-indices: a telecommunications index, which assesses a country’s ICT infrastructure; a human capital index, which assesses the capacity of national populations to use available ICTs; and

<sup>14</sup> Data from the UN Department of Economic and Social Affairs.

an online service index, which assesses the level of services and information available on government websites. Each index contributes one-third to each country's overall score in the UN survey's ranking.

The telecommunications and human capital indices use existing national and international data. The online services index, on the other hand, is based on primary research by the UN. The

UN's researchers look at government websites and use a survey questionnaire to tick off whether particular features are present or not. This approach removes any qualitative judgments about each feature, but it also limits the survey to a set of binary questions. This means that the index measures only whether selected features are present, not whether they are easy to use or how they differ in terms of quality.

The UN survey also assesses the extent to which a country's e-government offering engages users to participate as active partners in its decision-making processes, and builds a distinct e-participation index based on those data. The following is the UN survey's ranking for e-participation:

The UN benchmark: Top performers – e-participation

Rank	Country	Index value
1	Netherlands	1.0000
1	Republic of Korea	1.0000
2	Kazakhstan	0.9474
2	Singapore	0.9474
3	United Kingdom	0.9211
3	United States	0.9211
4	Israel	0.8947
5	Australia	0.7632
5	Estonia	0.7632
5	Germany	0.7632
6	Colombia	0.7368
6	Finland	0.7368
6	Japan	0.7368
6	UAE	0.7368

# Conclusion

## The outlook for e-government

The supply of e-government information and services has grown steadily since the UN first started to track this activity in 2003. Most countries have moved from providing basic online information to offering more complex interactive communications, and through a variety of stationary and mobile devices and networks. The spread of e-government has been helped by the growth in online access in general. Today's top European performers in e-government have Internet access levels above 90% and are implementing advanced systems enabling access via individual electronic ID cards. This requires extensive back-end co-ordination among agencies, including building standardised technical platforms. Less advanced member states—primarily in the Middle East and Africa—are innovating in the area of multi-channel service delivery, looking especially at communications via mobile phones. On the basis of desk research and in-depth interviews conducted for this report, it is possible to identify a number of policy priorities. These include the following recommendations.

● **To make a case for further digitalisation of government services, this study suggests that policymakers consider e-government's broader developmental impact, not just its financial and efficiency benefits.** E-government for all,

including disadvantaged groups, can narrow socioeconomic gaps in society and also boost participation in decision-making. This supports the larger objective of sustainable development—such as the Millennium Development Goals—which forms the backdrop to the UN survey. It remains for governments to explain to their constituents the link between e-government and sustainable development.

● **Improving back-end operations is a must.**

Current e-government leaders – from the Scandinavian countries in the north to the Seychelles in the south – can credit at least part of their success to sophisticated back-end operations. These are an indispensable foundation for introducing innovative front-end services. That said, there is no simple or universal prescription for providing effective e-government. Initiatives from Botswana to the UK show the importance of adapting technology to the local environment. In some cases, culture and norms require offering in-person services in parallel to online ones, with transactions recorded online by government employees, even if this duplication is a costly alternative.

● **Focus on local adaptability.** The leading e-government countries of the future are likely to be those that tailor their online offerings to local norms and to their level of development. They are also likely to be those that listen to constituents



before launching or refining services. E-government offers opportunities for both service improvement and cost savings, provided services are targeted to what populations need, and provided a country does not suffer from an enormous gap between digital haves and have-nots. Beyond that, successful e-government countries will consider offering services via a variety of channels, including both stationary and mobile devices.

● **Attempts to stimulate demand are vitally important moving forward.** In a best-case scenario, e-government will develop as a result

of demand-pull from the population as much as from supply-push by governments. Creating that demand requires publicising the existence and advantages of e-government services in the first place. Given the attention it receives, the UN survey provides an important function in assessing various e-government initiatives worldwide, as it highlights not only the latest trends, but also the basic need for e-government in the first instance.



While every effort has been taken to verify the accuracy of this information, neither The Economist Intelligence Unit Ltd. nor the sponsor of this report can accept any responsibility or liability for reliance by any person on this white paper or any of the information, opinions or conclusions set out in this white paper.

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