REPORT
<u>Expert Group Meeting</u>
E-Government Survey: Getting to the Next Level

United Nations
New York, 2009

ST/ESA/PAD/SER.E/129

**United Nations Department of Economic and
Social Affairs**

REPORT

<u>Expert Group Meeting</u>
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Foreword

The *United Nations E-Government Survey* is one of the major recurrent flagship publications of the Division for Public Administration and Development Management (DPADM) of the United Nations Department of Economic and Social Affairs (UNDESA). It has consistently ranked as one of the top 10 downloaded publications of the Department.

Given the high profile nature of the Survey, in an effort to improve its methodological aspects, DPADM organized an Expert Group Meeting (EGM) entitled "*E-Government Survey: Getting to the Next Level*". It was held at UN headquarters in New York, USA, from 11 December to 12 December 2008.

The meeting was attended by 15 participants drawn from various fields of expertise, such as academia, consulting and research companies (*see Annex for the list of participants*). This allowed for the exchange of different perspectives on the conundrum of e-Government analysis/measurement, hence helping to enrich the discussion.

A review paper of the methodology used in the current Survey, which was prepared by a consultant, framed and aided the discussion on the ways of enhancing the quantitative part of the Survey. In particular, it concentrated on the development and improvement of measurable indicators; which can be put forth in a question format for the Survey and for which data can be obtained on the national website/portal. The indicators in question are: four new sets of measurable indicators of back-office management, mobile applications, inclusiveness, citizen's usage of e-Government services, plus a set of improved e-participation indicators.

The meeting also served as a forum to review and update the current Survey questionnaire to respond more accurately to current and foreseeable trends of government on-line service provision. In this way, the meeting aimed to help add another dimension to the *Survey 2010*, which would better reflect the complexity of rating e-Government efforts and their measurement.

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May 2009

Acknowledgements

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I.   BACKGROUND AND INTRODUCTION

The *United Nations E-Government Survey* is a flagship publication of the Division and has been published at regular intervals since 2003 (see http://www2.unpan.org/egovkb/global_reports/05report.htm). The Survey aims to identify and help address disparities among countries around the world; especially, in support of a move towards a more inclusive information society, as envisaged in the World Summit on the Information Society (WSIS).

The Survey tracks the progress of the 192 Member States in implementing e-Government programmes. It measures and compares their state of e-Government readiness via a benchmarking tool, namely, the *Global E-Government Readiness Index*.

The index measures each Member State's use of the Internet and the World Wide Web (WWW) for the provision of information, products and services; plus the level of telecommunication and human capital infrastructure development. It is a composite measure made up of a Telecommunication (connectivity) Infrastructure Index, a Human Capital Index and a Web Measure Index, which is based on a *quantitative* analysis of the 192 Member States' web presence/features.

The prime focus of the Survey will remain the Web Measure Index, in which a team of researchers (assisted by translators) examines each country's main national website(s), as well as five ministry/department websites.

In order to avoid the pitfalls of subjective value judgment, the *Global E-Government Readiness Index* is not designed to assess the services offered on a qualitative basis; and the web measure index allows only for indicator variables denoting the presence/absence of specific website attributes. The resulting e-Government readiness rankings are a measure of the progress of a country relative to all other countries.

The primary site assessed is the National Portal or the official homepage of the government, along with the websites of five ministries (i.e., education, health, labor, social welfare and finance). Underlying the index is the following, five-stage model of progression of e-Government sophistication, which encompasses the stages of emerging, enhanced, transactional and connected presences:

In *emerging* presence, e-Government is limited, offering basic information on-line. In *enhanced* presence, e-Government provides greater sources of information as well as e-tools and e-services such as downloadable forms. In *transactional* presence, two-way interactive applications provide citizens with opportunities for on-line, financial and non-financial transactions (e.g., on-line filing for taxes). *Connected* presence is the most sophisticated level of on-line e-Government and is characterized by better coherence, integration and coordination of processes and systems within and across government agencies.

II. Overall Framework for the Deliberations

Ms. Haiyan Qian, Director of DPADM, acting as Chairperson, opened the meeting by providing a framework for the deliberations.

She pointed out that this meeting was not a stand-alone event. It was designed to improve on UNDESA's publication, "United Nations E-Government Survey", which assesses the UN Member States' progress in their e-Government efforts.

The attempt here was to add four new sets of indicators (i.e., on citizen's usage of government on-line services, on back-office management in e-Government, on the inclusiveness of e-Government and on mobile device usage for transacting with government) as well as one updated set of indicators (i.e., on e-participation). In this regard, she added that the Economist Intelligence Unit was using our e-participation index.

To elaborate more, focusing on these five sets of indicators mirrored our endeavour to move beyond the *front-line* assessment or the *supply-side* of e-Government measurement.

(1) Usage

Usage indicators, for example, were not about just adding new indicators. They entailed *a fundamental change of perspective from the supply-side assessment of e-Government*. The importance of moving beyond the well established supply side measurement was known, though it was not without difficulties. For practical purposes, our measurement had thus far relied almost entirely on web-feature based measurements; hence, focusing on supply-side availability of e-Government.

A demand-side approach to e-Government measurement was first of all about measuring the use of electronic services offered by the government (i.e., 'usage'). The indicators proposed and examined here would expand questions of the benchmarking part of the Survey to encompass the demand side (i.e., e-Government take-up by citizens). Instead of just measuring the on-line availability of government service, these indicators would help measure the extent to which e-Government is actually used by its citizens.

(2) Back-office management

Another important change that is taking place is the increased attention being paid on the back-office management issues of e-Government. There seems to be a strong link between an efficient government back-office system and the satisfaction of users. The work on back-office measurement so far was limited. The newly developed sets of indicators would help assess back-office processes, systems and organizational arrangements required to support efficient e-Government functions and better service delivery.

Against the often fragmented landscape of governmental organizations, these indicators address (beyond ICT issues and front line service) the need for a full assessment and re-engineering of government institutions and knowledge management processes.

In addition to these two indicators - which would help move beyond the front line and supply side measurement – she felt that there is a great need to address mobile device usage for transacting with government and digital inclusiveness, while also updating existing e-participation measurement.

(3) Mobile device usage for transacting with government

This was a relatively new dimension of e-Government. This dimension represented an important and rapidly growing opportunity for better public service delivery and communication. The indicators here would help identify Member States' current progress with mobile technology utilization.

(4) Digital inclusiveness

Without an explicit focus on inclusive e-applications, there was a danger of digital exclusion, resulting in the inequalities between the "haves" and "have-nots", and particularly between the privileged and the marginalized groups, being exacerbated by e-Government.

(5) E-participation

Finally, in addition to developing these new sets of indicators, it also seemed necessary to revisit the e-participation indicators. Many e-participation indicators are already contained in the Survey. Yet, the idea was to improve them in response to new ways and means to promoting citizens' engagement. They assess participatory aspects and tools. These are, for example, providing collaborative and communicative space, facilitating networks between citizens and government as well as among citizens, and engaging in consultations and e-decision making.

It is in this context that we were seeking the experts' concrete inputs. Some work had already been done. To quickly give the experts an idea on which types of questions needed to be strengthened; she showed some data and graphs.

In the latest Survey of 2008, there were 91 questions, and following an internal review among KMB staff members over the past two years, there were now 96 questions.

It should be noted that in the new questionnaire, the number of stages had been reduced from five to four. Stages 1 and 2 in the old questionnaire had been merged together into the new stage 1 "Emerging Stage". In addition, in the new questionnaire, we had added 23 new questions, deleted 16 old questions and modified 29 questions. The new questionnaire sought to strengthen stages III and IV and thus the majority of new questions added fell into the category of transactional and connected stages, which involved two-way interaction between government and citizens and e-participation respectively.

Our new questionnaire concentrated on E-participation (28), Service delivery (25), Access/Usability (25) and Information dissemination/outreach (18).

Now, turning to the meeting procedure, she noted that given the very short duration of the meeting, we aimed to make this meeting as much structured as possible. This way, the meeting deliberations could proceed in a focused and efficient manner.

On the first day, the meeting was designed as an interactive discussion based on the overview paper prepared by Mr. J. Millard, who is presently an UNDESA consultant.

She urged all experts to actively participate in the discussion sessions. Experts should present their detailed comments on the overview paper, along with own proposals for indicators and methodology.

In this context, she thanked the experts for having provided us with valuable inputs well ahead of the meeting; which contained detailed comments on the overview paper and experts' own suggestions for new and updated indicators and on the Survey methodology.

On the second day, the meeting would be devoted to the review of the Survey questionnaire and other associated, methodological issues. And at the end of that day, concrete deliverables were expected, which would entail recommendations for methodology and indicators.

She then proceeded to introduce Mr. Jeremy Millard, whose overview would frame the deliberations. Mr. Millard would also facilitate the first day meeting (and particularly, Session II).

She added that she hoped and trusted that the experts' varied expertise would help us to attain concrete deliverables (i.e., four new and one updated indicators, recommendations for the questionnaire and methodology); so as to improve our work on UNDESA's E-readiness Survey.

The outputs of the meeting would be submitted to the UNDESA Survey team, who were present here, for consideration and incorporation into the Survey. The meeting proceedings would accordingly be published, as well. She looked forward to fruitful and constructive deliberations.

III. Expert's Review of the Current E-Government Survey

The scope of this expert review paper is to enhance the quantitative and methodological part of the Survey.[1] In particular, it aims to develop five sets of measurable, additional and/or revised e-Government indicators.

1. Measuring e-Government at the international level: Key issues, development trends and challenges

1.1 Overview of main comparable measurement frameworks

Despite the many documented benefits that e-Government can deliver, and the many challenges that need to be addressed, it is only in the past decade that the need to incorporate measurement and monitoring has seriously begun. This has resulted in a highly diverse set of measurement frameworks designed to suit widely different purposes and conditions. This brief review examines the main features of those international measurement frameworks, which are most relevant for the UN Survey.

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[1] This Chapter IV is based on the expert review paper prepared by Mr. Jeremy Millard
(Jeremy.Millard@teknologisk.dk).

Brown University (2006, 2007) and then the **Brookings Institute** (2008) in the United States conduct an annual Survey of national government websites offered by 198 governments around the world. Websites are evaluated for the presence of various features dealing with information availability, service delivery and public access. Features assessed include: on-line publications, on-line database, audio clips, video clips, non-native languages or foreign language translation, commercial advertizing, premium fees, user payments, disability access, privacy policy, security features, presence of on-line services, number of different services, digital signatures, credit card payments, email address, comment form, automatic email updates, website personalization, personal digital assistant (PDA) access and an English version of the website.

The **ITU**'s ICT Opportunity Index (ICT-OI) was first published in November 2005, in time for the second phase of WSIS. The 2007 report (ITU, 2007) covers 200 economies and presents ITU's latest data as of the end of 2005; most of which are the countries' own official statistics. The concept of an 'Info state' is used to link Information and Communication Technology (ICT) to economic development through productive capacity. This is measured by 10 indicators, four of which are also used to track the Millennium Development Goals (MDGs) and six for Measuring ICT for Development:

1) Info-density (supply-side measures of ICT labour stocks and ICT capital):

- Networks: main telephone lines per 100 inhabitants; mobile cellular subscribers per 100 inhabitants; international Internet bandwidth (kps per inhabitant)
- Skills: adult literacy rates; gross enrolment rates (source UNESCO)

2) *Info-use (demand-side or consumption measures)*:

- Uptake: Internet users per 100 inhabitants; proportion of inhabitants with TV; computers per 100 inhabitants; and
- Intensity: total broadband Internet subscribers per 100 inhabitants; international outgoing telephone traffic (minutes) per capita.

The **European Commission**'s e-Government benchmarking of its Members States has focused on measuring the supply side roll-out of 20 standard e-Government services, 12 for citizens and 8 for business. This is measured by on-line availability and sophistication through four stages; i.e. whether the service provides information, permits one-way or two-way interaction, and facilitates transaction, for example, using digital signatures and financial payments. A fifth stage is now also proposed, i.e. personalization with pro-active and automated services (CapGemini, 2007).

Attention has, however, shifted dramatically over the last two years to include a focus on service use and take-up rather than only on supply. Since 2004, Eurostat (2005) has been collecting data on both e-Government availability (supply side) and usage (demand side), the latter through business and household Surveys. These annual Surveys now include e-Government Internet-based interaction with businesses and citizens, e-Government usage by enterprises, and e-Government usage by individuals, plus occasional one-off Euro barometer Surveys. All these Surveys are now incorporated within the i2010 Benchmarking Framework (European Commission, 2006a).

In 2006, the European Commission established the eGovernment Economics Project (eGEP) study (2006) to develop a measurement model based on existing impact measurement approaches and as a tool for performance measurement on a programme and organizational level. This proposed an e-Government Measurement Framework Model built around the three value drivers of efficiency, democracy, and effectiveness, and elaborated to produce a multidimensional assessment of the public value potentially generated by e-Government. This was not limited only to quantitative financial impact, but also includes more qualitative impacts.

During the past two years, a new European i2010 e-Government measurement framework, endorsed by the European Commission and Member States in April 2006, has been developed for piloting in 2007-2008 and subsequent roll-out, with three main types of indicators:

- Availability and sophistication of indicators (existing supply-side indicators supplemented with qualitative supply indicators focusing on user-centricity);
- Take-up indicators from the Euro stat household and enterprises Surveys; and
- Impact indicators in terms of efficiency, effectiveness and democracy.

The new framework is also specifically designed to measure the five policy objectives of the e-Government Action Plan (European Commission, 2006b):

- No citizen left behind
- Making efficiency and effectiveness a reality (this objective also includes measures for benchmarking and sharing)
- Implementing high-impact key services
- Putting key enablers in place
- Strengthening participation and democratic decision-making

The **OECD** is moving towards a basic set of e-Government indicators (OECD 2008a),based on the fact that OECD countries are transforming government through the use of ICT and ICT-enabled governance structures, new collaboration models (i.e. sharing data, processes and portals), and 'networked' or 'joined-up' administrations. Public sector transformation and e-Government are therefore increasingly seen as closely linked policy areas. Several OECD e-Government studies (such as OECD, 2007) have shown that ICT is increasingly used to support broader public sector development goals, aimed at creating a more coherent, user-focussed and efficient public sector by:

- Changing service delivery approaches by creating personalized, high quality user services, thereby increasing user satisfaction and effective service delivery
- Facilitating major work organization and management changes creating back-office coherence and efficiency gains
- Increasing transparency of government activities
- Increasing citizen engagement.

A basic set of OECD e-Government indicators is being developed, within the context of the "Governance at a Glance" publication planned for 2009, which will put the user at the centre and benchmark the role of e-Government in achieving better government. Future indicators may investigate the correlations of e-Government performance to core government business areas, as

well as e-participation, and co-designed services. Work will be undertaken to evaluate the capacity of government agencies to enact a learning cycle of evaluation, reflection, planning and action.

The **Economist Intelligence Unit** (EIU, 2005) has published an annual e-readiness ranking of the world's largest economies since 2000. In 2005, 65 countries were assessed on their ability to promote and support digital business and ICT services. A country's e-readiness is essentially a measure of its e-business environment, a collection of factors that indicate how amenable a market is to Internet-based opportunities.

The latest index increases the importance of indicators like broadband access and Internet security, as both fast and secure Internet connectivity are key enabling qualities for effective e-business. New metrics have also been added, such as the penetration of public-access wireless 'hotspots', to reflect the fact that Internet connectivity is increasingly not just mobile but also ubiquitous. Data sources include the EIU's own data, Pyramid Research, the World Bank and The World Information Technology and Services Alliance (WITSA). The ranking model consists of nearly 100 separate quantitative and qualitative criteria, which are scored by EIU country analysts and organized into six primary categories:

- Connectivity and technology infrastructure -- weight in overall score: 25%
- Business environment -- 20%
- Consumer and business adoption -- 20%
- Legal and policy environment -- 15%
- Social and cultural environment -- 15%
- Supporting e-services -- 5%

The **World Economic Forum** (2003, 2005) has adopted two approaches to measuring the information society. One approach measures a country's network readiness to participate in and benefit from ICT, achieved through Surveys and input data from 82 countries, and focusing on three categories: e-commerce and e-Government environment, a country's readiness and stakeholders' usage – including impact on stakeholders. The three major stakeholder groups are citizens, businesses and government. The second approach is through its IT access for everyone initiative, which undertook a global benchmarking study looking at electric power, connectivity, software applications, cost structure and financing, and finally training, maintenance and support. The latter aspect included a thorough analysis of end-user needs and the importance of the business models used by local service suppliers.

For three consecutive years, **Waseda University** in Japan (2007) has ranked the development of e-Government in 32 selected countries. This Survey includes checking websites and ICT deployment in governments, as well as the relationship between governments and their stakeholders. Data comes from various sources, including ITU, OECD, Asia-Pacific Economic Cooperation (APEC), country official data, etc., from interviews and local research, as well as from international conferences and workshops. A comprehensive set of indicators and parameters are used, which not only focus on the provision of services to the citizen, but also on the effective degree of commitment to the implementation of successful e-Government strategies. A total of 26 indicators is measured on a scale from 1 to 5 using both quantitative and qualitative measurement, and grouped into six sectors: network preparedness; required interface-functioning

applications; management optimisation; homepage/portal situation; Chief Information Officer; and promotion of e-Government.

A number of commercial consultancies also offer useful approaches. These include **Accenture** (2005, 2006, 2007), which examines how governments in 22 countries engage their citizens and businesses and deliver enhanced services in on-line government. Researchers test the websites of national government agencies in an attempt to fulfil a set of pre-determined transactions and service needs. Other sources of information are also used, such as socio-economic and demographic data sources. Telephone and personal interviews take place with senior executives to understand their visions for the future, their current priorities and their lessons learned from past experiences. In 2007, for the first time, the rankings incorporate direct citizen feedback to assess more accurately the quality of government service delivery. Three aspects are examined:

- First, service maturity which measures the level to which a government has developed an on-line presence;
- Second, customer service maturity, which measures the extent to which government agencies manage interactions with their customers (citizens and businesses) to increase customer value and to deliver services in an integrated way; and
- Third, the user-friendliness of customer service channels, the breadth and depth of on-line services accessed by citizens and overall citizen satisfaction ratings.

1.2   Summary of key measurement issues, trends and challenges

Table 1 looks at the main comparable international measurement frameworks outlined above in terms of their coverage, method and types of measurement. Most include a Survey of websites, but many also use other Survey sources, including data provided from each country's own official statistics as well as other extant data. Furthermore, they use qualitative and qualitative interviews with civil servants, and, in some cases, also with users. One also uses local research and workshops. Many also place e-Government development within the wider context of ICT and information society infrastructure.

The measurement frameworks summarized here are not representative of all such approaches; given that they do not include national, sub-national or other commercial systems, nor those using automatic Surveys like web-crawlers, the use of web tools for capturing website usage, etc. However, even given this sample, several clear trends are apparent, which are also typical of e-Government measurement frameworks in general (as summarized in Codagnone and Undheim 2008, and Millard 2008). These are an increasing focus on the user dimension and the demand side, on outcome and impact measurement as opposed to just inputs and processes, and a holistic approach to measurement which also encompasses policy monitoring and linking.

Table 1: Summary of main comparable international measurement frameworks

Name	Coverage and method	Main types of measurement
United Nations (e-Government	• 192 countries	• Telecommunication Infrastructure Index

Readiness Index 2008)	• Survey of national and ministerial websites	• Human Capital Index • Web Measure Index (including e-participation)
Brookings Institute (2008)	• 198 countries • Survey of national websites	• Information availability • Service delivery • Public access
ITU – ICT (Opportunity Index 2007)	• 200 countries • Data provided from countries' own official statistics	• Info-density (networks, skills) • Info-use (uptake, intensity)
European Commission (2007)	27 Member States and 4 other European countries • Survey of websites	12 citizen services • 8 business services • 5 stages of on-line sophistication • New indicators being developed for user-centricity, take-up and impact also using user Surveys
OECD	• 30 Member States • Normally by questionnaires to governments, and country studies	• Focus on transforming government • Developing a user-centric approach (including user satisfaction), back-office changes, government transparency, and citizen engagement.
EIU (2005: eReadiness Index)	• 65 counties • From existing data sources, including own, World Bank, Pyramid Research, WITSA	• Connectivity and infrastructure • E-business environment • Consumer and business adoption • Social and cultural environment • Supporting services
World Economic Forum (2005)	• 82 countries • Qualitative Surveys and country supplied data	• Network readiness: e-commerce, e-Government and stakeholders' usage • ICT access for everyone: electric power, connectivity, software, costs, training, etc.
Waseda University (2007: e-Government development)	• 32 countries • Survey of websites • Data from various sources, (including ITU, OECD, APEC, country official data) • Interviews and local research • International conference and workshops	• Network preparedness • Required interface-functioning applications • Management optimisation • Homepage/portal situation • Chief Information Officer assessment • Promotion of e-Government.

Accenture (2007)	• 22 countries • Survey of websites • Telephone and 52 personal interviews, socio-economic and demographic data, and other data • Citizen Survey via telephone • Qualitative desk research	• Service maturity, development of on-line presence • Customer value, service maturity, management of interaction and integrated service delivery • User-friendliness of on-line services, breadth and depth, and overall satisfaction.

2. Concept and scope of the five areas of e-Government

In this sub-section, a brief overview of the concept and scope of each of the four new areas of e-Government, plus a revision of e-participation, is provided as a background for developing indicators. This summarizes the main developments in these areas of relevance to the 2010 and later UN Surveys.

2.1 Back-office management in government

The current main back-office issue for e-Government is the need to adopt a connected and whole-of-government approach; which will transform the structures, roles and relationships of all stakeholders:

• Horizontal and vertical collaborative, integrated and joined-up governance, internally within and across public sector departments and agencies, as well as at different levels and with other actors from the private and civil sectors. These structures and relationships are being re-engineered and becoming more complex and flexible. The main current stepping stone to this is the sharing of data, resources, processes, content and services between agencies and stakeholders.

• Centralisation versus de-centralization, and how this balance is achieved and adjusted, both to promote minimum standards, simplicity and efficiency in the case of centralization, or to promote responsiveness, subsidiarity and diversity in the case of de-centralization.

• Networked governance to fully exploit the simultaneous benefits of centralization and de-centralization at different levels and jurisdictions (local, regional, national and international), through open standards, collaboration and interoperability.

• Open and porous governance, through cooperation and partnerships with all other actors (private, civil and constituents) leading to a constantly changing mix and blurring of roles and jurisdictions.

• Business model and value-chain innovation is needed to fulfil the functions of government, especially service delivery, which draw in different actors, resources, know-how and skills to create and deliver value precisely where it is needed.

- Improved management and governance of performance through better leadership and skills, strategies for public sector transformation and innovation, knowledge management based on intelligent handling and re-use of staff as well as of public sector and other information, change and capacity management strategies, and improved performance measurement.

The main future back-office driver is that governance will become increasingly open and empowering by drawing on and 'mashing-up' the appropriate resources, expertise, knowledge and legitimacy of all actors from the private and civil (third) sectors, as well as from users and user groups themselves. This means that roles will become more inter-changeable and blurred, so having to operate within a framework of appropriate and shared standards to ensure overall efficiency, flexibility, transparency and simplicity.

2.2 Mobile access to government on-line services and Web 2.0 government

Access platforms and devices apart from the standard Personal Computer (PC) and the Internet are becoming increasingly important in delivering e-Government. First, amongst these is mobile government (m-government), where government services are made available through wireless and mobile technology. The number of people with access to such technology, especially mobile phones, is increasing exponentially. In many developing countries, without large scale fixed infrastructures, mobile phones are the only practical platform for services. According to Kushchu (2007), there are a number of specific characteristics of m-government, which make it important for government services:

- More convenient accessibility and availability (power of pull):
  - always on; and
  - carried around everywhere, thus providing instant information and response

- Better precision and personalization in targeting users and delivering content (power of push):
  - Mobile devices are used mainly by single individuals (although they can also be shared, for example, in a family or local community); and
  - This increases the acceptance, adoption and usage of on-line government

- Larger and wider user base compared to wired services (power of reach)

These characteristics enhance flexibility through mobility, both for users and for civil servants. For example, Short Message Service (SMS) and mobile chat services provide instant communications through SMS alerts, reminders and quick information sent to firefighters and the police, as well as the public. This covers both emergency situations like accidents, floods, fires and crime, as well as more routine situations like traffic information, changes to hospital appointments, faster information passed to nurses, doctors, care workers in the field, job notification for the unemployed, etc. Mobile two-way and transactional communication is also possible, such as mobile automatic parking and payment, pre-filled tax declaration approval or update.

Mobile devices are also increasingly being used for location-specific services, especially in the developed countries such as Japan, although this has not impacted e-Government services to a great extent, as yet, but can be expected to do so. Other important platforms and devices include

call centers and kiosks, which already greatly increase convenience and outreach, especially for disadvantaged users, and digital TV which has a potentially huge but as yet unrealized reach for government services.

Most e-Government is at present stuck in what many call the 1.0 paradigm (for example, Tapscott et al, 2007). Here, overall citizen take-up remains low with slow growth, even in the developed countries (mainly between 15% and 30%); perhaps having reached a natural ceiling. The gap between supply and demand is large, and initiatives are expensive and sometimes fail, typically because they are heavily top-down and often bureaucratic. So-called government 2.0, on the other hand, promises to make government much more open and empowering, as it is quintessentially bottom-up and multi-sourced.

There is already a lot of concrete evidence that Web 2.0 will increase the use and impact of e-Government, and although current awareness across the public sector is still low, it is racing ahead in the private and civil sectors, as well as in its impact on the daily lives of huge numbers of citizens (Gartner 2007, Cisco 2007, Osimo 2008a). When the 'net generation' (i.e. those who have grown up with PCs, mobile devices and the Internet, come of age in the next 5 to 10 years, it is almost certain that they will demand government 2.0 (Tapscott, forthcoming)

The government 2.0 paradigm exploits, first, the visible tools of Web 2.0, such as social networking, WIKIs, Blogs, real-time chat, instant messaging like 'Twitter', etc. Some of these tools, especially in the context of the next Web 3.0 evolution towards wide-scale ubiquitous seamless networks, large scale distributed databases, etc., point to the use of mass collaboration tools, for example, for e-participation (Tapscott et al 2006). Second, the 2.0 paradigm exploits the less visible aspects which enable 'mashable' services and content through a web-oriented architecture (WOA) approach. Mash-ups offer users the opportunity to actively use, modify and augment public content and functionalities.

2.3 Inclusiveness of e-Government

One of the greatest global challenges facing e-Government is coping with exclusion and disadvantage, for example, as articulated through the eight MDGs.[2] Many individuals and groups, due to economic inequalities, cognitive disparities and regional imbalances, will require special treatment or support. Even in the developed countries, this is a real challenge, for example, in Europe it is likely that up to 30% of European adults will not be on-line by 2010, let along using e-Government services. Many of these will be the disadvantaged, who otherwise have the greatest need for government services (Millard 2007, Broster 2008). The digital divide is not easily going to disappear, although it is likely to change in nature.

Making e-Government inclusive means, first, providing targeted services for different types of user. Such user segmentation has been an increasingly common feature of e-Government development in many countries over the last few years. There are many ways to segment disadvantaged groups, based on demographics like age, life cycle stage, gender, culture, ethnicity and language; socio-economics like education, employment, housing and geography; behaviour like crime and anti-social activity; and condition like disability, health and being a victim of crime or abuse by self or others. In addition, there are two important factors, which cut across the

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[2] http://www.undp.org/mdg

others. One is widespread multi-disadvantage, for example, a homeless individual will often also be unemployed, have low skills and low literacy, so that tackling disadvantage needs to recognise such complex linkages. The other is low income and/or poverty, which can impact and underlie all of the above. In a global context, how these types are perceived and tackled is also highly dependent on specific political, socio-economic and cultural circumstances.

Second, inclusive e-Government means service personalization, and also, increasingly in the future, the ability of individual citizens to participate in creating and designing their own services. Such personalized and user-driven services should meet and reinforce shared expectations and principles of social justice as well as personal and public value, so they must also be genuinely universal and available to all whoever they are. A good example here is that the World Health Organisation is now categorizing the disabled on the basis of what the individual disabled person can do and wants to do, rather than the traditional top-down segmented approach based on the clinical type of disability and assuming that all in a given segment will have the same needs and wishes.[3]

Third, inclusive e-Government means using multi-modal interfaces, such as voice, gesture, touch and perhaps even thought in the future. The use of multi-channel systems is also important, not only PC and Internet, but also mobile devices, telephone, digital TV, kiosks, etc. Moreover, this means retaining traditional channels, especially face-to-face, where this better suits the user, the user situation and the service, and ensuring that channels are balanced and integrated making it easy to switch between them. In particular, for disadvantaged users, this could include situations where the end-user does not her- or himself use any technology, but where a service is delivered or enhanced by ICT, for example, through an intermediary. Thus, the technology should also result in simplicity, flexibility and choice, with any complex systems hidden to users.

2.4 Citizen's usage of government on-line services

As mentioned above, there is a significant supply-demand gap for e-Government services in many countries. Governments tend first to roll out large scale centralized top-down services (like income tax, VAT, administrative services, etc.), both because it is easier to do as the systems and organization do not need to change, but also because many such services increase government revenue collection. However, many user Surveys (e.g. Millard 2006a, Rambøll 2006) have shown that users tend to prefer services, which are tailored more to local and personal needs in order to improve their daily lives, and this often cuts across administrative silos (thus requiring back-office cooperation or reorganization).

According to the OECD (2008a), the uptake of e-Government services is not only linked to supply-side quantity and quality, but also increases; the more a given service is user-centric rather than the traditional government-centric. Being user-centric can also incorporate a more participatory and inclusive approach within a broader public welfare (or public value) context. When take-up is low, when compared to offer, this puts severe strain on governments which increasingly need to take a cost-benefit approach to e-Government services (as part of a business case with a convincing argument for return on investment).

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[3] http://www.who.int/disabilities/en/.

The main challenges for increasing user take-up can be summarized as follows (partially from OECD 2008a):

Access to electronic infrastructure, hardware, and software including 'easy-to-use' considerations (e.g. user-friendliness and usability for special user groups such as physically or mentally disabled persons) is a basic prerequisite.

The e-skills and digital literacy of users, which also helps in overcoming the digital divide. There are at least two digital divides, with the first concerning how to provide everyone with access to ICT and simple user access skills. The second is, however, more challenging; as it concerns providing users with the advanced skills needed to exploit more sophisticated services, engage in social networking and democratic participation, contribute their own content, and use the technology to improve the quality of their lives (DTI 2008)

The provision of appropriate e-Government services, which appeal to users and which solve their problems and improve their everyday lives. Often 'killer applications' are important (i.e. a focus on high-volume, high-frequency transactional services to drive take-up and usage, also of other services, together with targeted channel management and, if appropriate, making some e-Government services mandatory).

User awareness of e-Government services and how they are used. Services will not be used, if no one knows of their existence. Recognizability is important and marketing can assist by promoting a strong brand.

Organization of e-Government services, such as the degree of integration of services, collaboration and cooperation between public authorities, standardisation, interoperability, etc. Again, this implies back-office changes and cooperation. This could include one-stop-shop portals, simplified overviews, simple procedures, same 'look and feel' across services in terms of navigation, search, use of auxiliary functions like electronic Image Designers (eID) or payment procedures, user relevance through life-stage, user events, type of user targeting, etc. Also of increasing importance are pro-active, preventive and self-administered services, enabling service personalization, as well as facilitating user-designed, created and directed services, for example, by using Web 2.0 tools. This moves the user-centric approach to a user-driven one.

Outcomes of e-Government implementation, especially striking the right balance between internal and external benefits (like cost efficiency) and increasing user satisfaction as well as both personal and public value.

Trust in using e-Government services is also critical; both that citizens requirements will be met but also in terms of protecting their personal data, privacy and security.

2.5 E-participation

E-participation potentially covers a huge range of issues, such as e-engagement, e-deliberation, e-involvement, e-legislation and e-voting, as well as e-decision, e-rule and e-policy-making. However, these are all inter-related and contribute to new concepts and practices for the governance of our societies. Thus, it is also important not to see 'e' tools as separate from traditional democratic and participatory processes, for example, there are potentially fundamental impacts on the relationships between representative and direct democracy. Governments normally have a duty or wish to involve their citizens and many are now starting to use ICT to broaden and deepen the democratic and participatory processes. This is also driven in many

countries by a widespread sense that citizens have disengaged from formal politics, like voting, joining political parties and understanding decision-making processes, and that this reflects a crisis of trust. In addition, there are worries about the possible hijacking of these processes by vested interests or the already enfranchised, further exacerbating the digital divide.

There is also widespread expectation of greater opportunities in the 21st Century for citizens to use ICT to participate in decision making at all levels, whether top-down in response to government initiatives or through the actions of elected representatives, or bottom-up by creating their own political agendas and processes. Indeed, over the last five years, numerous e-participation and e-democracy trials and programmes have been run out at national and local levels in many countries. There is increasing expectation that new social networks, communication spaces and mass collaboration tools, which are already having profound impacts on personal lives and on the business community, can take e-participation in the public sphere to new levels.

A recent categorization of e-participation builds on the 'ladder' proposed by Arnstein (1969) and subsequent iterations (e.g., OECD 2001, Tambouris, et al 2007) and recognises five different levels of participation (Smith, Macintosh and Millard 2008), as follows:

- E-Information is one-way communication that provides citizens with information concerning policies and citizenship on-line;

- E-Consultation is a limited two-way channel that has the objective of collecting public feedback and alternatives;

- E-Involvement is about working on-line with the public throughout a process to ensure that public concerns are understood and taken into consideration;

- E-Collaboration is a more enhanced two-way communication between citizens and government, a full partnership enabling citizens to actively participate in the development of alternatives and the identification of preferred solutions; and

- E-Empowerment is the delegation of final decision-making rights to the public, and implementing what citizens decide.

More recently, focus has turned to the concept of public engagement in government and public affairs, and how this leads to better services, policies and good governance. In order to achieve this, it will be necessary to mainstream public engagement, develop effective evaluation tools, leverage the participative Web 2.0, and adopt sound principles to support practice (OECD 2008b).

3. Indicator development

This section summarizes the basic approach and assumptions used in this paper. It then provides some alternative sources for the Web Measure Index as well as recommended adjustments and additions to the e-Government stage model.

3.1 Overall approach to updating and further developing indicators proposed for 2010

By providing a summary of the underlying approach/assumptions, this sub-section aims to make it clear, what it addresses and what it does not.

There are a number of assumptions, which guide the approach used in this paper in updating and further developing indicators within the specific context of the UN 2009-2010 Survey. These are, as follows:

- Web feature analysis from the user front-end should remain the main methodological approach used. This should be based on the existing questionnaire format applied to one main national website and five main ministry websites by researchers/translators. They should attempt to take a user perspective by mimicking citizen behavior, as closely as possible, when accessing a website/portal;

- The main content areas should remain citizen services and participation. Thus, when, for example, indicators for back-office management are used; this will not be to measure the back-office for its own sake, but how conditions and changes in the back-office affect citizen services;

- The focus of the paper is not on updates to indicator types A, B and C, although suggestions are made and comments provided on this. Instead, focus is on new indicators for D, E, F, G and H;

- Questions retained and proposed have not been subject to rigorous word-smithing or polishing, but are presented as indicative only at this stage, in order to cover the important issues. Once final questions and formats are agreed, such refining work can take place. Also, there are intentionally too many suggestions here for a final operational questionnaire. The purpose has not been to suggest a fully complete and finished schema, but rather to feed into the detailed discussion about the overall structure and approach, as well as the sorts of questions appropriate for the UN Survey;

- The aim has also been to stay within the bounds of 'reasonable' cost and maximum comparability with previous Surveys. However, this should not compromise the need for new thinking and better measurement; which both reflects developments in e-Government as well as the needs of UN Member States; and

- The terms 'indicator' and 'question' are used synonymously in the context of this section.

3.2   Alternative sources for the Web Measure Index

This sub-section explores some alternative sources for the Web Measure Index. As explained above, web feature analysis from the front-end is the prime source for the Survey. Other sources are not necessary, although they are briefly mentioned here for further discussion, particularly, in the context of post 2010 Surveys:

- Automatic (web-crawler) website analysis of, for example, accessibility barriers conforming to the Web Content Accessibility Guidelines 1.0 (WCAG10) using the UWEM methodology.

(Preliminary conclusion: According to the UN, this is already in use and might be further improved, but is not a priority).

- Basic and standard usage statistics of e-Government websites (hits, page downloads, data download, etc.), which would need to be obtained from or via the government.

  (Preliminary conclusion: The collection of such statistics is not feasible, if 192 UN Member States need to install, for example, a Google Analytics Tool on their web servers, in order that the UN can access usage data).

- Desk research which searches for other readily available material, wider than found on the website itself, could be considered. For example, has the country published somewhere else on the Internet (but necessarily with any link to the website being examined) a specific service policy/strategy for citizen e-Government services, e-Participation, multi-channel, inclusive e-Government, back-office ICT-based modernization, etc.

  (Preliminary conclusion: This could be piloted across the 192 UN Member States, as it would at least indicate the visibility of such policies).

- Other more intense Survey approaches, including telephone/email interviews with government officials responsible for e-Government, direct user Surveys, focus groups, etc.

  (Preliminary conclusion: It is too costly).

3.3 Proposed updating of e-Government stages

The current version of the stages of e-Government evolution generally reflects conceptual thinking and some of the other major frameworks in use (such as in Europe, see CapGemini 2007). It has also served its purpose relatively well. However, in order to more closely follow developments on the ground and in understanding, we propose adding a new stage to the existing four. This should both update the stage model; while still provide important points of comparability with the previous UN Surveys. An increasing number of countries are now providing facilities, which are designed to empower citizens in their use of e-services and in their influence on the wider governance of society through e-participation, so we term this fifth stage 'empowering presence'.

We also propose sharper definitions of the existing four stages based as much as possible on the existing descriptions of these in order to retain comparability. Although there may be a risk here of 'over-specification', the advantage is that it is easier to link specific questions to specific categories for the purposes of a largely quantitative Survey. The important distinctions between the stages are determined by whether there is one- or two-way communication, whether traditional PC and Internet alone are used or other channels and/or enhanced interfaces are offered, whether communication can be anonymous or not, whether communication needs the citizen's identity to be electronically authenticated, and finally the decision-making power the citizen has. (Note that the stages are not intended to be cumulative, so that one website can be at stage 4, but not at stage 2).

(1) *Emerging presence*

- Simple one-way e-communication from government to citizen, largely based on traditional PC and Internet, which provides citizens with e-information concerning any service or issue within the mandate of government and the public sector.

(2) *Enhanced presence*

- Enhanced one-way or simple two-way e-communication between government and citizen through a wider range of channels than traditional PC and Internet, plus with more sophisticated and advanced interfaces, like audio and video in addition to ordinary text, including for languages other than the official language(s);

- E-services, where the citizen's identity is not needed: Downloadable forms for printing and non-electronic return to government; and E-communication to request information, questions and answers on specific services, enquiries about specific issues; and

- E-services where the citizens' identity is given, but it is not necessary to electronically authenticate this to successfully complete the exchange (such as e-ordering of non-electronic forms, e-requests for statements about the identified citizen's services, general rights, responsibilities, etc.).

(3) *Transactional presence*

- Two-way communication on, and feedback about, citizen use, satisfaction, participation, etc.;

- Transactions requiring electronic authentication of the citizen's identity to successfully complete the exchange (This may also be based on initial physical or judicial authentication, but is completed electronically, e.g. through pin-code, electronic signature, etc.); and

- Non-financial transactions, including, for example, download and upload of forms, or on-line completion of forms (such as electronic tax filing, application for certificates, licences, permits, e-voting); and financial transactions for any of the above (i.e. where money is transferred to or from the government).

(4) *Connected presence*

- E-communication between citizen and government where governments have changed the way they operate; so that two or more agencies cooperate by joining-up electronically, both horizontally and/or vertically

- E-communication between citizen and government where government agencies cooperate by joining-up electronically with non-government entities in the private or civil sectors (The latter includes user groups); and

- Government moves from a government-centric to a citizen-centric approach, i.e. that e-services are presented in a targeted fashion (if citizens are targeted as individuals, i.e. through service personalization, this is covered by new proposed stage 5):

- By the life cycle stage of a citizen or citizen events, such as bringing up children, getting an education, getting a job, retiring, etc., many of which often require accessing services from more than one traditional government agency; and

- By type of citizen, such as the elderly, disabled, unemployed and ethnic minority. Again, many of these will require accessing services from more than one traditional government agency,

(5) *Empowering presence*

It is e-communication between citizen and government, where citizens are empowered to have direct influence on the e-services they use through personalization and/or direct influence on the wider governance of society through e-participation.

- *For e-services:*
  - Pro-active services personalized by government from a menu fixed by government;
  - Self-service services personalized by the user from a menu fixed by government, e.g. through selection options, choice of service pathway; and
  - Self-created personalized services (including mashed-up services) from a menu largely determined by the user from any available source of content and functionality (whether from public, private or civil sector sources) – with or without assistance, i.e. from a purely user-centric approach to include a user-driven approach.

- *For e-participation:*
  - E-decision-making, where there is partial or full delegation of decision- or policy-making rights from government to citizens.

3.4 Proposed updating of existing indicators and indicator types

This section provides proposals of how to update the existing indicator types.

3.4.1   Type A: Indicators for access/usability

Different types of navigation, identification of headings, the quality of the text, how easy it is to find the website using common search engines, the languages available, etc. These are increasingly important aspects of accessibility and usability, some of which are also covered under indicator type G on inclusiveness.

3.4.2   Type B: Indicators for service delivery

Indicators for service delivery cover focus on issues like whether or not there are Service Level Agreements, the quality of service, user rights, data protection and data checking, and privacy statements, etc. Other new questions extend the scope of the transaction services covered, as well as include standardized pro-active and self-service services, data re-use and number of steps to complete a service. Also added is, whether 'killer services' can be identified through desk

research, which are likely to attract high volume and high frequency use, as well as the marketing and branding of services.

3.4.3   Type C: Indicators for e-participation

The current version of the e-participation index generally reflects the conceptual background and seems to work relatively well. It is also important to maximize comparability with previous Surveys. However, in order to more closely follow developments on the ground and in understanding, it is proposed to split the existing e-consultation category into two: (1) a top-down initiated category termed e-consultation; and (2) a bottom-up initiated category termed e-engagement. An increasing number of countries are now providing facilities in the space between e-information and e-decision-making, and this justifies this more nuanced analysis. The proposal also retains good comparability with the existing index.

Sharper definitions for the existing three categories based as much as possible on the existing descriptions of these are also suggested in order to retain comparability. Although there may be a risk here of 'over-specification', the advantage is that it is easier to link specific questions to specific categories for the purpose of a largely quantitative Survey.

The important distinction between the categories is whether there is one- or two-way communication, who initiates the communication, and what the government does with the communication (Note: The categories are not intended to be cumulative, so that one website can be in category 3, but not in category 1).

The suggested categories are, as follows:

1) <u>E-Information</u> is one-way e-communication from government to citizen; providing citizens with e-information concerning policies, citizenship, political rights and responsibilities, and related issues. It is concerned with the provision of information on the website concerning e-participation activities, e-participation policies or mission, participation - in rural or isolated areas, and how often such information is updated.

2) <u>E-Consultation</u> is two-way e-communication between government and citizen, which is initiated from the government side. Government initiates and citizens provide feedback and comments on issues and agendas determined by government. Government acknowledges this feedback; and government itself comments on and/or summarizes the citizen feedback, thus creating a dialogue.

   Indicators in this category cover the following:

   - An explicit statement or policy about e-participation (This could be placed under e-information), Email and mobile alerts on e-participation activities;
   - The availability of different types of government-initiated e-participation consultation, such as polls, surveys (e.g. satisfaction with services, improvement of services), chat rooms, blogs, social networks, newsgroups, and interactive tools;
   - Whether survey and similar results are published;
   - Facilities for citizens to make comments on policies, legislation, proposed decisions, etc. (e.g. social networks, e-voting);

- How many such different facilities are available, and how active they are;
- The role of deliberation and discussion, any measurement facilities available for citizen interaction; and
- Whether statements are given that acknowledgement of feedback will be sent.

3) <u>E-Engagement</u> is two-way e-communication between citizen and government, which is characterized by initiation from the citizen side. Citizens initiate through input, which is unconstrained by government, on any issues and agendas they like (e.g., using e-petition), although governments may monitor for illegal or offensive inputs. Government acknowledges this input; and Government itself comments on and/or summarizes the citizen input, thus creating a dialogue.

Indicators in this category cover many of the same issues as in e-consultation, but this time, the focus is on citizen rather than government initiation.

- Facilities for citizens to initiate comments on policies, legislation, proposed decisions, etc. (e.g. social networks, e-petition, e-voting, bulletin boards);
- How many such different facilities are available, and how active they are; and
- Whether interaction between citizens and officials is encouraged.

4) <u>E-Decision-making</u> is two-way e-communication between citizen and government; which is characterised by the partial or full delegation of decision-and policy-making rights from government to citizens, as described below. This can also be termed *e-empowerment*, as it involves a real transfer of influence or power; where this is defined, as the authority to materially effect or to take decisions.

- Government initiates and asks for citizen feedback on government proposals for decisions, which government states will affect any decision outcomes;

- Citizens initiate with their own proposals for decisions in areas determined by government, and where government states the proposals will be formally considered and will affect any decision outcomes; and

- Citizens initiate with their own proposals for decisions in areas determined by themselves, and where government states the proposals will be formally considered and will affect any decision outcomes.

Indicators in this category explicitly cover citizens being given real decision-making influence or power: Government commits upfront to citizens having some decision-making influence or power; and facilities for taking and exercising such influence or power, either in relation to issues or agendas set by government or set by the citizens themselves.

3.5 Proposed new indicators for the new types

3.5.1 *Type D: Indicators for back-office management in government*

The following are the main issues, each of which reflects back-office functions and/or changes relevant for citizen e-Government services and e-participation.

At stage 3: Transactional presence

- Citizen access to their own data, confirmation of data, etc.;
- Citizen creation of personal accounts and/or profiles;
- eID and security systems;
- On-line tracking systems of service progress (timing, response, acknowledgement, etc.);
- Submitting forms, making applications, etc., and paying on-line;
- Email management systems; and
- Presence of strategy or implementation plan for e-Government back-office re-organization, interoperability, etc.

At stage 4: Connected presence

- Single Sign On (SSO) service availability across departments/agencies;
- Indication that consent is needed for use of user data by other departments or agencies;
- Existence of life-cycle service groupings, which tend to require back-office reorganization and/or cooperation with other agencies or private and civil entities, and are therefore more citizen-centric than government-centric;
- Existence of user type segmentation service groupings, which tend to require back-office reorganization and/or cooperation with other agencies or private and civil entities, and are therefore more citizen-centric than government-centric;
- Website links to other government agencies, at both national and sub-national levels; and
- Website links to relevant private and/or civil sector entities, at both national and sub-national levels.

At stage 5: Empowering presence

- Existence of personalizable life-cycle service groupings, which tend to require back-office reorganization and/or cooperation with other agencies or private and civil entities, and are therefore more citizen-centric than government-centric; and
- Existence of personalizable user type segmentation service groupings, which tend to require back-office reorganization and/or cooperation with other agencies or private and civil entities, and are therefore more citizen-centric than government-centric.

3.5.2 *Type E: Indicators for mobile access to government on-line services and Web 2.0 government*

Below indicators cover the following main issues:

(1)   Mobile access at stage 2 (enhanced presence)

- Accessing and viewing web pages by mobile phone; and
- Sending of alerts from website to mobile phone

(2)   Mobile access at stage 3 (transactional presence)

- Use of mobile phone for registrations, applications, etc.;
- Use of mobile phone for payments; and
- Use of mobile phone for electronic subscriptions and personal account/profile maintenance

(3)   Web 2.0 government, mainly at stage 5 (empowering presence)

- Citizens tagging, assessing and ranking content on the website;
- Citizens personalizing the website (for example, through tagging) with own selection of options, content, functionalities, etc.;
- Citizens changing the visualization of website content and data in a number of different ways, etc.;
- Different sources of content and functionality available for citizens to create ('mash-up') their own content, functionalities or services; and
- Different types of social networking tools (including text, audio and video communication) available to citizens to participate with other citizens and/or with government representatives.

3.5.3   *Type F: Indicators for inclusiveness of e-Government*

The following, main issues are covered at various stages:

(1)   At stage 1: emerging presence

- Information about inclusiveness of e-Government;
- At stage 2: enhanced presence (also supports stage 3: transactional presence);
- Simple and understandable text;
- Advanced help facilities;
- Provision of multiple channels and interfaces;
- Use of assistive software; and
- Multilingualism (apart from the country's official languages).

(2)   At stage 4: connected presence

- Existence of life-cycle service groupings and user type segmentation service groupings, which are more accessible to and usable by disadvantaged groups, as this is more citizen-centric rather than government-centric.

(3)   At stage 5: empowering presence

- Existence of *personalizable* life-cycle service groupings and user type segmentation service groupings, which are more accessible to and usable by disadvantaged groups, as this is more citizen-centric rather than government-centric;
- Personalized pro-active services provided by the government without any action from the citizen;
- Personalized self-service services, where the citizen is able to personalize the service by selecting options, choosing service pathways, etc.; and
- Availability to citizens of different sources of content and functionality to create ('mash-up') their own content, functionalities or services.

3.5.4   Type G: Indicators for citizen's usage of government on-line services

Webmasters themselves can obtain quite detailed information about the use of their websites by analyzing the log files on their server. For example, they can tell how many users they had, where the users came from, which pages they viewed, how long they viewed each specific page, and where they went to afterwards. For commercial sites, this level of information is extremely valuable, but it would also be very useful for government sites as well.

Compared to this, an independent tool, which anybody can use for providing data and ranking websites by traffic, speed and external links, is provided by Alexa.[4] The ranking figures are obtained from the browsing habits of users (which in our case are citizens), but only those who have installed the Alexa toolbar. We know that most citizens in most countries do not do this. Although Alexa claims over a million users, the toolbar is only available in English and will not work on the Windows Vista platform. Further, it is only possible to generate usage data for the top 100,000 sites, most of which are non-government sites. For these reasons, results from the toolbar can tell much about global government website usage. Furthermore, it is likely that if such a tool were used it might inspire a false sense of confidence in the results, particularly, if the limitations of the tools are not clearly presented.

Thus, unless the UN can persuade e-Government webmasters in all 192 countries to provide copies of their website log files, or include a script similar to Google Analytics on every page of their websites, it is not possible to access reliable statistics on the usage of government websites. For this reason, the web feature Survey can only explore sites from the perspective of potential use. Thus, only the possible factors, which affect citizen usage of the websites can be examined.

Given the above problems, it should still be possible to make some reasoned assumptions about website usage by cross analyzing certain relevant indicators in the Survey. These assumptions could be based on the potential use of the web site and would need to be carefully weighted to allow for the different population sizes of the countries concerned. Although a specific proposal is not being made here, an index of the potential use of the website might be constructed using some of the following questions or question groups:

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[4] http://www.alexa.com

- *Is the website easy to find and use?*

  The easier it is for a citizen to find the web site using a common search tool like Google, the more likely it is that the site will be used. The usability of the web site can be indicated by accessibility questions such as whether the site is accessible to users disadvantaged in some way. If so, it usually is also easier for everyone to use.

- *Does the website contain a wide variety of content?*: Variety of content can be established by aggregating the answers to all the questions regarding the provision of documents, services and direct links to other relevant sites.

- *Is the website well maintained (i.e. reliable and up-to-date)?*

  Site maintenance can be established by reviewing the scores for up-to-date content and the score for reliability (robustness), for example, by asking whether the site uses valid HTML code.

- *Is there any evidence of one or more 'killer services' available through desk research (which are likely to attract high-volume, high-frequency services and thus drive take-up and usage, also of other services)?*

- *Is there any evidence of any services being marketed and branded away from on the website itself (e.g. on other websites, through traditional channels, etc.)?*

- *Is there is any evidence of citizen input on the website, for example, as questions, feedback, blogs, forums, etc., and what is the extent of any recent citizen input?*

  The level of activity in providing feedback and questions, as well as on blogs and forums, can often be found on the front page of the blog or forum in question. Otherwise, messages normally include a date stamp, so it is possible to estimate the level of usage.

- *Does the website publish usage statistics, if so, what proportion and/or groups of the country's population do these figures represent?*

  Not all web sites publish the number of visits made to the site in a defined period of time. However, when a reliable figure is available, this should be used to validate the other results for the relevant site. If sufficient sites provide reliable figures, then the combined results of the validation processes can indicate the level of confidence attributable to the results for sites that do not publish statistics. This could also be used in future for developing better usage estimates, unless it becomes possible to use some of the other tools mentioned above.

4. Methodology review and proposals for improvement

In this section, the current methodological issues of the Survey are examined to the extent to which these are available. First, a review of the various indexes is provided together with some suggestions. Second, comments and proposals are made on the web measure Survey and on how it could be improved, and third, on Survey implementation. Finally, a short note is added about the need to maintain and increase the credibility and continued 'buy-in' to the UN Survey by UN Member States and more widely.

(Note that this section is not intended to be a full account of how the UN Survey methodology should be constructed, but instead provides comments and recommendations on the existing approach, as far as this is understood, and how it can be improved in the future).

4.1 Review of the existing indexes

For each index in turn, a brief review is provided of its main characteristics necessary to understand its purpose and use, and this is followed by a proposal.

4.1.1 Telecommunications Infrastructure Index

This index is comprised of equal weightings of (per 100 persons): PCs, Internet users, telephone lines, mobile subscribers and broadband, and derived primarily from ITU data.

It is not clear why the Telecommunications Infrastructure Index and the Human Capital Index are used; instead of the ICT-OI. They appear to largely have the same purpose (i.e. providing measures of both the supply and demand sides of ICT), and they both cover many of the same factors. In fact, the ICT-OI appears more sophisticated, as it also covers international Internet bandwidth on the supply side, and households with a TV and international outgoing telephone traffic on the demand side. It would seem more appropriate in the future to use the ICT-OI, which can also be broken down into various components measures. This is likely to ease data costs and also improve comparability with other information society measures.

4.1.2 Human Capital Index

It is a composite of the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio, with two thirds weight given to the adult literacy rate and one third to the gross enrolment ratio. It is derived primarily from UNESCO data, also supplemented with data from the UNDP Human Development Report. See above under Telecommunications Infrastructure Index, for relevant recommendations.

4.1.3 Web Measure Index

This index aassesses each UN member states' on-line presence through its national site, as well as five pre-determined ministries; along with associated and integrated portals and/or sub-sites. The results are then allocated to a five stage model, although the UN proposal for 2010 reduces this to a four stage model. See section **Error! Reference source not found.** on recommended stages.

4.1.4   E-Participation Index

This is a composite index based on three categories of e-information, e-consultation, and e-decision-making. Each country was assessed on a scale of 0-4. The index was constructed by standardizing the scores. See section **Error! Reference source not found.** for relevant recommendations.

4.1.5   E-Government Readiness Index

It is a composite comprising the Telecommunication Infrastructure Index, the Human Capital Index and the Web Measure Index.

It is unclear how the E-Government Readiness Index is actually calculated, apart from it comprising telecommunications, human resources and web measure indexes above. No obvious reference is made to weightings, calculation methods, how the national website scores are combined with the five ministry scores, etc., in UN 2008 or on the website.[5] It does appear, however, that the three indexes are weighted equally. It is beyond the scope of this paper to recommend a precise method, as this must come after other decisions are made. However, there should be a move towards a greater emphasis on the (potential) demand, use and impact of e-Government, in line with other international Surveys. If it is not possible to employ direct measures of these factors for cost and other reasons, surrogates will continue to be needed via the existing three indexes. Such surrogates are already provided in the Telecommunications Infrastructure Index and the Human Capital Index, and some are suggested in this paper for estimating usage (see section **Error! Reference source not found.**).

It is beyond the scope of this paper to examine the details of how indicators are combined into the various indexes. In addition to those above, it would also be possible to create indexes for each of the seven indicator types (i.e. information dissemination/outreach, service delivery, etc.), apart from potential website usage.

In addition, other indexes could be considered, for example:

- A citizen-centric index (see section **Error! Reference source not found.**, 'stage 4: connected presence', and European Commission 2006c, CapGemini 2007); and
- A transparency index (see Osimo, 2008b).

4.2 Comments on the Web Measure Survey methodology

Although it is clear that unambiguous and detailed rules for researchers need to be provided, it is beyond the scope of this paper to develop these, but some comments can be made. Generally, the approach described for the Web Measure Survey methodology (UN 2008, pp. 218-224) is good and should continue. However, the following are recommended:

4.2.1   Double-blind website assessment

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[5] http://www.unpan.org/egovkb

It should be made clear that each website is independently assessed by two researchers; i.e. they neither know the results of the other, when undertaking their own assessment. In order to control costs, researchers in some countries will need to be supported by translators, but this should be minimized as much as possible, as this could add an extra dimension of inconsistency. On the other hand, too many researchers overall could also increase inconsistency, as it is thereby more difficult to strictly coordinate the overall approach to the work.

4.2.2 The unit of analysis: operational definition of what constitutes a 'website'

In other words, what is the 'sample' or the area of search on the website that the researcher should use? We recommend that this is defined as all content and functionalities, which can be reached within two clicks from the home page, once the home page has been identified (Note: The home page itself should not include an initial page, which provides marketing or similar material like the promotion of some major national event, or where the user can select a language, etc.). Hence, home page (level 1) → first click (level 2) → second click (level 3).

This 'two clicks' rule is recommended, as experience shows that this is the effort that most ordinary users are prepared to expand. But, if not two clicks, then a specific number should be agreed and consistently applied by all researchers. By content and functionalities 'reached' is meant that the user is confident s/he has found what they are looking for, even though they may have to click further, for example, to download a form, write a blog entry, apply for a license, etc. The 'two clicks' rule will normally be in one of the following, three ways:

- Direct clicking through via links starting on the home page;
- Use of the site search tool (if there is one); and
- Use of a site-map (if there is one).

The 'two clicks' rule approach will help overcome two other problems:

1) *It will make it easier to identify the main national as well as ministerial websites.*

   This is because, when there are two or more strong candidates, all of them are likely to be within two clicks of each other. Thus, whichever website is in fact chosen as the starting point, it will (if the linkage is there) include the others. If the linkage is not there, this will reflect poorly of course on the experience the ordinary citizen will have when using e-Government.

   This will also help solve the problem "A persistent dilemma over each of the Survey cycles faced by researchers is the number of countries that provide more than one apparently legitimate national access point" (UN 2008, p. 222). User research shows that users are not concerned whether or not they stay on a given site (however that is defined); but instead are interested in how easy it is to find what they need from their starting point. The two clicks rule addresses this.

2) *What constitutes a "reasonable amount of time and effort" researchers should use in analyzing a website (UN 2008, p. 220) becomes less important than whether or not the information or features be reached within two clicks.*

In practice, of course, researchers should also put an upper limit on the amount of time spent per country, and between half and one full day already used seems reasonable. Applying the two click rule is likely, however, to reduce this time and thus save resource. The statement "that the average user needs to find the information and features quickly and intuitively for a site to be 'usable'" (UN 2008, p. 221) is important, and the two click rule will assist in this. It may also be appropriate to add a limit to the amount of scrolling needed on a given web page to find information or features, although this is less straightforward to determine and apply.

4.3 Survey implementation

In this sub-section, a number of issues related to the Survey implementation are examined.

4.3.1 The questionnaire

The quality of the proposed questions is of profound importance. For example, the wording is very important in cross-country surveys. Questions need to be clear and understandable to non-native speakers. It is therefore recommended to provide translated questions or explicative notes (e.g., FAQ, hotline) to each national survey team

Given the quite loose and sometimes overlapping definitions of stages and the e-participation index (For example, there is no definition of 'consultation'); it is sometimes difficult to see both how and why a specific question relates to a specific stage or category. The proposals contained in this paper, by sharpening up definitions, are intended to partly redress this problem.

4.3.2 Quality control

To ensure the quality of the Survey process, a quality control mechanism needs to be set up, for which there are several options:

- Double-blind website assessment (as discussed, earlier);
- Select a sample of outputs produced by the researchers and compare the results with existing results or publications on the topic (e.g. global national trend for a given indicator;
- See whether the results of the Survey match the national trend;
- Possible involvement of a national expert for validating the results; and
- Discussion with competent national authorities to obtain feedback on results.

The last two points, however, transgress into desk research and interviews, and are unlikely to be feasible or affordable.

4.3.3 Survey piloting

It is essential to fully pilot the questionnaire, the implementation procedure, and how the results are to be used and analyzed. This should be done in a number of countries exhibiting a range of contrasting cultural and political conditions, developed, emerging, transition and developing countries, large and small, federal/centralized, etc. It is assumed that this is done.

4.3.4 Preparing and managing the researchers

A number of issues are important, here:

- Need for consistent researcher management across countries and over time, including *consistent* training and guidance of researchers and a sound understanding of language and cultural differences in multinational research teams;

- Need for consistent interpretation of terminology across countries, i.e. making sure that technical terms are understood consistently across national research teams goes hand-in-hand with thoroughly explaining technical vocabulary (e.g. technical terms rooted in UN policy) to all involved and reviewing English language translations. There may be a case for translating the questionnaire into national languages, because even though all researchers probably have good English, as non-native speakers there may be some bias. Again, there would be pros and cons on this;

- Each researcher and translator should be provided with a feedback form to suggest improvements to the Survey; feedback which has been collected and analyzed in a database ever since; and

- An on-line research tool should be used for the Survey work, scoring, etc., providing automatic calculation, help functions and explanations, for example:

    - 'Tags', i.e. when the researcher points at a specific question with the cursor, appropriate rules and instructions are displayed;
    - More detailed information related to each specific question;
    - Bank fields for comments; and
    - Access to glossary which can be updated as a 'wiki', etc., thus becoming a learning tool; and changing, adding, etc, URLs.

4.3.5   Implementing the Survey

An important issue here (which does not seem to have been directly addressed) is the limits to what researchers can do in trying to mimic user behavior. First, researchers are no ordinary citizens and do not think or act like them, although many can no doubt adapt to doing this reasonably well. A big issue, however, is likely to be that the researcher is better able to navigate the site and find what s/he is looking for, when compared to a citizen, if only because s/he will have had a lot of practice. Thus, the patience and the time needed to complete a task are likely to be different than in real life. On the other hand, this potential problem will not normally vary by researcher, as would be the case with actual users.

Perhaps more difficult is that the researcher, unless they are resident in the country, may not be able to navigate very far through a service, so that a number of the features the Survey is interested in will not be accessed. For example, numerous services, particularly, those which are relatively advanced and transactional, require access logins. When the researcher is a national, he/she may use his own personal information to reach the right service. However, in some cases, the web researcher needs to have a specific profile (e.g. women for pregnancy forms, men for military forms in some countries). For such cases, it may be necessary to request the competent national authorities for the right access codes, or to use a surrogate citizen to log-in, while sitting next to the researcher.

Additionally, checking, for example, that an acknowledgement note is received could require the researcher to actually wait for a response by email (It may not be explicitly mentioned in the form filling process). In such case, however, it may be more important that the user is confident that the correct data has been submitted and will be dealt with.

4.4 Credibility and UN Member States' 'Buy-in'

As the measurement system becomes inevitably more sophisticated, it may become harder to achieve 'buy-in' or acceptance from UN Member States. There is no doubt that the UN Survey Brand is currently well respected, as the most comprehensive (range of countries and issues covered given its limitations) and sensitive (for example, also to the needs of developing countries by taking account of their specific context and needs). However, in order to maintain this, as the Survey becomes more ambitious, it will require continued care in ensuring the quality and robustness of data, and better publicity and marketing.

The latter is also important both for visibility and 'buy-in'. For example, the website is conspicuously out of date – the home page advertizes the latest report as the 2007 version, which in fact does not exist, and when clicking through full details of the 2005 report are provided, while a single link can now be found for the 2008 report, which is, in fact, the latest version.[6] Neither does the website provide full details (e.g. about the methodology), which, at least, if present, are difficult to find (within 'two clicks').

Overall, the brand of the UN Survey (as an evidence-based comprehensive and comparable-through-time reference point) makes it unique among e-Government measurement systems. The opportunity exists to retain and even build the value of this, particularly, as it seems that governance, generally, as well as e-governance, is moving higher up the agendas of all governments, and becoming better understood amongst the public at large.

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[6] http://www.unpan.org/egovkb

IV.   SUMMARY OF DISCUSSION

The EGM was an opportunity for the experts to hold in-depth discussions, which revolved around the major methodological issues related to the Survey, including particularly, on how to move the Survey to the next level.

1.   Moving the Survey to the next level

The objective of the Expert Group Meeting was to assemble a thematically and geographically diverse group of experts with a view to assessing and updating the quantitative part of the Survey vis-à-vis new developments, such as Web 2.0 and mobile telephony.

Experts saw the strength of the Survey in its continuity since the 2002 publication, so that comparisons can be made over time, and in the fact that it covers all UN Member States. That being said, experts also noted that this was highly challenging, because most developing countries remained at the early stages of e-Government development, and because the range of differences between many least developed countries and the most advanced developed countries was vast.

There was a consensus among experts that time was now ripe to look again at the Survey, especially, with regard to what should be measured, the indicators to be used and the methodology to be adopted.

2.   Indicators

In particular, as regards the indicators, experts stressed that such indicators should be easy to collect in practice, as well as intellectually relevant and rigorous. They should be quantitative and factual rather than judgmental of the quality of websites or services, as the latter was both difficult to do well and would always be open to question. It was also important to measure the outputs of government, rather than just the inputs.

Experts concurred that the next step should be to include new sets of indicators looking at: back-office management, e-participation, inclusiveness of e-Government, mobile access, and usage; while also retaining maximum comparability with previous Surveys.

Concerning specific indicators such as <u>back-office management</u>, experts noted that the Survey hardly captures the back-office dimension. It essentially, and inevitably, looks at the front end. For example, the recent back-office case of Irish pork poisoning and the effective use of (tracking) technology by the government show that the importance of the back-office is often not sufficiently captured in the Survey, as they are mainly out-of-sight of a web feature analysis.

Another problem is how to effectively measure a web-based e-Government system, when the back-office functions are not on display. This is particularly problematic, when personalization of services happens in the back-office area.

In this context, experts commented that information and communication technology (ICT) in government is much more than Internet presence. The back-office indicators, which the

UNDESA Survey is able to implement, are very important, but can only provide a small glimpse of the real government back-office level of development. This highlights the issue of what is relevant and what is measurable, hence raising the question of the scope of policy relevance of the Survey. In particular, the problem remains of how to measure a web-based e-Government system, when the back-office functions are not on display.

As for the indicators of mobile access, experts first defined <u>m-government</u> in terms of what is available on mobile devices, which are handheld or easily portable by an individual, including via emails, SMS and increasingly, mobile browsers. Most mobile services have specific characteristics which can be turned into benefits for citizens, such as being time and location specific, requiring little bandwidth and relatively cheap technology, and thus having huge potential to become relatively ubiquitous. This is already happening, including across most developing countries.

Experts pointed out that the specific indicators on the use, for example, of SMS in government transactions are therefore important, such as what e-Government services can be sent or requested by SMS. In contrast, the question "Do you provide services over the mobile phone?" is not very meaningful, and needs to be much more specific.

In particular, as regards m-government in developing countries, experts remarked that its rapid rollout is one example of the potential there may be for developing countries to leapfrog some of the development stages; which more developed countries went through on the path to e-Government. However, this does not seem to be leading to any convergence between developing and developed countries. Rather, developing countries seem to be doing things in a different way.

Therefore, developing countries do not necessarily have to go through all the stages that developed countries went through. Experts, however, added that one should keep in mind that developing countries do lack an existing or established model for e-Government. Even in terms of m-government, back-office integration needs to be there to make it happen successfully, and this is often even more of a barrier in developing countries than it is in developed countries. Experts posed the question whether leapfrogging by developing countries is possible, and whether or not basic telecommunications infrastructure is still necessary.

On <u>usage-related indicators</u>, experts stressed that more effort be put into measuring the outputs of government rather than the inputs, in other words, on citizen demand and usage rather than simply the supply side set-up of e-Government services and websites.

From the citizens' perspective, quickly usable, accessible and 'clean' information needs to be accessible from government portals. Experts observed that it does not matter, where the information is located and where it comes from. In their view, it is thus misleading to focus on particular ministries, but instead it would be more useful to maintain functional focus, such as social welfare. One of the fundamental challenges is how to effectively address <u>the issue of inclusiveness</u>; and how to cater for first time or disadvantaged users, rather than the more technology savvy users (e.g. the Web 2.0 user types). It is important to understand the ways, in which such less competent users perceive and use government websites.

With regards to <u>e-participation</u>, experts commented on the fundamental problems arising from the difficulty of discerning whether governments took account of citizens' perspective. It is

almost impossible to assess whether this perspective was indeed taken into account into the decision-making process.

Experts agreed that while keeping e-participation in the Survey, it is also necessary to restrict e-participation to that directly related to service delivery. For example, as regards street lighting, referendums can be held with citizens' participation. This case is e-participation linked to service delivery, which is then linked to citizen satisfaction with government service delivery. This e-participation case differs from citizens' (non-) satisfaction with general public policy and legislation.

Further questions arose as to how Internet (including e-participation tools like Web 2.0/facebook, etc.) will create new opportunities for e-participation. In addition, the discussion focused on transparency issues, which are closely related to e-participation. In particular, experts noted that transparency is probably more important for the UNDESA Survey in the shorter term than Web 2.0 and e-participation, even though both these contribute strongly to transparency. This is especially the case in developing countries, for example, in the context of corruption. Transparency is a real priority for such countries and is also important for the attainment of the MDGs. An example of enhancing transparency would be an open budget index, in which budgetary information is made available on the web. Another example is the Republic of Korea's e-procurement using a fully transparent process.

Experts added that transparency itself can impact on government behaviour. One of the objectives of the Survey is to push governments to make their work more transparent, indirectly and in the long term. Even though the Internet is still of limited influence in many countries, it is a determining factor for transparency. The bottom line is that without the Internet, there is no transparency. A counter argument would, however, be that making more information available on-line does not necessarily mean more transparency. This would depend on the nature of the information, and even more on whether citizens themselves, or some independent organizations, have any influence on the type of information available and the format in which it is provided. Otherwise, transparency may be more for accountants than ordinary citizens. It is also important to note that putting data on-line is often done by citizens, community groups, Non-Governmental Organizations, etc. (e.g., crime maps), not by governments.

3.   Benchmarking and measuring e-Government

Experts pointed out that there are significant repercussions of benchmarking, not all of which are straightforward, nor necessarily beneficial. By measuring e-Government performance, governments may be encouraged to develop strategies, which improve their e-readiness score and position in the rankings, but which may not be what is best for their country or citizens at this particular time.

They may be encouraged to (re)create their website using strategies and formats, which divert resources from more appropriate approaches, in order to attain higher rankings. In other words, in some situations, benchmarking (especially, badly designed benchmarking) can risk misleading and misdirecting governments. Government policy directions may be influenced, as governments try to move up the rank order for its own sake, for example, as happened in Austria in the early 2000s.

On the other hand, experts commented that rankings can be constructive, when they encourage all countries to do better than their current situation. This can be achieved, when countries are helped to focus on issues, which they should improve. In order to ensure that the beneficial rather than the problematic aspects of benchmarking are exploited, it is important that ranking is not one dimensional or linear. It is often necessary to break down the ranking into various components, compare countries with others in a similar position, and ensure that governments can identify and prioritize areas for increased investment suitable to their own situation.

In connection with what to benchmark, experts also posed the question of whether we are aiming for good e-Government or good governance, as the two are not necessarily the same. UNDESA's mandate is to focus on the relatively narrow issue of service delivery and its improvement. UNDESA's role is thus different from the UNDP role, which is concerned with governance in a broader sense, including democracy and human rights. This said, the UNDESA Survey, however, should also address such issues, when they are directly relevant to service delivery, including good governance from the perspective of whether and how citizens benefit from public services.

In fact, it is important to keep in mind that good service delivery is not just concerned with efficiency, but is also about the quality of services, who is accountable for them, how e-participation can contribute to better services, and to generally take a citizen-centric approach. Traditionally, e-Government has been mostly about efficiency from the government point of view, and this involved transferring the cost and workload burden from government onto citizens.

Yet, there is also the counter argument used today that efficient government may ultimately be good for citizens who can benefit from efficient transactions, both because as tax payers they save money, but also because more resources can be put into service quality. Even face-to-face and personal contact-based social services can be delivered more efficiently through better ICT-enhanced back-office integration. Moreover, e-Government can provide citizens with personalization and engagement opportunities.

4.   Using a social priority approach

Experts acknowledged that the focus of the UNDESA Survey on web feature analysis is valuable and relevant. On the other hand, they found that the current approach tends to be one size fits all because of its consideration of only one main central government portal and five specific ministerial websites. They thus suggested that a social priority matrix for each country could be drawn up and the Survey performed on that basis.

One way to achieve this is to look at life events and social benefits. Here, the focus is on outcomes and usefulness for the citizen. In addition to focusing on the most used and useful services, this also means taking better account of the type of user, and how this can be recognized by the e-Government service.

In this context, experts urged to use search engines such as Google in each country to find the most important functions and services, instead of looking only at these specific sites and ministries. One way to do this would be to identify the top 3 or 5 most used services, which would help the Survey in becoming more focused on what is important in a specific country, and thereby reduce unnecessary complexity.

These could include services probably not presently covered like crime reporting and passport applications, or thematic functions like Canadian health care. One drawback of this, however, is that the services most important for the government (mainly related to revenue collection and administration at national level), which they will therefore develop, market and push aggressively, are generally not the important services for most citizens. Most citizens tend to prefer social, health, educational and recreational services which improve the quality of their lives, particularly at the local level. A social priority matrix should thus try to navigate such difficulties by attempting to ascertain usage levels across different government levels and not just the national level.

Experts concurred that the social priorities should be seen as high profile, high usage, and potentially so-called 'killer' services. These are those services citizens want and use, and are not simply focused on the services on a given website, which governments may prefer. At the same time, they recognized a fundamental problem of the generally very low, overall usage of e-Government services.

For example, US passports are used only by 3-4% of American citizens. Another case is India, where many e-Government services (such as the passport service) are provided by Public-Private Partnerships (PPPs) and thus will not necessarily appear directly on the official government sites. What is needed, therefore, regardless of types of partnership or specific websites, is to focus on this high volume, socially prioritized services that make a real impact; instead of focusing on 'marginal' services which may only be for a small minority.

Some of these approaches may help address a fundamental problem for the Survey, i.e. that many people now google for services and information, so that indicators on specific websites are no longer so relevant. For example, it is doubtful whether national portals remain the main e-Government channels in most countries.

5.   Issues for the next Survey and beyond

An important issue to bear in mind is that if the Survey is changed dramatically every year, its reliability will be brought into question. A large core of <u>comparability</u> should therefore continue. This means in practice that it is important to retain 80% to 90% of the core questions from the 2008 Survey. An option might be, however, to make only small changes in 2010, and at the same time, announce that more significant changes will take place for 2012.

Even with small changes to questions and approach, there is still much, which can be done to improve presentation and analysis. Experts thus suggested for consideration a two dimensional diagram giving four quadrants, so that countries that do badly on one dimension may still do well on another. One dimensional ranking is a zero sum game, but a two dimensional ranking is more nuanced; while still being simple to present and understand. Another way to present the data would be using radar charts, which readily show a country's (or a website's) strong and weak points.

With regards the Survey, experts found <u>a better breakdown</u> of results useful, i.e. what proportion is transparency or back-office integration (perhaps, using the two-dimensional approach). In this context, they noted that the five stages may not be very meaningful. Each service or functional area could be examined in a linear way and then evaluated for each of the five stages; after which

this should be done across a number of dimensions to present a more nuanced assessment. Thus, a whole country would not be allocated to a stage, but different dimensions of a given country's e-Government progress could be.

On the issue of personalization, experts observed that citizen personalization of services can take place, for example, through such individual tailoring, by service configuration through options setting, service bundling, decisions about personal service budgets, and so on. It can also take place through Web 2.0 mash-ups, though at the present time, this is most likely to only happen with the assistance of dedicated civil servants or civil sector organizations like NGOs, which directly represent citizen interests. Successful personalization of services also normally requires back-office changes and connectivity.

The working definition of personalization is customization, but the problem is that it is difficult to measure. Experts urged that when we talk about personalization and transformation, we should also remember that most people do not access a government website more than once or twice a year. They also identified an additional problem of how to personalize services for a great number of people. Furthermore, even if personalization is technically feasible, there may be no large demand for personalized services.

With regards to the Survey's framework, experts urged that consideration should also be given to using MDGs. In the UN context, it t is always necessary to focus on the MDGs, which are very much linked to social priority.

In the past, the Survey touched on various social priority ingredients of the MDGs, such as ICT access, Public-Private Partnerships (PPPs) and good governance; which are part of Goal 8 as a prerequisite of MDG attainment. Thus far, the Survey has, however, not dealt with MDGs in any systematic way. Also, experts recognized the problem arising from the lack of consistency across the Surveys and lack of comparability with previous Surveys.

Concerning Web 2.0, experts concurred that Web 2.0 is a difficult issue as, even though it has huge potential for e-Government, its impact to date is tiny even in the developed countries, and is virtually non-existent in other countries. Some of its potential lies in how it could support service personalization and the self-creation of services in new user-driven modes of e-Government (for example, through the re-use of data). A more important potential in the shorter term lies mainly in the increasing transparency and openness it brings, as well as supporting citizen e-participation in service issues.

Experts observed that even so, in order to exploit Web 2.0 better, governments should enable the re-use of data by citizens, NGOs, etc., on the web; instead of packing it in closed formats. This would be more productive and a win-win for all, as governments can help citizens' effective use of raw data (e.g., through their creative mash-up activities). For example, research in the UK also shows that this would have an economic benefit by stimulating the growth of social entrepreneurs, as well as small businesses, in creating new citizen and community services.

Experts concluded that it is still difficult to see how Web 2.0 should be incorporated into the next UNDESA Survey. One of the major challenges for 2010 Survey is, for example, to assess how much of the content will be provided by non-governmental contributors, including particularly

through Web 2.0. They also pointed out that Web 2.0 e-Government service mash-ups are likely to be very rare occurrences.

Nevertheless, it was still considered appropriate to have more debates on the use of Web 2.0, as this will help mark out an important area of future development and thus act as an awareness and even policy stimulus. Web 2.0 can be a tool of service delivery, as seen, for example, in the missing persons' poster posted on-line. This, despite the growing numbers of the types of Web 2.0 tools that help create, improve, deliver and refine government services.

6.   Survey methodology

Experts were informed that the current methodology developed and used by Civic Resource Group (CRG) is based on a Survey carried out over a 30-60 day time period by 50 researchers working with translators, and with an average time of 8 days devoted full-time to each country. All new questions are piloted in advance, and if found problematic, either adapted or discarded.

They found it problematic to look only at the national portal (assuming that this can be identified) and then five specific ministry websites; as opposed to other possible important points of entry. The methodological problem here results from the fact that citizens do not necessarily start searching here for information. In this context, experts found the *2-clicks* approach useful, especially, in conjunction with using a social priority matrix. As information or a service is easily and quickly found, it does not matter whether this is part of a given website.

To conclude, experts stated that it is not possible, for resource and logistic reasons for the UNDESA Survey to include a direct Survey of citizens. It should instead be seen in the context of how it complements other Surveys which do have resources to undertake significant data collection on the demand-side (including user satisfaction). For example, the Dutch model uses various experts to look at websites from various viewpoints of citizens, civil servants, politicians, and so on. The UNDESA Survey should, therefore, not attempt to replicate these, especially in light of its own resource constraints.

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