ADAPTING TO THE SUSTAINABLE DEVELOPMENT GOALS

UN E-Government Survey for the Period 2001–2016

Supplementary Note by the Consultant

July 5, 2017

Basic Information

Intervention	:	Evaluation of the UN E-Government Survey for the period 2003-2016
Time Frame	:	April-June 2017
Countries	:	The E-Government Survey collects and processes data from all Member States of the United Nations.
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1   Summary

The "Stages" Model of e-Government used in the e-Government Survey should be updated to encompass the mobile platform and recognize it as the premier development platform. This will enable UNDESA to better accommodate the transition to the Sustainable Development Goals.

2   The "Stages" Model of e-Government Development

The "Stages Model of e-Government Development" first appeared in the first (2001) e-Government Survey Report.[1] It set forth five stages of a model:

Stage I: Emerging;

Stage II: Enhanced;

Stage III: Interactive;

Stage IV: Transactional; and

Stage V: Seamless.

It has appeared several more times, in 2003, p. 13; 2008, p. 15; 2010, p. 95; 2012, p. 123; and 2014, p. 113.

In the 2003 report, the terms were changed slightly by adding the word "presence" and Stage V was changed from "Seamless" to "Networked Presence". This yielded the following:

Stage I: Emerging Presence;

Stage II: Enhanced Presence;

Stage III: Interactive Presence;

Stage IV: Transactional Presence; and

Stage V: Networked Presence.

This arrangement has remained until the 2008 report when the schema was changed so that the highest stage became "Connected" instead of "Networked Presence". This yielded the following arrangement:

Stage I: Emerging Presence;

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[1]*See:* Benchmarking E-government: A Global Perspective: Assessing the Progress of the UN Member States. p. 2. (Covering data for 2001, but published in 2002.)

Stage II: Enhanced Presence;

Stage III: Interactive Presence;

Stage IV: Transactional Presence; and

Stage V: Connected Presence.

So by this time, Stage V had been given three terms: (*a*) "Seamless"; (*b*) "Networked Presence"; and (*c*) "Connected". Use of the term "Connected" is found in the 2008, 2010 and 2012 reports.

However, in the 2014 report, we see another change. The "Interactive" Stage III, is dropped, leading to the following schema:

Stage I: Emerging Presence;

Stage II: Enhanced Presence;

Stage III: Transactional Presence; and

Stage IV: Connected Presence.

In addition, these stages are mapped against different technologies from before. In particular, Stage IV "Connected Presence" is said to be characterized by the use of "Integrated Channels". The definition of Stage IV is given as:

> "The way government operates fundamentally changes, and there is better coherence, integration and coordination of processes and systems within and across government agencies. Government transforms itself into a connected entity." (p. 113)

This change was brought about in large part because of the rapid deployment of mobile phones, and the use of SMS text messages, Mobile apps, and a Mobile portal on the part of governments.

3 Suggested Update

Since this document is only a "note", there is no time for substantial analysis. However, the consultant can make the following observations.

1. The original model was made without deep knowledge of where the web was going. (No one really knew at the time.) In addition, it was made with only light reference to the underlying ICT.

2. The most significant development in the past $\frac{3}{4}$-decade has been the dramatic rise in the use of mobile phones, *and*, led by the iPhone, the transition of the mobile phone platform into a full web-enabled device.

3. The mobile platform now has become the most important development platform for e-Government. This is because the number of citizens with access to a mobile platform greatly exceeds those with access to a traditional personal computer (PC), which in any case is much more expensive.

4. Instead of following the old path of developing first for the PC platform, *then* building a "mobile portal" that is in essence a reformatting of the XML code for fitting on a mobile device, it is more logical for governments to develop *first* for the mobile platform. By doing this, it will greatly increase the system development time for e-Government applications.

5. Any new model needs to accommodate the world of mobile applications, also known as "apps". But apps have several characteristics that are different from what has come before them including:

   (a) Apps often are created by commercial entities, not by governments, even though they may in some way relate to government services, or open government data;

   (b) When governments write apps, they are able to create considerably more sophisticated and complex citizen-government transactions than was envisioned in the higher stages of the e-Government model in the past;

   (c) Apps often are written so that they integrate in data sets or other data that is openly available, but not necessarily create by the government; an example would be the integration of geo-location data (which is supplied by GPS satellite data rather than by the government).

6. The new Sustainable Development Goals are "farther away" from the administrative information systems of governments than at any time in the past. For many, they represent tertiary, quaternary, or even quinary downstream consequences of government administrative information systems, a.k.a. "e-Government systems".

7. IMPORTANT: Mobile apps, many (but not all) written by governments, will become the ICT platform that will link government administrative information systems with both *delivery* and *measurement* of the Sustainable Development Goals.

4   Suggested Modification of "Stages Model"

In Table 1 on Page 5, the consultant has characterized the underlying ICT mechanisms that were used to deliver e-Government services to citizens. Please note the following:

1. There is *no need to change* the definitions of Stages I–IV; the "characteristics" (column 3 in the table) are put in only as a technical reference. The definitions already used in previous reports may continue to be used.

2. The "Connected Presence" (Stage IV) found in the 2014 report has been layered over by a new stage titled "App Ecology".

5   The "App Ecology" Stage

Briefly, these are the characteristics of the the "App Ecology" stage of e-Government:

1. The interactive nature of the relationship between citizen and e-Government are not disturbed, because the applications being used previously remain, but are accessed through the mobile platform.

2. IMPORTANT: There is more integration of externally-sourced data (which is not easily possible using a restricted connection only between the citizen and the e-Government administrative information system).

3. IMPORTANT: Rather than remaining merely a *consumer* of government administrative data, the citizen also becomes a *source* of important data.

4. Because of the potential volume of this incoming data, so-called "big data" analytical techniques can be harnessed by government, but also by citizens.

5. The concept of "open government data" is enhanced by adding an "open application interface" layer on top of the "open" data being supplied by government administrative information systems.

6. Once governments provide these "open application interfaces" (to government data), then application development will accelerate because any developer, government or not, will be able to create useful[2] applications.

7. IMPORTANT: It will be mobile apps that will provide the linkages between the Sustainable Development Goals and government administrative systems, including quaternary, or even quinary order effects of government policies.

By using the Four-Stage model for adoption of new empirical measurements in the e-Government methodology, this new "Stages" model will make it easier to develop quantitative linkages for inclusion into calculations.

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[2]Here we use the term "useful" because in the "app economy", applications that are not useful simply are not adopted and fade away.

6   Tables and Figures

Table 1: Stages and technologies in web provisioning of administrative information services by governments.

Stage	Name	Characteristics of Underlying ICT
I	Emerging Presence	Provisioning of HTML coded information. No posting of information by citizen.
II	Enhanced Presence	CGI-bin and some Java enable posting by citizens of information into pre-established online forms.
III	Transactional Presence	Java and other coding (Visual Basic) enable checking of data entries by citizens; middle-ware acts as gateway to form SQL (or similar) inquiries into hosted images of enterprise databases.
IV	Connected Presence	Use of enterprise architecture. "The way government operates fundamentally changes, and there is better coherence, integration and coordination of processes and systems within and across government agencies. Government transforms itself into a connected entity."
V	App Ecology	Interactive platform (web-enabled transactions with back-end enterprise databases) is enhanced by encapsulation within mobile application "app". Integration of externally-sourced data. Citizen becomes both consumer and generator of real-time massive data. Open government data transforms to provisioning of open application interfaces that can be utilized by apps. (Cyber security is maintained by continued use of middle-ware and hosted (insulated) images of enterprise data.