PRESS RELEASE

The 2010 Waseda University World e-Government Ranking

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- **Singapore keeps top ranking, followed by USA and UK**

The Waseda University Institute of e-Government has released the ***2010 Waseda University World e-Government Ranking***, marking its Sixth consecutive year of monitoring the development of e-Government worldwide.

Prof. Dr. Toshio Obi, Director of the Institute and Head of the research team noted the increasing importance of e-government in a scenario characterized by the global financial crisis, as well as concerns on environmental issues. Professor Obi added that ICT can be a powerful tool to address such issues and in doing so, consolidate an inclusive Information Society. Governments are key actors in this process and the development of e-government in recent years shows that there is work being done around the world in building towards a citizen-oriented state.

Trends observed this year was the special attention governments gave to Green ICT / Environmental ICT issues.

Other trends observed was the use of Government 2.0 mash ups using Web 2.0 technology. In particular, there was an increase in real time SNS applications such as Twitter in government sites.

This has lead to another trend which is the increase in the quality and depth of e-participation between users and governments.

Stronger linkages between local and central government were also implemented.

Cloud computing was another topic of great interest to many governments with a view towards reducing operating costs as well as their carbon footprint.

To summarize, the top 4 most interesting items observed were as follows:

1. Government 2.0. - The continued increase in the use of Gov 2.0 applications in government sites thereby improving e-participation.

2. Green IT - The growing interest ICT government organizations have for green ICT.
3. Cloud computing and virtualization - Many government ICT managers are showing interest.
4. This is the first time that European countries have been in the majority among the top 20 spots in the Waseda e-government ranking.

This latest edition of the Waseda Ranking surveys the e-Government development of 40 countries altogether. Singapore achieved the first place in the ranking, while USA which had been in the first place for 2005-2008, was ranked in second place. This is the first time ever that European countries have the majority of the top 20 places in the Waseda e-Government Ranking. The complete list of the top ten countries which have the most advanced development in e-government according to the Waseda Survey are: ***(1) Singapore, (2) USA and UK, (4) Canada, (5) Australia, (6) Japan, (7) Korea, (8) Germany, (9) Sweden, (10)Italy and Taiwan***.

New to the 2010 ranking are 4 new countries which were added to the survey for the first time; Kazakhstan, Switzerland, Tunisia and Turkey. This is also the first time that a country from Central Asia (Kazakhstan) is included in the Survey.

Another new addition to the survey is the addition of an indicator to measure e-participation which is used for the first time to take into account the "demand" side of e-Government as well as to see to what degree people are using e-government platforms especially in the light of Gov 2.0 mashups.

The existing 6 benchmark indicators from the previous years' survey were reviewed and improved. Altogether, there are 7 main indicators used to carry out the survey. These indicators are: ***network preparedness, required interface-functioning applications, management optimization, national portal, CIO in government, e-government promotion and e-participation.*** These seven indicators are further broken down into 31 sub indicators.

The Waseda University e-Government Ranking provides a uniquely Asian perspective to assess the development of e-government from a sampling of countries

across the globe thereby enriching the existing body of literature on e-government studies.

The research by the Waseda University Institute of e-Government focuses on analyzing the development of mainly 7 major indicators in the public sector, as well as the relationship between governments and their stakeholders.

In order to obtain the latest and most accurate information, along with the assessment of relevant web pages, members of the Institute attended local and international e-Government conferences, conducted meetings with government officials and research institutions in major countries. Preliminary outcomes of the ranking were also discussed with experts in e-government from international organizations such as the International Telecommunications Union (ITU), APEC, OECD and World Bank. These outcomes were also discussed in international conferences and workshops organized by the Institute.

The Waseda University Institute of e-Government is also in charge of the Asia Pacific Economic Cooperation (APEC) e-Government Research Center. In coordination with APEC, the Institute has been continuously monitoring and researching on the development of e-Government strategies of APEC member economies since 2004 as part of the activities of the "e-APEC" initiative.

The Waseda University Institute of e-Government will continue to monitor and evaluate e-Government initiatives worldwide in order to contribute to there improvement as a tool for promoting the development of the Information Society, reinforcing international competitiveness and strongly supporting citizens' lives worldwide.

Main Trends of e-Government by Indicators

1. Network Preparedness

In this indicator, the basic infrastructural foundation for the implementation of e-government has already been long established in many countries. In developing countries, the number of Internet users, broadband users, cellular phone users, and PC users continue to rise. This is also true to a much lesser extent in developed nations.

This is evidenced by looking at the ranking of countries which have the most developed network infrastructure; there is a pattern of many countries sharing the same rank suggesting that the telecommunication infrastructure in these countries is now highly developed. And that furthermore there is lesser differentiation between one advanced country's network preparedness from the next.

As can be seen from our survey; Sweden ranks in the first place, followed by Denmark and Switzerland tied for second, then Netherlands, followed by Norway and UK tied at 4th. And finally, Canada, Finland, Germany, USA and Korea are rounding out 7^{th} place.

2. Required Interface-Functioning Applications

One of the key indicators of successful e-Government is being able to provide user-friendly and secure electronic services.

The initial strategies for electronic service delivery were guided by the functions and areas of responsibility of government agencies and were focused on online presence with gradual enhancement in e-services. This later shifted to user-oriented strategies in service delivery in recent years, the most visible results being much more diverse, advanced and comprehensive electronic services through one- stop-service portals

The most recent trends show a number of governments using social networking tools (non-government owned) to enhance the delivery of e-Government services.

The results of the Waseda Survey have USA, Australia, Canada, Estonia at 1^{st},2^{nd}, 3^{rd} and 4^{th} places respectively. In 5^{th} place is Denmark and in 6^{th} place 5 countries are tied (Finland, France, Italy, Singapore, Spain). The ranking might suggest that again there is clumping of nations as e-Government applications become more common. However the countries with the very best e-Government application functions stand out and are able to differentiate themselves from the rest of the crowd.

3. Management Optimization

In this category, we attempt to gauge each government's computerization and ICT integration attainment, quantifying the government's efforts in these areas.

All governments understand that ICT is able to help them streamline their processes and optimize the productivity of their ministries and departments. However, not all governments are able to emphasize an integrated and uniformed effort. While infrastructure and local capacity is an issue, these are not the only reasons hindering governments from optimizing their productivity. Progress may be held back due to the fundamental structure of the whole government, wherein individual local governments are very strong comparatively speaking to the central government.

For the Management Optimization indicator, the clumping of country ranks is more obvious. At first place in this indicator are 3 countries, Germany, Singapore and Korea. At 4th place are 9 countries in a tie. These type of results indicate that management optimization is being implemented in many countries to a similar degree of quality. It also suggests that there is a need to further refine this indicator to make it more discerning of good management optimization practices as opposed to "best" management optimization practice.

4. National Portals

The national portal is usually the most basic entry point interface for citizenry and other users to access e-Government services. Most of the countries surveyed here have long established portals and have thus achieved a certain level of technical sophistication.

It has been some time since the launch of such web-based services such as Wikipedia, FaceBook, YouTube and so on. These e-services are based on the concept of the user as a producer of content, contacts, feedback and even applications; this is generally known as Web 2.0. What is important to note is that while these developments were initially used for "fun" by individuals and for profit by business, they are now being used increasingly in e-Government to enhance national portals to reach out to citizens.

For this indicator, USA, UK and Singapore are ranked 1st, 2nd and 3rd respectively, followed by Canada and Sweden tied at 4th, then Estonia and Japan tied at 6th followed, with Finland, South Africa and Germany bringing up the rear at 8th, 9th and 10th respectively

These results show the continued dominance of the USA national portal usa.gov, which was also number 1 for this indicator last year. The USA portal continues to lead the way in terms of design, navigation, and innovative and extensive use of web 2.0 technology. The usa.gov site has blogs, video sharing, photo sharing, pod casting, social networking sites, syndicated web feeds, social bookmarks, and microblogging to name some of the web 2.0 technologies used. It is therefore no surprise that USA tops this indicator again for 2010.

This year, there are 8 distinct rankings distributed among the top 10 countries for this indicator. Last year, there were only 3 distinct rankings shared among the top 10 countries for this indicator. The wider spread of results is probably due in part to the indicators and sub indicators being continually refined every year to detect subtle improvements as well as new technological developments.

5. Chief Information Officer (CIO) in Government

The post of Government CIO (Chief Information Officer) is seen by many governments to be one of the key factors in the success of an e-Government implementation. With this in mind, the Waseda Institute of e-Government has included a set of CIO indicators since the first e-government ranking in 2005.

As awareness of the important role of the CIO increases, most of our sample countries have eventually established CIOs (or equivalent titles) responsible for e-Government implementation. They also have programs for CIO development, bodies for supporting CIO and a framework for CIO functions. As a result, the differentiation regarding CIO duties between countries is decreasing.

In the Waseda survey, the CIO indicator measures firstly for the presence of CIOs in government; secondly, the extent of their mandate; thirdly, existence of organizations which foster CIO development, and finally, special development courses and the degree/quality to which they teach CIO related curricula.

The result of the 2010 Survey for this indicator show USA and Japan tied at number one, followed by Germany, Korea and Canada at 3rd, 4th and 5th. Thailand and Singapore are tied at 6th, Australia at 8th and Italy, Norway and UK tied at 9th.

It is interesting to note that of the 11 countries which top this indicator, 3 countries (USA, Japan, Australia and Thailand) are members of the International Academy of

CIO (IAC). This would seem to suggest that the work of the IAC in developing quality CIOs might be beginning to bear fruit.

6. e-Government Promotion

In this indicator we attempt to measure e-Government promotional activities undertaken by each country. E-government promotional activities include legislative frameworks, public forums, university and technical programs, academic journals and so on, which promote e-Government activity.

Canada has now taken first place for its e-Government promotional activities. Interestingly Japan, Korea and USA are all tied in 2rd place. Korea was in 3rd place last year while the USA has moved up from 5th place from the previous year and Turkey has ranked in 5th place.

7. e-Participation

The increasing use of web 2.0 technologies in e-Government applications, otherwise known as Government 2.0 is on the increase. For this indicator, Australia, UK, and the USA are joint leaders. This could be due to a combination of the availability of suitable infrastructure and the national character of these countries in which citizens are more individualistic in nature, more outspoken in their views, and more demanding of their individual rights from their respective governments.

Denmark and Germany are at 4th and 5th rank respectively, followed by the Philippines, New Zealand and Estonia, which are tied at 6th place, then finally there are 7 countries tied at 9th place; Singapore, Netherlands, Kazakhstan, Italy, Hong Kong, France and Canada.

Some Recommendations for Future Action

Overall across all indicators there has been improvement shown in e-Government in all areas, generally speaking. The global financial crisis of 2008 did somewhat slow e-Government programs somewhat. But despite the financial crisis, all countries surveyed have recognized the importance of e-Government and are all moving forward with e-Government plans.

Network infrastructure is generally improving. However, more work still needs to be done to get basic network infrastructural levels of developing countries to be on par with those of developed countries.

Mobile communication has been a boon in developing countries where for many reasons, use of land lines and land line expansion programs are too expensive. With this in mind, the Waseda Institute would like to see national portals and e-Government application services of more developing countries be more "cell phone friendly" in developing "Mobile Government"

In the coming 5 years or so, the majority of governments are expected to consolidate management of e-Government programs under CIOs at all levels of government, eventually culminating in super CIOs. This will be due to the increasing complexity of e-government programs and the pressing need to coordinate whole of country e-government applications so as to meet the needs of citizens and business.

There will also be a corresponding increase in established training programs to systematically develop CIOs as some leading countries already do.

Consequently, as more national e-Government programs coalesce around super CIOs, e-Government promotional activities will become more coordinated and streamlined.

Another issue which ICT decision makers need to plan and prepare for is Green IT. As evidence of global warming around the world takes place, citizens will increasingly hold their governments accountable in reducing their carbon footprint with regards to their use of ICT. Such technologies such as Cloud Computing and Virtualization are possible solutions for reducing energy usage as well as cutting costs.

From another perspective, but still on Green IT, there will also be interest in e-Government applications and services which enable and empower citizens and business to likewise reduce their carbon footprints. Government should begin preparing to provide such applications.

Finally, as the number of users connected to the internet increase each year, and as ICT hardware devices of all shapes and sizes become smarter and more connected, and with the continued rise in social networking software users, it is expected that the demand for e-participation services from citizens will inevitably increase. Governments will do well to start planning for this situation now.

Table 1 World e-Government Ranking by country 2010

Rank	Country (Economy)	Score
1	Singapore	83.2
2	United Kingdom	83
2	USA	83
4	Canada	79.7
5	Australia	79
6	Japan	76.8
7	Korea	76.5
8	Germany	76.4
9	Sweden	74.7
10	Taiwan	74.4
10	Italy	74.4
12	Finland	72.9
13	Denmark	72.5
14	Estonia	72.2
15	New Zealand	71.2
16	Hong Kong	70.8
17	Spain	70
18	Norway	68.1
19	France	68
20	Switzerland	67
21	Netherland	65
22	Belgium	64.2
23	Turkey	63.9
24	Malaysia	63.5
25	Thailand	63.2
26	Philippines	63
27	South Africa	58

28	India	57
29	Mexico	56.9
30	China	52
31	Tunisia	50
32	Indonesia	48.4
33	Kazakhstan	46.5
34	Vietnam	44
35	Brazil	43.3
36	Russia	42.6
37	Chile	42.4
38	Peru	41.5
39	Brunei	36.4
40	Fiji	35

Table 2: Dimensions and Indicators

Sectors	Items
1. Management Optimization	1-1 Optimization Awareness
	1-2 Integrated Enterprise Architecture
	1-3 Administrative and Budgetary Systems
2. Required Interface-Functioning Applications	2-1 Cyber Laws
	2-2 e-Tender systems
	2-3 e-Tax system
	2-4 e-Payment system
	2-5 e-Voting system
	2-6 Social Security Service
	2-7 Civil Registration

	2-8 Consular Services
	2-9 Labor Related Service
	2-10 e-Health system
3. National Portal	3-1 Navigation
	3-2 Interactivity
	3-3 Interface
	3-4 Technical
4. e-Government Promotion	4-1 Legislation
	4-2 Plans/strategies
	4-3 Policies
	4-4 Government Entities
	4-5 Private Entities
	4-6 Collaborations
	4-7 Funding
	4-8 Publications / Journals
	4-9 Training
	4-10 Conferences, Fora, Seminars
	4-11 Advertisements
	4-12 Government over-sight committee
	4-13 Private over-sight committee
	4-14 Think-tanks
5. Introduction to CIO	5-1 Presence
	5-2 Mandate
	5-3 Organizations
	5-4 Development Programs
6. Network	6-1 Internet Users
	6-2 Broadband Subscribers
	6-3 Mobile Cellular Subscribers
	6-4 PC Users
7. e-Participation	7-1 Information
	7-2 Mechanisms

	7-3 Consultation

Table 3.Historical trends of ranking for 2005-2010

2005		2006		2007		2008		2009		2010	
1	USA	1	USA	1	USA	1	USA	1	Singapore	1	Singapore
2	Canada	2	Canada	2	Singapore	2	Singapore	2	USA	2	UK
3	Singapore	3	Singapore	3	Canada	3	Canada	3	Sweden	2	USA
4	Finland	4	Japan	4	Japan	4	Korea	4	UK	4	Canada
5	Sweden	5	Korea	4	Korea	5	Japan	5	Japan	5	Australia
6	Australia	6	Germany	6	Australia	6	Hong Kong	5	Korea	6	Japan
7	Japan	7	Taiwan	7	Finland	7	Australia	7	Canada	7	Korea
8	Hong Kong	8	Australia	8	Taiwan	8	Finland	8	Taiwan	8	Germany
9	Malaysia	9	UK	9	UK	9	Sweden	9	Finland	9	Sweden
10	UK	10	Finland	10	Sweden	9	Taiwan	10	Germany, Italy	10	Taiwan, Italy

New Trends of e-Government development deduced from the Survey

This is the 6th edition of the annual "Waseda World e-Government Ranking" which has been carried out since 2005. Over the past six years, the Waseda e-Government research team has surveyed the developments and observed the trends in the e-government arena. Some of the more prominent or interesting trends deal not just with technological developments but also

"paradigms" of how ICT is to be viewed within the context of solving problems.

The following then are the top 9 trends which show great promise in impacting or are already impacting e-Government development:

1. Environment and Climate ICT (Green ICT)

In recent years, people's awareness of the environment through daily contact with air pollution and industrial waste has been increasing. These types of environmental issues have helped put environmental issues in the public mind. Some of the more popular environmental related issues are the so called Global Warming Effect and its potential impact on rising sea levels as well as causing rapid climate change beyond the means of flora and fauna to adjust. COP15 in Copenhagen in December 2009 was not successful, but environmentalists and scientists have been warning people for some time now about the amount of deforestation taking place, in addition to industrial activities, which increase carbon dioxide levels in the atmosphere, and thereby contributing to Global Warming.

A number of governments have responded and have already begun looking at ICT as a tool to address environmental problems, as well as looking at making ICT usage itself more environmentally friendly.

2. Government 2.0

There has been a very noticeable rise in the use of Web 2.0 technologies. The term Web 2.0 may seem to suggest a new version of the World Wide Web. However, it does not refer to an update to any technical specifications, but rather to cumulative changes in the ways software developers and end-users use the Web. Web 2.0 is commonly associated with web applications which facilitate interactive information sharing, interoperability, user-centered design and collaboration on the World Wide Web. The technologies and forms based on Web 2.0 for example include RSS (Really

Simple Syndication) and other syndicated web feeds as well such as blogs, wikis, photo–sharing, video–sharing, podcasts, social networking, social bookmarking, and SNS for e-government interactive communication tools.

3. Disaster Recovery & Business Continuity Planning (BCP)

The natural disasters of the 2006 Indian Ocean Tsunami, and the 2008 Sichuan Earthquake, have shown the importance of addressing disaster recovery issues way in advance. Terrorism is also a huge threat to many governments and which can negatively impact their ability to carry out business as usual. The ever increasing reliance on Government on ICT to provide services suggests that major technological failure/glitches/breakdowns as well as malicious electronic attacks can severely interfere with the smooth operation of government and delivery of services to citizens. Countries that have addressed disaster recovery issues beforehand tend to respond better when disaster strikes.

In the light of terrorism threats, natural disasters, and cyber security threats, Governments have been looking at and reviewing their disaster recovery and business continuity plans.

4. e-Inclusion

Despite the fact that ICT has become ubiquitous especially in developed countries in delivering e-government services, certain segments of society even in developed countries are unable to access the same e-government applications as everyone else. The reason behind this situation is usually due to a variety of different factors such as disability, gender, age, education, geography and income.

To address the above situation, e-Inclusion policies seek to use ICT to reach out and enable disadvantaged and technology-excluded communities; to close the gap and include divided parts of a society.

The general trend for e-Inclusion e-government deployment follows the course of public sector modernization and efficiency, better business transactions, and ubiquitous citizen welfare. Typically, emphasis on e-inclusion policies comes after certain stages of e-government and infrastructure implementation. Hence, developments for technology-excluded communities are subject to the priorities of government agendas.

5. Digital Divide

The importance of technology to economic development has long been recognized. This may be especially true of Information and Communication Technologies (ICTs) which cut across all economic activities and have a wide range of applications. They offer the potential for increased availability of information, new means of communication, re-organization of productive processes and improved efficiency in many different economic activities.

Despite the potential benefits that can be offered by ICTs, developing countries face significant obstacles to ICT connectivity. The underlying causes of low levels of ICT penetration in developing countries includes a lack of awareness of what these technologies can offer; insufficient telecommunications infrastructure and Internet connectivity; expensive ICT access; absence of adequate legal and regulatory frameworks; shortage of requisite human capacity; failure to develop local language content; and a lack of entrepreneurship and business culture open to change, transparency, and social equality.

These problems are reflected in highly uneven growth in the use of ICTs across countries. The so-called digital divide between the information-rich and the information-poor is of increasing concern. A major challenge for policy-makers at the national and international level, therefore, lies in addressing the issue of the digital divide: between rich and poor countries, rural and urban areas, men and women, skilled and unskilled citizens, high income and low income ,and large and small enterprises.

Trends in the digital divide have been analyzed. Levels of inequality in access to ICTs remain high still, around twice average levels of income inequality. Trends in the digital divide show sharply contrasting trends according to the type of technology. The distributions of Internet hosts and personal computers remain highly uneven. Mainline telephony shows small, but steady reductions in inequality. However, the distributions of mobile telephony and Internet users across different countries suggest strong gains in access to mobiles and the Internet and an expansion of ICT access in developing countries in particular. Mobile telephony and Internet usage suggest that the digital divide measured by inequality in these distributions may be reducing.

6. One Stop Service

One-stop service by e-Government has emerged worldwide as a trend in offering electronic administrative service packages that meet the needs of citizens and business transactions, with a promise to enhance service accessibility and decrease service delivery delays and costs. With the shift to user-oriented strategies to service delivery, many countries are putting their efforts to offer much more diverse, advanced and comprehensive electronic services through one-stop portals.

In the USA and other major developed nations, one-stop service delivery through electronic government is among the key issues in its E-government Strategy (Office and Management and Budget, 2002). According to the strategy, strategic vision of e-government is guided by three principles: Citizen-centered, not bureaucracy-centered; Results-oriented; and Market-based, actively promoting innovation.

E-government is critical for meeting citizen and business expectations for interaction with government. It will enable agencies to align efforts as needed to significantly improve service and reduce operating costs. When e-government initiatives deploy effectively, conducting business with the government is easier, privacy is protected and security provided.

7. Central Government and Local Government Linkages

The strong co-ordination and collaboration between central and local governments is nowadays a key factor for delivery of public services. In e-government implementation, coordination and collaboration within and among agencies and government levels are essential to ensure interoperability, to avoid duplication, to ensure coherent action in a range of crucial areas such as security and privacy, and to provide a framework and capacity for seamless services. Thus, many countries now are refocusing attention on how to collaborate more effectively across agencies and different levels of governments.

Moreover, other trends point at new public service production and delivery models, based on an architecture, which distinguishes the front office from the back office. This new model provides an opportunity for integrating the back office and developing high quality public services in the front office. In the back office, vertical connection (linkage between central and local governments) is one of the most important conditions that make "connected government" - the most sophisticated level of online e-government initiatives. Many governments must overcome the lack of talented ICT manpower (such as CIOs) by training the staff of their own local government.

8. Cloud Computing

Cloud computing promises real costs savings and agility to customers. Through cloud computing, e-government can rapidly deploy applications where the underlying technology components can expand and contract with the natural ebb and flow of the business life cycle. Traditionally, once an application was deployed it was bound to a particular infrastructure, until the infrastructure was upgraded. The result was low efficiency, utilization, and flexibility. Cloud enablers, such as virtualization and grid computing, allow applications to be dynamically deployed onto the most suitable infrastructure

at run time. This elastic aspect of cloud computing allows applications to scale and grow without needing traditional 'fork-lift' upgrades.

ICT departments and infrastructure providers are under increasing pressure to provide computing infrastructure at the lowest possible cost. In order to do this, the concepts of resource pooling, virtualization, dynamic provisioning, utility and commodity computing must be leveraged to create a public or private cloud that meets these needs. World-class data centers are now being formed that can provide this Infrastructure-as-a-Service (IaaS) in a very efficient manner.

9. e-Participation

Many countries have been implementing e-government for some time now. In addition, the numbers of people gaining access to a mobile device or connectivity to the internet continues to increase. Furthermore, the advent of Web 2.0 technologies mean that new applications can be developed making it ever more easier for people to access government information, provide feedback, and in effect be more involved in the political process of their countries.

Governments continue to refine and improve their online presence and their interaction with citizens since citizen-centric is the new trend as part of the process of democracy and transparency. The quality of content of information, the diversity of information, the ease of accessibility of such information on government portals continues to grow as well. The mechanisms or applications for disseminating such information by citizen initiative are growing as well with everything from PCs, to mobile phones, to PDAs being able to access government information.

A few countries have implemented e-voting on a restricted basis. Use of online polling, online surveys and blogs by government websites are also on the rise. All in all, there is a general upward trend of improving e-participation.