The 2012 Waseda University International e-Government Ranking released

I. WASEDA University International e-Government ranking

The Waseda University Institute of e-Government is pleased to release the ***2012 Waseda University International e-Government Ranking***. This is the eighth consecutive year of monitoring and surveying the development of e-Government worldwide (55 countries) by the research team of Prof. Dr.Toshio Obi, Director of Institute of e-Government.

The main indicators and their weights are still kept in order to maintain backward compatibility. The final score in Waseda University International e-Government ranking 2012 is shown in the table below:

No	Final Rankings	Score
1	**Singapore**	**93.8**
1	**USA**	**93.8**
3	**Korea**	**91.5**
4	**Finland**	**88.7**
5	**Denmark**	**86.5**
6	**Sweden**	**84.1**
7	**Australia**	**82.8**
8	**Japan**	**81.5**
9	**UK**	**81.0**
10	**Taiwan**	**80.1**
10	**Canada**	**80.1**
12	Germany	79.2
13	New Zealand	76.7
14	Belgium	75.2
15	Switzerland	73.5
15	Norway	73.5
17	France	71.9
18	Italy	71.3
19	Estonia	70.8

No	Final Rankings	Score
20	Netherlands	69.0
21	Portugal	68.8
22	Spain	67.5
23	Thailand	67.1
23	Malaysia	67.1
25	Mexico	66.3
26	Israel	65.3
27	Hong Kong	63.2
28	Czech Republic	62.1
29	China	61.5
30	Turkey	61.0
31	Philippines	58.2
32	South Africa	57.5
33	Indonesia	56.2
34	Brazil	55.6
35	India	54.7
36	Macau	54.4
37	Russia	53.4
38	Vietnam	52.1

No	Final Rankings	Score
38	Brunei	52.1
40	UAE	48.3
41	Chile	48.1
42	Pakistan	47.5
43	Venezuela	47.0
44	Peru	46.9
45	Romania	46.2
46	Argentina	45.5
47	Kazakhstan	44.5
48	Tunisia	44.1
49	Fiji	43.6
50	Egypt	42.1
51	Cambodia	40.4
52	Iran	39.0
53	Nigeria	38.4
54	Uzbekistan	37.1
55	Georgia	36.8

Table 1: Waseda University Institute of e-Government Rankings 2012

Singapore and USA in the top of ranking 2012

This year Singapore continued the fourth consecutive year in the first position, sharing the position with USA, and followed by Korea and Finland in the third and fourth position. Denmark jumped to the fifth position from the tenth position last year. Standing at the sixth is Sweden which slipped down three steps from 3rd in 2011. Canada also dropped to the tenth place. This year, Australia and Chinese Taipei (Taiwan) returned to the top ten, standing at seventh and tenth place. Japan fell down two steps to the eighth which is the lowest position for Japan in the last eight years in the Waseda University Institute of e-Government ranking.

Compared with last year, UK climbed one step and stood at the ninth.

According to the Waseda Survey, the top 10 countries (economy) which have the most advanced development in e-Government are: ***(1) Singapore, (1) USA, (3) Korea, (4) Finland, (5) Denmark, (6) Sweden, (7) Australia, (8) Japan, (9) UK, (10) Taiwan (Chinese Taipei).***

The 2012 Waseda Ranking surveyed the e-Government development of 55 countries. Five new countries which were added to the survey for the first time, are ***Argentina, Cambodia, Nigeria, UAE and Venezuela.***

The Institute of e-Government at Waseda University 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 the development of e-Government strategies of APEC member economies since 2004 as part of the activities of the e-APEC initiative.

2005		2006		2007		2008		2009		2010		2011		2012	
1	**USA**	**1**	**USA**	**1**	**USA**	**1**	**USA**	**1**	**Singapore**	**1**	**Singapore**	**1**	**Singapore**	**1**	**Singapore**
2	**Canada**	**2**	**Canada**	**2**	**Singapore**	**2**	**Singapore**	**2**	**USA**	**2**	**UK**	**2**	**USA**	**1**	**USA**
3	Singapore	3	Singapore	3	Canada	3	Canada	3	Sweden	2	USA	3	Sweden	3	Korea
4	Finland	4	Japan	4	Japan	4	Korea	4	UK	4	Canada	4	Korea	4	Finland
5	Sweden	5	Korea	4	Korea	5	Japan	5	Japan	5	Australia	5	Finland	5	Denmark
6	Australia	6	Germany	6	Australia	6	Hong Kong	5	Korea	6	Japan	6	Japan	6	Sweden
7	Japan	7	Taiwan	7	Finland	7	Australia	7	Canada	7	Korea	7	Canada	7	Australia
8	Hong Kong	8	Australia	8	Taiwan	8	Finland	8	Taiwan	8	Germany	8	Estonia	8	Japan
9	Malaysia	9	UK	9	UK	9	Sweden	9	Finland	9	Sweden	9	Belgium	9	UK
10	UK	10	Finland	10	Sweden	9	Taiwan	10	Germany Italy	10	Taiwan, Italy	10	UK Denmark	10	Taiwan Canada

Table 2: Historical trends of ranking for 2005-2012

II. Main Trends of e-Government by Indicators

There are seven main indicators used to rank the e-Government development of countries in the world. 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 30 sub-indicators or dimensions.

Indicators	Dimensions
1.Network Preparedness/ Infrastructure	1-1 Internet Users 1-2 Broadband Subscribers 1-3 Mobile Cellular Subscribers 1-4 PC Users
2. Management Optimization/ Efficiency	2-1 Optimization Awareness 2-2 Integrated Enterprise Architecture 2-3 Administrative and Budgetary Systems
3. Required Interface - Functioning Applications	3-1 Cyber Laws 3-2 e-Tender systems 3-3 e-Tax system 3-4 e-Payment system 3-5 e-Voting system 3-6 Social Security Service 3-7 Civil Registration 3-8 e-Health system
4. National Portal – Homepage	4-1 Navigation 4-2 Interactivity 4-3 Interface 4-4 Technical
5. Government CIO	5-1 GCIO Presence 5-2 GCIO Mandate 5-3 CIO Organizations 5-4 CIO Development Programs
6. e-Government Promotion	6-1 Legal Mechanism 6-2 Enabling Mechanism 6-3 Support Mechanism 6-4 Assessment Mechanism
7. e-Participation/ Digital Inclusion	7-1 e-Information and Mechanisms 7-2 Consultation 7-3 Decision-Making

Table 3: The main Indicators and Dimensions

1. Network Preparedness

Regarding e-Government development issues, Network preparedness is the basic infrastructural foundation for effective e-Government implementation. Infrastructure has long been available in many countries and became an important tool to connect the citizens and enterprises to government. In our survey, the “Network preparedness” indicator comprised 10% of the total score. The sub-indicators of this indicator were Internet Users, Broadband

Subscribers, PC Users and Mobile Cellular Subscribers.

The Internet Users indicator shows that the availability of Internet access for citizens' results in a major opportunity to apply e-government services. Broadband penetration was one of the key market indicators, which indicated the accessibility to the designated online services in high speeds. Broadband access will stimulate citizens to use such services and encourage the development of new services. The PC was the major access platform for many e-Government services; therefore the PC User was also the main sub-indicator to the successful development of e-Government.

Top Ranking for Network Preparedness

No	Network Preparedness
1	**Singapore**
2	**USA**
3	**Korea**
3	**Denmark**
5	**Sweden**
6	Switzerland
7	UK
7	Germany
9	Finland
10	Taiwan
10	France
12	Estonia

In the top of this indicator were Singapore and USA, with Korea and Denmark sharing at the third place, followed by other Nordic countries i.e. Sweden (5th) and Finland (9th) which had the strength of ICT infrastructure.

Compared with the last year, Singapore and USA had a major change in this indicator. Korea's position was stable in this indicator. This year, Japan, Norway and Netherlands dropped out of the top countries. These countries were replaced by Taiwan, France and Estonia which were also the first time in the top of this indicator.

2. Required Interface

In the e-Government ranking of Waseda University, the "required interface" indicator refers to the laws of cyber security and e-Transaction as well as e-Services that government provides to citizens and enterprises. E-Services such as e-Tender system, e-Tax systems, e-Voting, e-Payment system, Social Security services (including the payment of pensions, social benefits and insurance), Civil Registration services (such as issuing birth and marriage certificates) and e-Health systems. This year, we removed two types of services: Consular Services and Labor Related Services since they were not suitable for the new trends of e-Government development. According to our survey, the "required interface" indicator had an important role in implementing the e-Government program; therefore it accounted for 20% of total score in the final ranking.

The most recent trends showed that a number of governments in developing countries shifted to user-oriented strategies and developed one-stop-service portals. They also planned to gradually expand and enhance service delivery.

Top Ranking for Require Interface/Application

No	Required Interface
1	**Singapore**
1	**USA**
1	**Korea**
4	**Sweden**
4	**UK**
4	Denmark
7	Germany
8	New Zealand
9	France
9	Japan
11	Taiwan
11	Finland
13	Malaysia

Similar to the "Network Preparedness" indicator, Singapore, USA and Korea share the first position also in the "required interface" indicator. These countries are followed by Sweden, UK and Denmark sharing the fourth position. The top countries in the final ranking are usually also the top in this indicator and this year was not exceptional in that regard.

Some countries like Australia, Canada, and Estonia were not in the top in this indicator as they were last year. On the other hand, Germany, Taiwan, Finland and Malaysia were the first time in the top of ranking.

Malaysia was the only country from Southeast Asia in the top of this indicator and tied at 13th place.

3. Management Optimization

The "Management Optimization" indicator reflects the usage of ICT for improving internal processes and measuring the government's computerization efforts and the level of ICT integration. Standardization of service procedures and information systems in order to achieve internal effectiveness and efficiency of governmental operations can be constrained by many reasons. While infrastructure and local capacity are an issue for developing countries and countries with a large geographical area, the progress in developed countries may be held back due to the fundamental structure of the government, wherein individual local governments are comparatively stronger than the central government.

In our survey, because of its importance this indicator made up 20% of the total score. This indicator referred to the e-Government strategies at national and sub-national level, which encompassed the entire national government and well-defined targets. Moreover, the national e-Government strategy should clearly state an agency or group of agencies which supervise/coordinate/consult/report on the e-Government strategy implementation. This indicator also referred to Meta-data that is used by Government agencies.

Top Ranking for Management Optimization

No	Management Optimization
1	**USA**
2	**Singapore**
2	**Canada**
4	**Australia**
5	**Korea**
5	UK
5	France
8	Finland
8	Denmark
10	Japan
10	Belgium
12	Sweden

In this indicator, all the countries in the top ten received the excellent score. The "management optimization" along with "network preparedness" constituted foundations for the effective implementation of e-Government; it was expected that the countries with mature e-Government had well established interoperability frameworks and administrative systems. Even though the indicator was able to separate good management optimization practice from the "best" management optimization practice, the number of the countries entering the good cluster has been expanding. Thus, the indicator requires a further refinement in order to provide better distinction among the countries.

4. National Portal

The national portal was the basic interface for stakeholders to contact government electronically. In this indicator, the Waseda University ranking selected four factors affecting the portal significantly; they were Navigation, Interactivity, Interface, and Technical.

Eighteen parameters were adopted to evaluate the Interface of a national portal. As for Navigation, fourteen parameters were employed to test the basic functions of a portal. Interactivity was measured with fifteen parameters. Twelve parameters were adopted for Technical indicator to test the innovativeness of a portal.

Top Ranking for National Portal

No	National Portal
1	**Singapore**
2	**USA**
3	**Finland**
3	**Sweden**
5	**Korea**
5	UK
7	Japan
7	Denmark
9	Australia
9	Canada
11	New Zealand
12	Estonia
13	Hong Kong

Last year, USA remained the first position in three consecutive years, but this year Singapore replaced USA in the top. Following were Finland and Sweden at the same position, the third. Korea and UK stood at the fifth, while Japan and Denmark in the seventh of the ranking, followed by Australia and Canada at the same place, ninth.

Compared with last year, some countries such as New Zealand and Hong Kong entered in the top for the first time. Estonia stepped down to the 12th place.

Most of National Portals in the top ten countries have been using Web 2.0 technology and combining SNS features as well as being user-friendly. All the portals had easy-to-use electronic services and services for finding information.

5. Government Chief Information Officer (CIO)

The Government CIO was a very important indicator in Waseda e-Government ranking. The CIO was expected to align management strategy with ICT investment in order to achieve a balance between the business strategy, organizational reform, and management reform; hence, the Government CIO was considered by many governments to be one of the key factors in the success of e-Government implementation.

In the Waseda survey, we split this indicator into four elements: firstly the presence of CIOs in government; secondly, the extent of their mandate; thirdly, the existence of organizations which fostered CIO development, and finally, the special development courses and the degree/quality which taught CIO related curricula.

Top Ranking for Government

CIO

No	CIO
1	**USA**
1	**Korea**
3	**Singapore**
4	**Sweden**
5	**Japan**
6	Finland
6	Germany
8	UK
8	New Zealand
10	Australia
11	Thailand
12	Indonesia

In the top of ranking was USA, Korea as 1st and Singapore in the 3rd. USA and Korea had the full score, which means that these countries had many CIO policies and strategies and they issued laws and legislations on CIO in order to develop e-Government.

Singapore fell from the second place last year to the third this year, followed by Sweden at fourth. Compared to last year, Sweden had a big change in this indicator; the country climbed four steps. Japan was down to the fifth place.

For the first time, Thailand and Indonesia rose to the high rank group of this indicator among the only Southeast Asian countries to do so.

6. E-Government Promotion

In the Waseda University International e-Government ranking, the e-Government promotion included activities involved in supporting the implementation of e-Government such as legal frameworks and mechanisms (law, legislations, plans, policies and strategies). In other words, these activities are carried out by the government in order to support the development of e-Services as well as e-Government.

The "e-Government Promotion" indicator was evaluated by using a comprehensive list of parameters, which judged the degree of development in each section and the current status of each government's e-Government promotion development.

Top Ranking for e-Government Promotion

No	e-Government promotion
1	**Sweden**
2	**Singapore**
2	**Korea**
4	**USA**
4	**Japan**
6	Taiwan
7	Australia
8	Finland
9	Denmark
10	Canada
11	Portugal
12	Italy

Sweden got a nearly full score and tied at first place. Singapore and Korea followed closely and tied at second.

The USA and Japan were in the same place and stood at fourth in the ranking, Taiwan and Australia ranked at sixth and seventh respectively. Standing at eighth and ninth were Finland and Denmark, followed by Canada, Portugal and Italy.

Last year, Taiwan and Denmark were not in the top but this year Taiwan jumped into the top and became a country that has very good e-Government promotion.

7. E-Participation

E-Participation was a term referring to ICT-supported participation in government and governance processes. Processes may concern administration, service delivery, decision making and policy making.

This is the second year we introduced this indicator. The Waseda ranking adopted the UN definition and measured the presence of e-participation through three sub-indicators, i.e. e-Information, e-Consultation, and e-Decision making that were in turn divided to many parameters upon which e-Participation were measured.

Top Ranking for e-Participation

No	e-Participation
1	**Australia**
2	**Sweden**
3	**Finland**
3	**USA**
5	**Singapore**
5	Denmark
7	Germany
7	New Zealand
9	Japan
10	Korea
10	Canada
12	UK

In this indicator, Australia tied at first place with a full score, followed by Sweden and Finland in the second and third place. USA jumped up four steps and tied at third, which is the same place as Finland's. Singapore and Denmark were at fifth place while both Germany and New Zealand tied at the seventh for the first time. Japan, Korea and Canada simultaneously dropped and tied at ninth and tenth.

All countries in the top ten were developed countries which means that the application of ICT in the management and leadership of government have been implemented very effectively in developed countries

III. New Trends by scoring groupings 2012

This latest edition of the Waseda Ranking surveyed the e-Government development of 55 countries (economies) altogether. New to the 2012 ranking were 5 countries. Our comparison were categorized in four groups: the higher scoring countries was group 1, group 2 was the middle scoring countries, group 3 was lower scoring countries, and the last one was a new group that comprised the new countries.

The upper scoring group

The biggest change this year occurred in the first place. After three consecutive years leading in the first place, Singapore shared with USA. Last year, Estonia and Belgium were in the top ten, but this year they dropped out of top ten and were replaced by Australia and Taiwan.

In the upper countries, there were many changes in policies and strategies for development of e-Government. They also received more scores in some indicators than the previous years. This year was also the first year when some countries in top ten started implementing a new five year strategy or a new master plan to develop e-Government.

The middle scoring group

Most countries in this group were developing .Both Thailand and Malaysia have been leading in Southeast Asia and ranked at 23st followed by Philippines, Indonesia, Brunei and Vietnam. One country from South America that has improved its ranking was Brazil. Some countries like Russia and Czech Republic also had a good position in the ranking this year.

The lower scoring group

This group included countries such as Kazakhstan, Georgia, Pakistan, Iran, and Uzbekistan which were already ranked in the past and also some new countries which were added to the survey for the first time. There were few substantial changes on e-Government promotion activity in any countries in this group, and that could be the reason why they got lower scores

The new entry group

Compared to last year, we expanded the list with five countries which were Argentina, Cambodia, Nigeria, UAE and Venezuela. In this group only UAE had a very good position in our ranking. This is the first time in the survey, but UAE stood in the middle of the ranking and tied at 26th place. According to our survey, they had the national e-Government strategy which clearly states an agency or group of agencies which supervise/coordinate the e-Government strategy implementation and well-defined targets as well as a time-line for execution of targets.

Venezuela stood at the 43th place in the ranking, higher than Peru, the other countries from South America. Argentina tied at the 46th place and fell to the bottom in the group of South America countries. Cambodia and Nigeria were also ranked the first time in our survey. They did not have a dynamic strategy or master plan to develop e-Government or Government CIO.

IV. Ranking by APEC, OECD and population size

1. Ranking for the economies in APEC group

APEC Member		
No	Countries name	Score
1	Singapore	93.8
1	USA	93.8
3	Korea	91.5
4	Australia	82.8
5	Japan	81.5
6	Canada	80.1
6	Chinese Taipei (Taiwan)	80.1

APEC Member		
No	Countries name	Score
8	New Zealand	76.7
9	Thailand	67.1
9	Malaysia	67.1
11	Mexico	66.3
12	Hong Kong	63.2
13	China	61.5
14	Philippines	58.2

APEC Member		
No	Countries name	Score
15	Indonesia	56.2
16	Russia	53.4
17	Brunei	52.1
17	Vietnam	52.1
19	Chile	48.1
20	Peru	46.9

Table 4: APEC e-Government ranking

This year was the first time we divided the countries based on the international organization group (i.e. APEC and OECD group) as well as their population size. In APEC, there are twenty-one country members. The Waseca University e-Government ranking has covered twenty economies in APEC, and only Papua New Guinea was not included in our survey this time.

The three first places in the ranking were taken by the leading economies in APEC. Singapore and USA shared the first place and following them was Korea. Japan tied at the

fifth place behind Australia. Most economies from Southeast Asia were in the middle of this group ranking. In particular, Malaysia and Thailand shared the ninth place, followed by Hong Kong and Mexico at eleventh and twelfth place. China and Russia were in the group of biggest economies. However, they need to invest more and more in ICT infrastructure as well as to have a master plan in order to develop their e-Government.

The final ranking in this APEC group is displayed in the table 4 above

2. Ranking for the countries in OECD group

OECD Member		
No	Countries name	Score
1	USA	93.8
2	Korea	91.5
3	Finland	88.7
4	Denmark	86.5
5	Sweden	84.1
6	Australia	82.8
7	Japan	81.5
8	UK	81
9	Canada	80.1

OECD Member		
No	Countries name	Score
10	Germany	79.2
11	New Zealand	76.7
12	Belgium	75.2
13	Norway	73.5
13	Switzerland	73.5
15	France	71.9
16	Italy	71.3
17	Estonia	70.8
18	Netherland	69

OECD Member		
No	Countries name	Score
19	Portugal	68.8
20	Spain	67.5
21	Mexico	66.3
22	Israel	65.3
23	Czech Republic	62.1
24	Turkey	61
25	Chile	48.1

Table 5: OECD e-Government Ranking

For the OECD countries group, the Waseda University e-Government ranking has covered 25 over 34 country members. Most of the countries, which were not in the list this year, come from Europe. Most OECD members are high-income countries with a "very high" Human Development Index (HDI) and are regarded as developed countries. In e-Government they had good positions in the latest Waseda University e-Government ranking as well as in other rankings.

USA was the country leading in the latest Waseda University e-Government ranking and as a result, it was also the country in the top of OECD in terms of e-Government development. Korea tied at the second and it had the highest position of Asian countries in the ranking. In the third, the fourth and the fifth were the Nordic countries which were Finland, Denmark and Sweden, respectively. These countries had the best ICT network infrastructure. Standing at the sixth was Australia. Japan and Korea were the only countries in Asia in the top ten of this group. Japan stood at the seventh place and also had a high position in many sub-indicators in Waseda University e-Government ranking.

Spain and Portugal, two countries which are situated in the Iberian Peninsula did not have a good position in this ranking. They stood at the 19th and 20th places. At the lower position of this ranking group were Czech Republic Turkey and Chile. Chile was the developing country in the OECD list which got a low score in all indicators and sub-indicators. Chile also tied near the bottom of final ranking.

3. Ranking for "over 50 million population" countries

Big population countries			
No	**Countries name**	**Population (million)**	**Score**
1	USA	313.01	**93.8**
2	Japan	127.73	**81.5**
3	UK	62.3	**81.0**
4	Germany	81.79	**79.2**
5	France	65.35	**71.9**
6	Italy	60.75	**71.3**
7	Thailand	65.92	**67.1**
8	Mexico	112.33	**66.3**
9	China	1339.72	**61.5**
10	Turkey	74.72	**61.0**
11	Philippines	91.01	**58.2**

Big population countries			
No	**Countries name**	**Population (million)**	**Score**
12	South Africa	50.58	**57.5**
13	Indonesia	237.64	**56.2**
14	Brazil	192.37	**55.6**
15	India	1210.19	**54.7**
16	Russia	143.03	**53.4**
17	Vietnam	87.84	**52.1**
18	Pakistan	178.69	**47.5**
19	Egypt	81.54	**42.1**
20	Iran	76.09	**39.0**
21	Nigeria	162.47	**38.4**

Table 6: e-Government ranking for big population countries

In the Waseda University e-Government ranking, we chose twenty-one biggest countries which have over fifty million people. Most countries in this group are developing countries (15/21), and some countries are newly industrialized countries (i.e. Brazil, China, India, Mexico, Philippines, South Africa, Thailand and Turkey). The score gap between the top of developed countries and the top of developing countries was high, about 25 points in the score which means that there was a big gap between developed countries and developing countries in terms of e-Government applications on Government activities.

The countries with large populations had difficulties in implementing e-Government and distributing e-Services to nation-wide all citizens. This is true in the case of China, India, Mexico, Indonesia, Brazil, Russia, Nigeria and also Vietnam.

Six countries in the top of this ranking were developed countries. Despite high population and land area they were still the leading countries in the implementation of e-Government development along with the development of local Government (province, region, department, county, prefecture, district, city, town, borough, municipality and village) and Central Government.

Egypt, Iran and Nigeria were located at the bottom of ranking and had the same place in the final ranking. Most of these countries had few dynamic policy and strategy for development of e-Government, in addition to the population pressure and a lot of other problems needed to be solved for economic development. Consequently, the promotion of e-Government concept is still an open question for these countries.

4. Ranking for "less than 10 million population" countries

Small population countries			
No	**Countries name**	**Population (million)**	**Score**
1	Singapore	5.183	**93.8**
2	Finland	5.404	**88.7**
3	Denmark	5.579	**86.5**
4	Sweden	9.476	**84.1**
5	New Zealand	4.438	**76.7**
6	Switzerland	7.870	**73.5**
6	Norway	4.993	**73.5**

Small population countries			
No	**Countries name**	**Population (million)**	**Score**
8	Estonia	1.340	**70.8**
9	Israel	7,836	**65.3**
10	Hong Kong	7.108	**63.2**
11	Macau	0.560	**54.4**
12	Brunei	0.422	**52.1**
13	UAE	8.264	**48.3**
14	Fiji	0.868	**43.6**

Table 7: e-Government ranking for small population countries

In this group, we selected 14 countries in which the population is less than ten million people. Almost all countries in the list were developed countries (economies) except UAE and Fiji . Most of the countries which have small population are Nordic countries. They had a high score in terms of e-Government in the ranking. Therefore, it can be said that in the countries having the small population the deployment of e-Government implementation and development could be easier and more effective.

For example, Singapore has implemented e-Government very successful and effectively. This is a special case and the best practice for other countries to learn and apply. Singapore, a city-state, has no local government divisions. In order to monitor and manage its e-government development better, the Singapore government chose the centralized approach. The government also owns all the central ICT infrastructure, services, and policies in the public service. Thanks to the centralized infrastructure, all e-Services provided by the government can utilize the same security, electronic payment, and data exchange mechanisms. Therefore many countries with small populations can apply this model to implement e-Government rapidly.

V. New Trends of e-Government development found from the Survey

1. Cloud Computing

Cloud computing is the delivery of computing as a service rather than a product, whereby shared resources, software, and information are provided to computers and other devices as a metered service over a network. Computing clouds provide computation, software, data access, and storage resources without requiring cloud users to know the location and other details of the computing infrastructure.

E-Governance with cloud computing offers integration management with automated problem resolution, manages security end to end, and helps budgeting based on actual usage of data. At the global level, cloud architectures can help government reduce duplicate effort and increase effective utilization of resources. This in turn helps the government to reduce pollution and manage waste effectively. 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.

2. Social Media

Andreas Kaplan and Michael Haenlein define social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content." Social media has substantially changed the way that organizations, communities, and individuals communicate. Social media provides a powerful platform to help government communicate directly with constituents and be more visible on the Web.

3. Big Data

Big data is data that exceeds the processing capacity of conventional database systems. The data is too big, moves too fast, or does not fit the structures of database architectures. In information technology, big data consists of datasets that grow so large that they become awkward to work with using on-hand database management tools. Big data is a term applied to data sets whose size is beyond the ability of commonly used software tools to capture, manage, and process within a tolerable elapsed time. Big data sizes are a constantly moving target currently ranging from a few dozen terabytes to many petabytes of data in a single data set.

There are three trends related to this growth in big data – not only contributing to the growth but also providing part of the solution to managing such large datasets in a meaningful way. These trends are:

(1) Mobile: last year smartphones and tablets changed the way that data is generated and collected; via these handsets customers can access real-time data anywhere and anytime,

(2) Social Media, and

(3) The Cloud: this gives stakeholder up-to-date information faster, allowing quicker decision making and a competitive edge and also reduce their data processing times by deploying additional server capacity at busy times.

Government activities can leverage these trends to offer the best services to people through different ways and with a shared database.

4. BCP for disaster management

A Business Continuity Plan / Disaster Recovery Plan aims to ensure that an organization's critical business functions can continue to be executed in the event of a major disruption or disaster. The organization is more resilient, survives the event and is able to minimize the impacts/damages on its business operations.

In the aftermath of terrorism and recent natural disasters such as the earthquake in Japan on 11th March, 2011 and flooding in Bangkok in October, 2011, the government and businesses have recognized more than ever the need of preparedness for disasters. Companies

are striving to meet the demand for continuous services. With the growth of e-Commerce, e-Government and other factors, system availability expectations are driven toward 24x365. To recover all the activities and databases, it is necessary to prepare BCP for disaster management.

5. Digital Inclusion

Digital inclusion, like accessibility, is a term that is rarely explicitly defined. Digital Inclusion is concerned with addressing inequalities, where those unable to access technologies are disadvantaged and marginalized in society and therefore digitally excluded. The term is related to activities such as Access and Digital Inclusion, Use and Digital Inclusion, Participation and Digital Inclusion, and Empowerment and Digital Inclusion.

Regarding the e-Government concept, Digital Inclusion means both inclusive ICT and the use of ICT to achieve wider inclusion objectives. It focuses on the participation of all individuals and communities in all aspects of the information society.

6. Cyber Security

Cyber-attacks are seriously concerned with e-Government security in any countries. Cyber security can simply be defined as security measures being applied to computers to provide a desired level of protection. E-Government operations are increasing with citizen demand for timely and cost effective services. Security associated with individual systems is similar to many e-Commerce solutions. The span of control of e-Government and its impact across a community defines a system that is more than a sum of individual systems. E-Government faces the same challenges that faced e-Business in private sector.

7. Mobile government

Mobile government, sometimes referred to as m-Government, is the extension of e-Government to mobile platforms, as well as the strategic use of government services and applications which are only possible using cellular/mobile telephones, laptop computers, personal digital assistants (PDAs) and wireless internet infrastructure.

Mobility is no longer a technological revolution. It is more about how businesses and governments can provide a better social infrastructure through mobile applications and services. Adoption of mobility, therefore, is an indispensable asset for the public sector in meeting the demands of citizens. While e-Government was an important step taken by many governments, provision of services through mobile technologies is now becoming compulsory. M-Government emerges as the next big wave in the process of ICT use in the public sector even if supplemented activities to e-Government. Mobile Government is primarily concerned with the study of these major social and technological changes in the public sector

8. ICT applications for Ageing Society

One of the problems that many countries are facing today is the aging population i.e. increase in the proportion of older people (Japan is a typical example) which requires bigger

funds for social welfare and the support of government. In this regard, ICT can be applied to solve the issues caused by a rapidly ageing population even in the global context. For instance, ICT can help in providing new and flexible learning opportunities, which connect senior people to each other and to younger generations.

Through our past 8-year research, we found that the ICT application for Ageing Society is becoming extremely important. Furthermore, it is an opportunity which must be taken by government in order to have a general solution to fully apply ICT in this issue.

VI. New trends of e-Government activities in the world

1. EU adopts e-Government action plan 2011-2015

In 2011 the European Commission issued the action plan for citizens and businesses in 2011 – 2015. The action plan focuses on improving their movement in the internal market of the 21st Century. It also contributes to knowledge-based, sustainable and inclusive economy for the European Union as set forth in the Europe 2020 strategy. The main mission is to optimize the conditions for development of cross-border e-Government services. This includes the development of an environment which promotes interoperability of systems and key enablers. The major issues have been discussed in this plan:

Pre-conditions for developing e-Government: set up security infrastructure such as revision of the e-Signature Directive for cross-border e-Authorization systems and apply emerging technology and paradigms in the public sector.

Efficiency and Effectiveness of Government Administrations: contain reduction of administrative burdens and introduce an e-Government agenda

User Empowerment: the key characteristic of a new generation of e-Government services.

Internal Markets: e-Government should support the further construction of the digital single market for delivery of cross-border services and the transmission of mobility for citizens involved in the transferability of public services.

2. Plans for UN e-Government rankings survey 2012

The United Nations e-Government Survey is prepared by the Division for Public Administration and Development to support Member States' effort in e-Government and ICTs for social-economic development. The survey focuses on the indicators e-Information and e-Services, Telecommunications infrastructure and human capital endowment

The survey highlights the strategies, tools and best practices developed and practiced by pioneering countries and taps on the collective wisdom of global strategists and practitioners in how they leverage e-Government to better serve the public.

In this context, the Survey 2012 will focus on the role of e-Government in sustainable development, including the promotion of social equity, economic growth and environmental protection. The Survey will review the following:

- The importance of the government approach and integrated online service delivery
- The use of e-Government to provide information and services to citizens on environment-related issues
- E-Infrastructure and its increasing role in bridging the digital divide, with a particular emphasis on the provision of effective online services.
- The increasing emphasis on service usage and citizen satisfaction
- Multi-chance service delivery.

3. ASEAN CIO Forum

ASEAN government agencies have acknowledged that ICT will continue to drive all aspects of nation building in the next few decades. They are committed to riding on the trends of technology and innovation of the next ten years. ASEAN has nearly 600 million people but many people still do not have access to ICT. As ASEAN marked 11 years of cooperation in the ICT sector, it is predicted that ASEAN will become a single community in 2015, and concluded many industries have already embarked on their plans, strategy, business models and practical approaches to prepare for this new dimension. CIO16 acknowledged ICT as a pivotal focus in embracing and empowering people to prepare for this transformation.

The 1st ASEAN CIO Forum is organized in Bangkok in April 2012 and supported by the Ministry of ICT in Thailand, Association of Southeast Asian Nations, and co-planned by the CIO16 Association of Thailand. The goal of this forum is to tie possible relationships in both critical sectors of public and private to drive all business intentions, building pillars and pushing for adoption to support ASEAN economy, communities and competitiveness

4. International Academy of CIO

The International Academy of CIO (IAC) is an organization which objectives are to conduct studies of various issues, to pursue the universality of knowledge, and to advance applied theory in the field of CIO. These objectives include the following:

- Establishing academic standards based on the research on social phenomena relating to ICT by elucidating the gradual process of its causes and effect, social and technical relations, as well as the framework between the society and ICT on this Information Age
- Facilitating the exchange of information and ideas among Academy members, professionals and individuals in academic, business and government professions who are highly concerned with issues related to CIO
- Fostering the development of best practices in CIO and CIO Councils with the goal of furthering good e-Government and
- Introducing a global standard of the CIO model by uniting academic resources with practical case studies to strengthen and enhance international competitiveness of the industry for the new Information Age

The IAC conferences are held annually. Last year International Conference on Innovative ICT, CIO, and Natural Disasters was held in conjunction with the 6th IAC Annual General Meeting during October 6th – 7th, by De La Salle University in Manila, Philippines.In the conference Hon. C. Binay, Vice President of the Republic of the Philippines gave his honorable address on ICT Solution for Natural Disaster in the Philippines. Many other meetings and valuable keynotes were addressed such as Dr. Pairash Thajchayapong, Chairman of National Electronics and Computer Technology Center, Thailand, Mr. Masaaki Hamaba, Corporate Senior Vice-President, Fujitsu Corporation, Japan. In 2012, Russia CIO Union will host 7th IAC conference in Moscow in May 17th – 18th.

Contact Information:

Prof. Dr. Toshio OBI
Director of APEC e-Government
Institute of e-Government, Waseda University
Email: obi.waseda@gmail.com