



EXECUTIVE SUMMARY

This research replicates a survey completed in 2003. The present survey evaluates the practice of digital governance in large municipalities worldwide in 2005. Both studies focused on the evaluation of current practices in government, and the emphasis of the research was on the evaluation of each website in terms of digital governance. Simply stated, digital governance includes both digital government (delivery of public service) and digital democracy (citizen participation in governance). Specifically, we analyzed security, usability, and content of websites, the type of online services currently being offered, and citizen response and participation through websites established by city governments.

The methodology of the 2005 survey of municipal websites throughout the world mirrors that of the initial research done in 2003. There were some improvements from the first study. In order to keep a degree of consistency for a longitudinal assessment, the 2005 survey was theoretically similar, but a few changes were made in the cities selected, and the Rutgers-SKKU E-Governance Performance Index was updated. The survey instrument was expanded from 92 scaled measures to 98. This research focused on cities throughout the world based on their population size, the total number of individuals using the Internet and the percentage of individuals using the Internet. In the 2003 survey, data from the International Telecommunication Union (ITU), an organization affiliated with the United Nations (UN), was used to determine the 100 municipalities. Of 196 countries for which telecommunications data was reported, those with a total online population over 100,000 were identified. As a result, the most populated cities in 98 countries were selected to be

surveyed (along with Hong Kong and Macao). For the 2005 worldwide survey the most recent available ITU-UN data was used. These updated figures produced slightly different results. Countries with an online population over 100,000 increased to 119. Therefore, we set a new cut-off mark at countries with an online population over 160,000. This resulted in 98 countries which met the new mark. With the inclusion of Hong Kong and Macao, as in 2003, a total of 100 cities were identified for the 2005 survey.

In 2003, the largest city in each of the selected countries was used as a surrogate for all cities in a particular country. There were a few changes in the 98 countries identified using the measures discussed above. Six countries that were identified in 2003 do not have online populations of over 160,000. These countries and their most populated cities are: Manama, Bahrain; Port Louis, Mauritius; Port-of-Spain, Trinidad & Tobago; Asuncion, Paraguay; Sarajevo, Bosnia; and Havana, Cuba. Of these six cities, only five were surveyed, with Havana having an unidentified official government website. As none of the five surveyed cities listed above were ranked in the top 25th percentile of rankings, their exclusion from the 2005 worldwide survey was not found to be significant enough to retain. The six new cities are: Abidjan, Cote d'Ivoire; Accra, Ghana; Chisinau, Moldova; Omdurman, Sudan; Halab, Syria; and Tripoli, Libya.

Both studies evaluated the official websites of each city in their native languages. The initial study evaluated websites between June and October of 2003, while this most recent research evaluated websites between August and November of 2005¹. For the 2005 data, 81 of the 100 cities were included in the overall rankings, excluding the 19 municipalities where no official website was obtainable. Our instrument for evaluating city and municipal websites consisted of five components: 1. Security and Privacy; 2. Usability; 3. Content; 4. Services; and 5. Citizen Participation. For each of those five components, our research applied 18-20 measures, and each

¹ Although the majority of municipal websites were evaluated during the stated time period, a few websites were evaluated or reevaluated as late as January 2006 for this most recent study.

measure was coded on a scale of four-points (0, 1, 2, 3) or a dichotomy of two-points (0, 3 or 0, 1). Our research instrument goes well beyond previous research, with the initial study utilizing 92 measures, of which 45 were dichotomous, as above. This most recent study has further developed the research instrument to include 98 measures, of which 43 were dichotomous. The most significant change was in the Citizen Participation component, where six new research questions were added.²

Furthermore, in developing an overall score for each municipality we have equally weighted each of the five categories so as not to skew the research in favor of a particular category (regardless of the number of questions in each category). This reflects the same methods utilized in the 2003 study. To ensure reliability, each municipal website was assessed in the native language by two evaluators, and in cases where significant variation (+ or - 10%) existed on the adjusted score between evaluators, websites were analyzed a third time. Furthermore, an example for each measure indicated how to score the variable. Evaluators were given comprehensive written instructions for assessing the websites.

Based on the 2005 evaluation of 81 cities, Seoul, New York, Shanghai, Hong Kong, and Sydney represent the cities with the highest evaluation scores. There were only slight changes in the top five cities when compared to the 2003 study. Seoul remained the highest ranked city, but the gap between first and second was slightly closed. In some cases, the scores may have slightly declined from the previous study. This may be attributed in part to the added measures for the 2005 research instrument. Table 1 lists the top 20 municipalities in digital governance based on the 2005 data, with Table 2 listing the 20 municipalities from the 2003 study.

² One question was removed from the Security and Privacy component and one added to the Content component.

[Table 1] Top 20 Cities in Digital Governance (2005)

Ranking	City	Score	Privacy	Usability	Content	Service	Participation
1	Seoul	81.70	17.60	17.81	16.04	16.61	13.64
2	New York	72.71	16.00	19.06	14.79	15.76	7.09
3	Shanghai	63.93	12.00	18.75	13.13	11.69	8.36
4	Hong Kong	61.51	15.60	16.25	13.75	13.73	2.18
5	Sydney	60.82	16.80	17.81	12.50	8.98	4.73
6	Singapore	60.22	10.40	15.94	11.67	14.58	7.64
7	Tokyo	59.24	12.00	16.25	12.29	10.34	8.36
8	Zurich	55.99	16.40	14.69	13.96	9.49	1.45
9	Toronto	55.10	11.20	14.06	11.46	9.83	8.55
10	Riga	53.95	6.80	17.50	13.75	6.44	9.45
11	Warsaw	53.26	0.00	15.31	13.54	11.86	12.55
12	Reykjavik	52.24	11.60	13.13	13.54	10.34	3.64
13	Sofia	49.11	8.00	13.44	11.67	7.46	8.55
14	Prague	47.27	0.00	16.88	10.21	10.00	10.18
15	Luxembourg	46.58	7.20	15.31	11.88	7.29	4.91
16	Amsterdam	46.44	10.40	12.50	9.79	5.93	7.82
17	Paris	45.49	8.80	15.94	11.46	4.75	4.55
18	Macao	45.48	10.40	13.44	13.13	5.42	3.09
19	Dublin	44.10	8.00	16.88	11.04	4.92	3.27
20	Bratislava	43.65	0.00	15.94	11.04	5.76	10.91

[Table 2] Top 20 Cities in Digital Governance (2003)

Ranking	City	Score	Privacy	Usability	Content	Service	Participation
1	Seoul	73.48	11.07	17.50	13.83	15.44	15.64
2	Hong Kong	66.57	15.36	19.38	13.19	14.04	4.62
3	Singapore	62.97	11.79	14.06	14.04	13.33	9.74
4	New York	61.35	11.07	15.63	14.68	12.28	7.69
5	Shanghai	58.00	9.64	17.19	11.28	12.46	7.44
6	Rome	54.72	6.79	14.69	9.57	13.16	10.51
7	Auckland	54.61	7.86	16.88	11.06	10.35	8.46
8	Jerusalem	50.34	5.71	18.75	10.85	5.79	9.23
9	Tokyo	46.52	10.00	15.00	10.00	6.14	5.38
10	Toronto	46.35	8.57	16.56	9.79	5.79	5.64
11	Helsinki	45.09	8.57	15.94	11.70	6.32	2.56
12	Macao	44.18	4.29	17.19	11.91	7.72	3.08
13	Stockholm	44.07	0.00	13.75	14.68	10.00	5.64
14	Tallinn	43.10	3.57	13.13	12.55	6.67	7.18
15	Copenhagen	41.34	4.643	13.438	9.787	5.789	7.692
16	Paris	41.33	6.429	14.375	7.660	5.439	7.436
17	Dublin	38.85	2.50	13.44	11.28	7.02	4.62
18	Dubai	37.48	7.86	10.94	7.87	8.25	2.56
19	Sydney	37.41	6.79	12.19	9.15	5.44	3.85
20	Jakarta	37.28	0.00	16.56	9.79	6.32	4.62

[Table 3] Top 10 Cities in Privacy and Security (2005)

Rank	City	Country	Score
1	Seoul	Republic of Korea	17.60
1	Sydney	Australia	16.80
3	Zurich	Switzerland	16.40
4	New York	United States	16.00
5	Hong Kong	Hong Kong	15.60
6	Rome	Italy	13.20
7	Berlin	Germany	12.80
8	Shanghai	China	12.00
8	Tokyo	Japan	12.00
10	Reykjavik	Iceland	11.60

[Table 4] Top 10 Cities in Usability (2005)

Rank	City	Country	Score
1	New York	United States	19.06
2	Shanghai	China	18.75
3	Seoul	Republic of Korea	17.81
3	Sydney	Australia	17.81
5	Riga	Latvia	17.50
6	Oslo	Norway	17.19
7	Dublin	Ireland	16.88
7	Prague	Czech Rep.	16.88
7	Jerusalem	Israel	16.88
10	Hong Kong	Hong Kong	16.25

[Table 5] Top 10 Cities in Content (2005)

Rank	City	Country	Score
1	Seoul	Republic of Korea	16.04
2	New York	United States	14.79
2	Tallinn	Estonia	14.79
4	Zurich	Switzerland	13.96
5	Riga	Latvia	13.75
5	Hong Kong	Hong Kong	13.75
7	Warsaw	Poland	13.54
7	Reykjavik	Iceland	13.54
9	Shanghai	China	13.13
9	Macao	Macao	13.13

[Table 6] Top 10 Cities in Service Delivery (2005)

Rank	City	Country	Score
1	Seoul	Republic of Korea	16.61
2	New York	United States	15.76
3	Singapore	Singapore	14.58
4	Hong Kong	Hong Kong	13.73
5	Warsaw	Poland	11.86
6	Shanghai	China	11.69
7	Tokyo	Japan	10.34
7	Reykjavik	Iceland	10.34
9	Prague	Czech Rep.	10.00
10	Toronto	Canada	9.83

[Table 7] Top 10 Cities in Citizen Participation (2005)

Rank	City	Country	Score
1	Seoul	Republic of Korea	13.64
2	Warsaw	Poland	12.55
3	Bratislava	Slovak Republic	10.91
4	London	United Kingdom	10.55
5	Prague	Czech Rep.	10.18
6	Riga	Latvia	9.45
7	Toronto	Canada	8.55
7	Sofia	Bulgaria	8.55
9	Shanghai	China	8.36
9	Tokyo	Japan	8.36

This research represents a continued effort to evaluate digital governance in large municipalities throughout the world. Even though some researchers have evaluated government websites, they have focused primarily on e-governance at the federal, state, and local levels in the United States. Only a few studies have produced comparative analyses of e-governance in national governments throughout the world.

Based on the 2005 research, there appears to be a continued divide in terms of digital governance throughout the world. For example, although the average score for digital governance in municipalities throughout the world is 33.11 (an increase from 28.49 in 2003), the average score in OECD countries is higher, 44.35, while the average score in non-OECD countries is lower, only 26.50. Although the average scores for both OECD and non-OECD countries have increased, the gap between the two scores has widened (12.08 in 2003 to 17.85 in 2005). In addition, whereas 25 of 30 cities in OECD countries are above the world average, only 11 of 51 cities in non-OECD countries are above that average.

In addition, 71% of cities selected in Africa, 22% in Asia, and 20% in North America have not established official city websites. Every city selected in Europe and South America had its own official website. These findings reflect those of the 2003 study, in that cities in Africa have not paid attention to developing their capabilities in digital governance; most cities in other continents are

interested in developing those capabilities.

As we concluded in 2003, since there is a gap between developed and under-developed countries, it is very important for international organizations such as the UN and cities in advanced countries to attempt to bridge the digital divide. We recommend developing a comprehensive policy for bridging the divide. That comprehensive policy should include capacity building for municipalities, including information infrastructure, content, and applications and access for individuals.