Progress in online service delivery

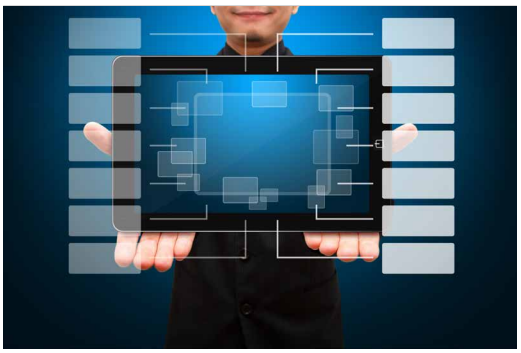
2.1. Introduction

Continuing the presentation and analysis of the world e-government rankings, this chapter reports on global progress in online service delivery as evidenced by the 2014 *United Nations E-Government Survey* data and considers factors that may be helping or hindering the roll-out of e-services at the national level. The analysis attempts to shed light on the meaning behind the numbers by highlighting successful strategies and discussing some common challenges and barriers to achieving an efficient and effective public administration as a condition of good governance.

2.1.1. How online services are measured

The online services component of the E-Government Development Index (EGDI) is a composite indicator measuring the use of ICT by governments to deliver public services at national level. It is based on a comprehensive *Survey* of the online presence of all 193 United Nations Member States. The *Survey* assesses the technical features of national websites as well as e-government policies and strategies applied in general and by specific sectors for delivery of services.

The results are tabulated and presented as a set of standardized index values on a scale from zero to one, one corresponding to the highest rated online services and zero to the lowest. As with the EGDI itself described in chapter 1, the index values are not intended as absolute measurements. Rather, they capture the online performance of countries relative to one another at a particular point in time. Because the index is a comparative tool, a high score is an indication of best current practice rather than perfection. Similarly a very low score, or a score that has not changed since the last edition in 2012, does not mean there has been no progress in e-government development. The distance between scores conveys the gap in online service delivery.



In this chapter:

Chapter 2

As outlined in Chapter 1, the *Survey* instrument assumes a general four-stage model of online service development where stage 1 corresponds to emerging information services, stage 2 to enhanced information services, stage 3 to transactional services and stage 4 to connected services. Each stage demands a higher level of sophistication and, often, increased commitment of resources. In assessing progress, a rough balance of basic and advanced website features is sought as well as evidence of the institutional and strategic foundations of a national e-government programme. A detailed description of the methodology, as well as a country-by-country assessment for each stage of online service development, is provided in the accompanying statistical annex.

2.1.2. What's new in 2014?

While the basic model has remained consistent since the *Survey* was first introduced, the precise components of the OSI have evolved as our understanding of e-government changes and the underlying technology evolves. In 2014, data was collected on the provision of basic e-services, attention to e-participation, multichannel service delivery, expanding usage, adoption of open data initiatives, whole-of-government and bridging digital divides that may exist within and between countries.

Of particular note in this *Survey* round was an increased emphasis on e-participation features and evidence of open data initiatives on national websites given evolving expectations about transparency and participation in public affairs. The provision of environmental e-information was also added to the basket of basic online services assessed—alongside education, health, finance, labour and social welfare functions—given current attention to questions of environmental stewardship in the global picture of the future we want. As technology evolves and countries make progress, goals are also set higher and the *Survey* is adjusted accordingly.

2.2. Global analysis

2.2.1. Overall results

France ranks first in online service delivery in 2014, followed closely by Singapore and the Republic of Korea. These countries stand out, among other things, for their integration of e-services, expanded roll-out of mobile applications and provision of opportunities for e-participation. Spain (tied at 4th), Uruguay (14th), New Zealand (15th) and Chile (16th) have all made their way into the top twenty of 2014, pushing ahead of former 2012 leaders Denmark, Norway, Sweden and Malaysia.

As in 2012, the 2014 results show the reappearance of Bahrain (7th), the United Arab Emirates (12th) and Saudi Arabia (tied at 18th) among the frontrunners. All members of the Gulf Cooperation Council, these countries have managed to remain in step with counterparts in other regions, typically OECD member countries, through high-level attention to e-government development and the benefits of the wider Information Society. A full list of the top twenty countries in online service delivery together with Online Service Index values is given in Table 2.1.

Table 2.1. Top 20 countries in online service delivery

Country	*Online Service Index*
France	1.0000
Singapore	0.9921
Republic of Korea	0.9764
Japan	0.9449
Spain	0.9449
United States	0.9449
Bahrain	0.9370
Australia	0.9291
Netherlands	0.9291
Canada	0.9134
United Kingdom	0.8976
United Arab Emirates	0.8819
Israel	0.8740
Uruguay	0.8504
New Zealand	0.8425
Chile	0.8189
Colombia	0.7874
Estonia	0.7717
Finland	0.7717
Saudi Arabia	0.7717

Box 2.1. France public service—commitment to continuous improvement

Taking the top place in the 2014 Online Service Index, France scores well across all practice areas and stages of online service development due to ongoing action to improve the quality of public services, integrate governmental websites and encourage consultation with citizens on both public policy and service delivery methods. The official website of the national administration (service-public.fr) directs individuals, businesses and associations to relevant services by event as well as by subject, invites ideas about administrative simplification, connects citizens with current debates and consultations and facilitates interaction with government through single sign-on.

A leader in the field, France has also committed to further expanding online public service delivery while containing costs by reviewing free alternatives to commercial ICT infrastructure and applications in a systematic fashion and expanding the use of open source software. The new policy, introduced in 2012, aims to lower ICT expenditures and improve agility while encouraging innovation and engagement of other actors, such as local authorities and developer communities, in e-service co-production.[1]

Source: http://circulaire.legifrance.gouv.fr/pdf/2012/09/cir_35837.pdf. Accessed 29 October 2013.

Continuing the trend towards greater levels of online connectivity since 2003, all 193 Member States now have websites as shown in Figure 2.1. This includes the Central African Republic, Guinea and Libya, which had no national website in 2012 and is a reflection both of evolving expectations on the part of increasingly connected citizens and the enhanced capacity of governments to utilize ICT in addressing public service needs.

Figure 2.1. Percentage of United Nations Member States with no online presence, 2003–2014

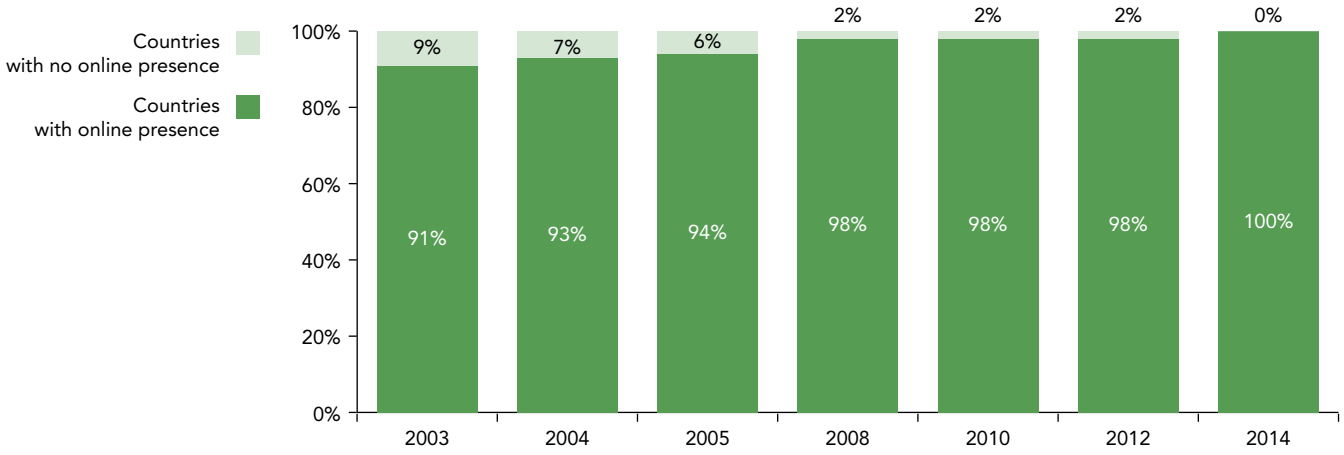
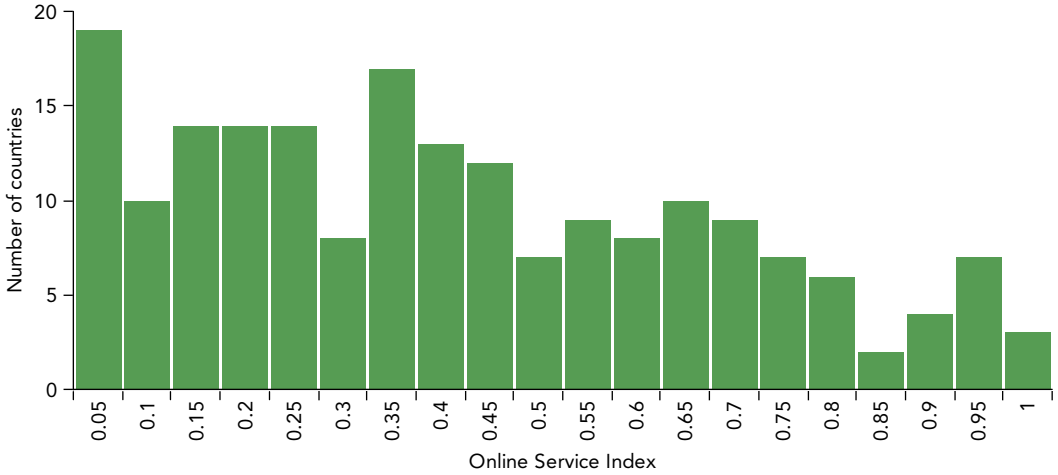


Figure 2.2 shows a large number of countries at lower levels of online service development, highlighting the relative difficulty in supplying transactional and connected services—as described by the *Survey*'s four-stage model. The world mean Online Service Index value is 0.3919, far below what might be considered indicative of global convergence with the leading countries in this field.

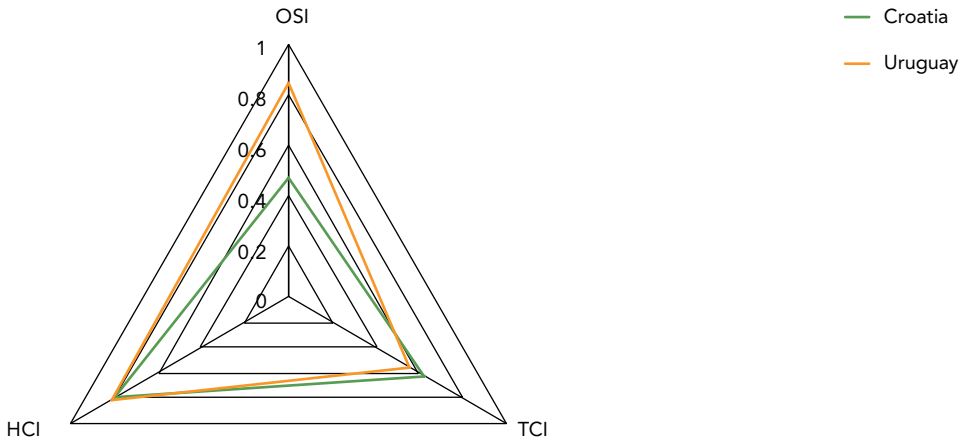
Figure 2.2. Distribution of Online Service Index values



Similarly, the small proportion of high scores in the Online Service Index, for example in the range of 0.7 and above, suggests that some governments with access to more advanced telecommunication infrastructures may be able to

leverage existing technology more fully in public service delivery, especially in cases where human capital is high. To illustrate, consider on the one hand the case of Croatia that is well advanced in human capital and telecommunication infrastructure, but has an Online Service Index that is less than 0.5. On the other hand, consider Uruguay which has the same size and similar income levels to those of Croatia, as well as similar HCI and TII, but has invested more in online services, which is reflected in its OSI (0.8504) as shown in Figure 2.3. This shows that Croatia has great potential to improve its online services.

Figure 2.3. Croatia and Uruguay in comparison



Progress can be attributed to differences in national conditions and policies. While the *Survey*, in general terms, embodies a model of progressive development, in fact ICT take-up in government does not necessarily follow a straight path. Countries may invest in any or all stages of e-government development to varying degrees. For example, the Netherlands (tied at 8th place in online services), scores 100 per cent in stage 1, 75 per cent in stage 2, 70 per cent in stage 3, then rises again to 88 per cent in stage 4 with an overall score of 82 per cent. Japan on the other hand (tied at 4th place in online services) scores 97 per cent in stage 1, 73 per cent in stage 2, rises to 79 per cent in stage 3 and then to 88 per cent in stage 4 with an overall score of 83 per cent (see Table 2.2).

Only a few countries have developed a high number of transactional services online. Whereas globally the mean scores in stages 1, 2 and 4 are 64 per cent, 40 per cent and 27 per cent respectively, in stage 3 the mean score is 22 per cent (see Annexes—Table 10. Online Service Index and its components). This gap may be due to the inherent challenges of ensuring robust online security, identity management, payment systems and channel coordination. Citizens may also simply prefer face-to-face or assisted interaction when applying for benefits, permits or otherwise engaging with institutions on personal matters. Such constraints and preferences would normally be considered in service design by line ministries resulting in a greater emphasis on the information-sharing, inquiry and consultation features more indicative of stages 1, 2 and 4 (see Figure A.4 in Survey Methodology). A country that has made an exemplary commitment to provision of transactional services is New Zealand (see Box 2.2).

Table 2.2. Extent of e-service delivery stages in selected countries

Country	*Stage 1 Emerging presence*	*Stage 2 Enhanced presence*	*Stage 3 Transactional presence*	*Stage 4 Networked presence*	*Total*
		67%–100%			
Japan	97	73	79	88	83
Netherlands	100	75	70	88	82
New Zealand	97	66	84	53	75
Estonia	100	66	56	59	69
Saudi Arabia	94	68	63	53	69
		34%–66%			
Russian Federation	91	77	51	35	63
Costa Rica	94	55	37	44	56
Jordan	91	41	21	50	48
South Africa	75	43	12	24	37
Indonesia	69	34	9	35	35
		0%–33%			
Senegal	78	32	5	15	30
Kyrgyzstan	81	27	2	9	27
Saint Lucia	44	32	14	12	25
Zambia	47	16	0	9	16
Vanuatu	34	5	5	6	11

Box 2.2. New Zealand—online transactional services at the forefront of government transformation

New Zealand's public service has committed to offering easy access to government services in an online environment. The Government aims to have all new services offered online by 2017. At the same time, it continues to recognize the importance of face-to-face interaction for those without Internet access.

Measures to protect personal information such as the establishment of system architectures that incorporate security and privacy principles, security and privacy awareness-raising with clear accountabilities through to executive levels and regular audit of government information systems are central components to the Government ICT Strategy and Action Plan to 2017 and recognized as paramount in building public trust in public services. Collaboration among departments, supported by strong leadership in the form of a Government Chief Information Officer, is seen as crucial to moving transactional services online and has been a central plank in the national plan to transform public sector ICT.

Source: http://ict.govt.nz/assets/Uploads/Government-ICT-Strategy-and-Action-Plan-to-2017.pdf

Turning to availability of basic usability features as summarized in Table 2.3, a large majority of countries—87 per cent or 168 out of 193 countries—provide users with a search tool to locate content while only 77 per cent of national governments (148 countries) had updated their home page in the past three

months. Ease of use was further supported by access to content in more than one language in 74 per cent of cases (142 countries), availability of a site map or index 68 per cent of the time (131 countries) and the online publication of a help or frequently asked questions document in 46 per cent of cases (89 countries).

The *Survey* shows continued effort of most countries in building and maintaining site-specific tools, notwithstanding the ubiquity and convenience of commercial search engines. There is also a growing recognition of the importance of providing content in different languages. In 2012, just over half of all countries had multilingual sites whereas according to the 2014 assessment almost three quarters had expanded language options in some form.

Enhanced (Stage 2) features are less common as Table 2.4 suggests. Roughly half of the United Nations Member States maintain an advanced search engine or publish a statement setting out a privacy policy in connection with the use of the government website. User opinion features such as tag clouds and 'hot topics' lists could be found on only 41 per cent of websites. Less than one third of national portals surveyed showed availability of a secure connection.

Table 2.3. Availability of selected basic features

	Number of countries	*Per centage of countries*
Find website using search tools	168	87%
Site updated within past three months	148	77%
Access in more than one language	142	74%
Availability of map/index	131	68%
Help/FAQ feature	89	46%

Table 2.4. Availability of selected enhanced features

	Number of countries	*Per centage of countries*
Advanced search option	101	52%
Privacy statement	97	50%
Tag cloud or 'hot topics'	80	41%
Secure website	53	27%

Figure 2.4 provides a breakdown of typical transactional services and the number of countries for which these services could be readily identified through the national website. Of the transactional services included in the *Survey* instrument, the most commonly found were setting up of personal online accounts (101 countries), income tax filing (73 countries) and business registration (60 countries). An open-ended 'other' category also scored well (76 countries) reflecting a diversity of priorities in building and expanding online services at national level.

Figure 2.4. Transactional services online

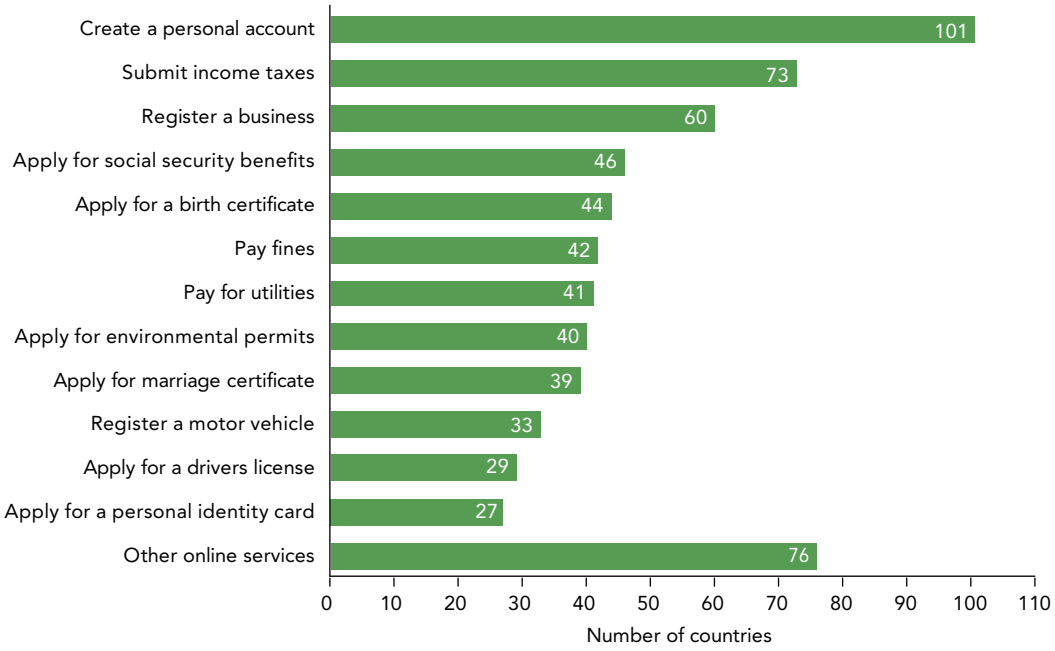
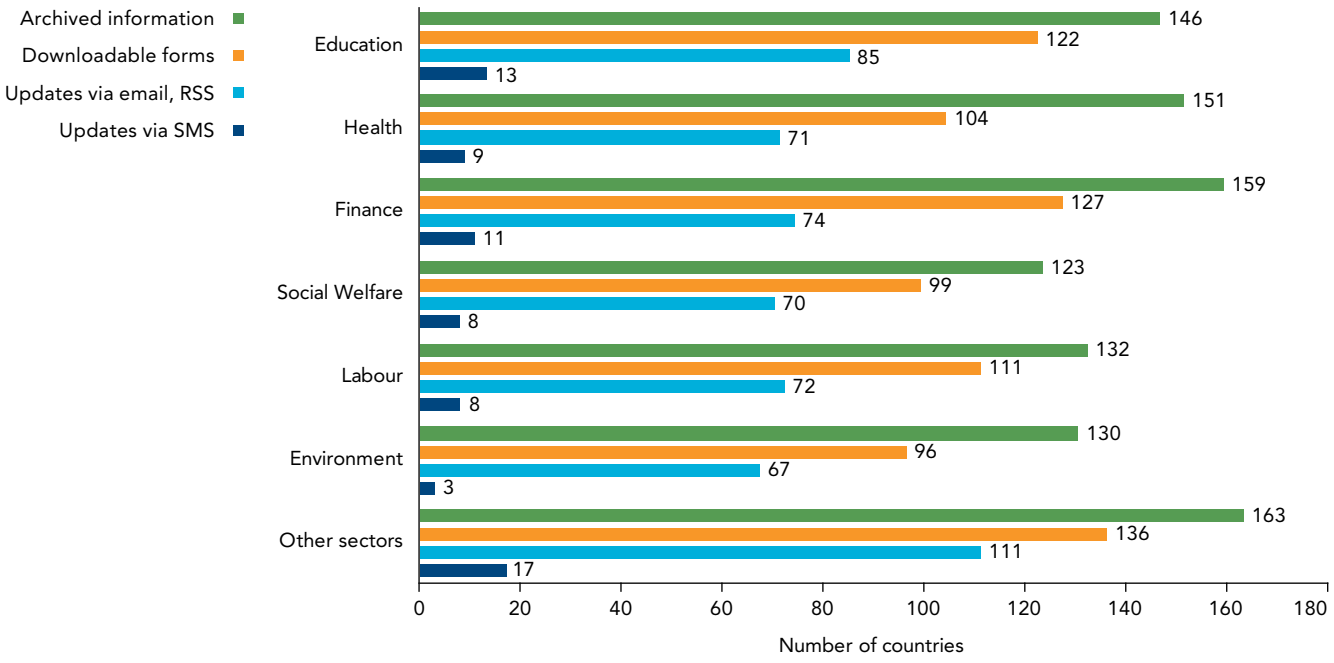


Figure 2.5. Types of services online, by sector



Insufficient Internet security may pose a barrier to the establishment of transactional services (Stage 3) in some countries. This shortcoming, coupled in some instances with limited financial services, may be behind the fact that a majority of governments still do not offer services such as accepting utility payments or applying for permits online.

When considering e-government development in different government sectors, there is additional evidence of the validity of the general four-stage model of progress as shown in Figure 2.5. In all sectors reviewed—education, health, finance, social welfare, labour and environment—as well as in an open-ended 'other' category, archived information was more readily evident than downloadable forms, which were more often seen than email or Really Simple Syndication (RSS) update features. As in 2012, there appears to be substantial underutilized potential of text-based Short Message Service (SMS) across a range of government functions.

2.3. Leading countries by income group

Given the overall results, the question arises as to what factors might account for differences in levels of online service delivery. Comparing the Online Service Index values to an array of other factors reveals that Gross National Income (GNI) and general investment in telecommunication infrastructure are key drivers of progress in e-services.[2] This is a similar result as for the EGDI as a whole described in Chapter 1 and is a reflection both of resources available to pursue e-government programmes and the effect of demand for ICT-enabled services from increasingly connected people and business.

Table 2.5 highlights the top countries in online service delivery, by income group. The leading countries in the high-income category were France (ranked 1st globally), Singapore (2nd) and the Republic of Korea (3rd). Indeed, 19 of the top 20 countries in online service delivery can be counted among the world's wealthiest economies. Within the middle-income group, Colombia comes out ahead in online service delivery (17th globally), followed by Kazakhstan (23rd) and Morocco (30th). Rwanda was found to be the leader in the low-income category in 2014 (ranked 63rd globally), followed by Ethiopia (72nd) and Kenya (79th).

The distribution of Online Service Index values in 2014 is also indicative of different patterns of e-government development in different economic situations. The current state of online service delivery among low-income countries tends to be rudimentary with most countries below 0.2, as seen in Figure 2.6a. Online service delivery in upper middle income countries follows more of a mixed pattern, peaking near the 0.4 mark and tapering off strongly after 0.8, as seen in Figure 2.6c. High income countries are clustered at the high end of the scale with a substantial number scoring above 0.9 in the 2014 Online Service Index, as seen in Figure 2.6d.

Low-income countries tend to focus on information services at the emerging and enhanced stages of e-government development while high-income countries are able to add interactive features and features requiring cooperation among ministries, at the transactional and connected stages.

Although income is important so too are other factors. These include high-level political support, e-government leadership within the national administration, ICT infrastructure and education, as well as institutional capacity for online service development, public accountability and citizen engagement. As Table 2.6 illustrates, Rwanda, Colombia, Ethiopia, Kazakhstan and Morocco, among others, appear to be performing well. Initiatives undertaken by these high performers, highlighted in the accompanying boxes, may provide valuable insights for countries at a similar income level.

Table 2.5. Top countries in online service delivery, by income group

Global rank	*Rank within income group*	*Country*	*Online service index*
		High income	
1	1	France	1.0000
2	2	Singapore	0.9921
3	3	Republic of Korea	0.9764
4	4	Japan	0.9449
4	4	Spain	0.9449
4	4	United States	0.9449
7	7	Bahrain	0.9370
8	8	Australia	0.9291
8	8	Netherlands	0.9291
10	10	Canada	0.9134
		Middle income	
17	1	Colombia	0.7874
23	2	Kazakhstan	0.7480
30	3	Morocco	0.6929
31	4	Malaysia	0.6772
35	5	Mexico	0.6614
37	6	Sri Lanka	0.6535
39	7	Tunisia	0.6378
41	8	Peru	0.6299
43	9	Armenia	0.6142
43	9	Costa Rica	0.6142
43	9	Mongolia	0.6142
		Low income	
63	1	Rwanda	0.5118
72	2	Ethiopia	0.4567
79	3	Kenya	0.4252
98	4	Bangladesh	0.3465
107	5	Mozambique	0.3150
110	6	Zimbabwe	0.3071
115	7	Burkina Faso	0.2992
115	7	United Republic of Tanzania	0.2992
123	9	Madagascar	0.2441
135	10	Gambia	0.2047

Figures 2.6 a–d. Distribution of Online Service Index values, by income group

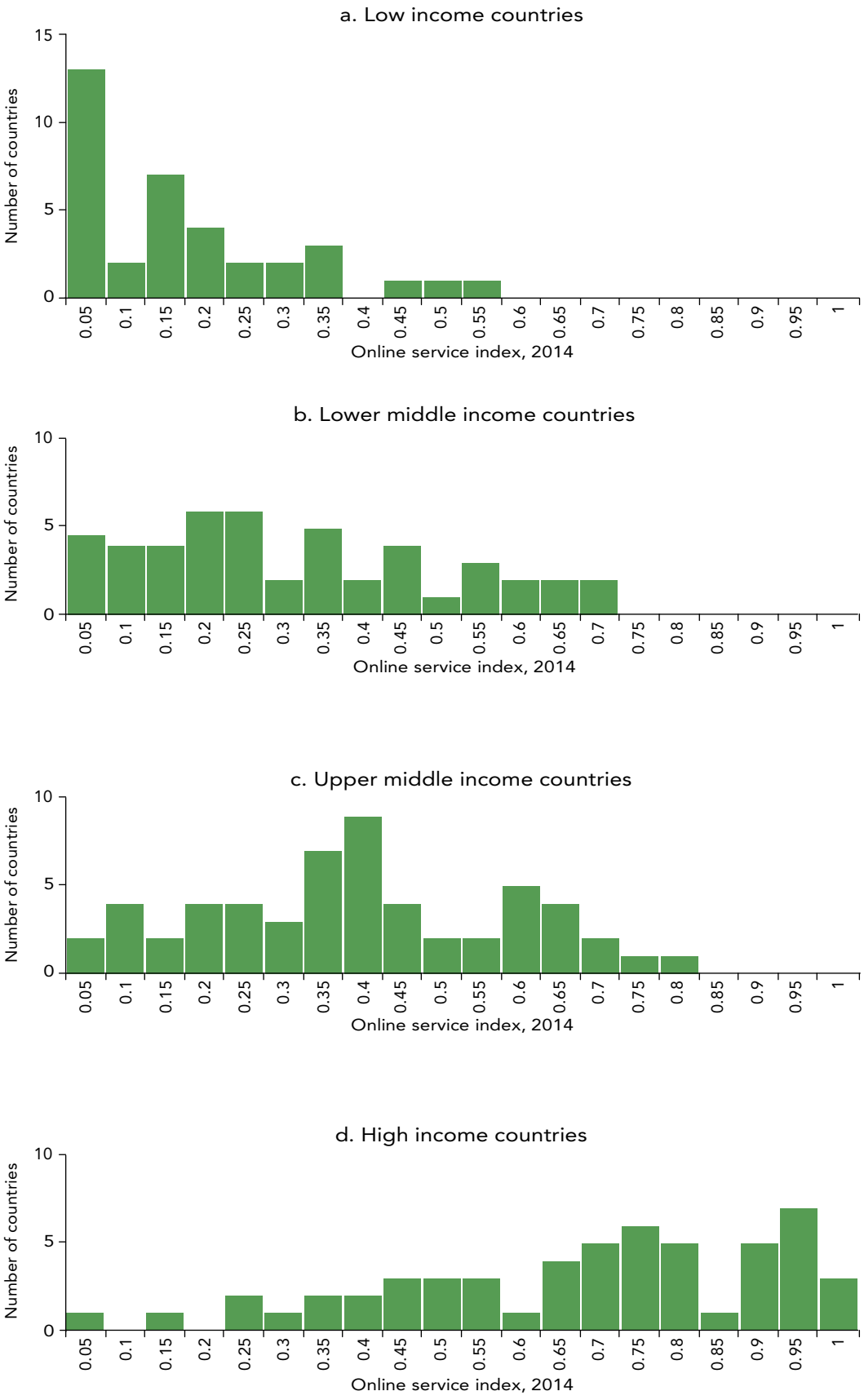


Table 2.6. High online service performance relative to income

Country	*Online Service Index*	*Income group*
Rwanda	0.5118	Low
Colombia	0.7874	Upper Middle
Ethiopia	0.4567	Low
Kazakhstan	0.7480	Upper Middle
Morocco	0.6929	Lower Middle
Kenya	0.4252	Low
Sri Lanka	0.6535	Lower Middle
Malaysia	0.6772	Upper Middle
Tunisia	0.6378	Upper Middle
Mongolia	0.6142	Lower Middle

Table 2.7. Low online service performance relative to income

Country	*Online Service Index*	*Income group*
Equatorial Guinea	0.0315	High
Monaco	0.2205	High
Libya	0.0157	Upper Middle
Saint Kitts and Nevis	0.1339	High
San Marino	0.2756	High
Tuvalu	0.0394	Upper Middle
Barbados	0.2205	High
Algeria	0.0787	Upper Middle
Sao Tome and Principe	0.0079	Lower Middle

Ultimately, the measure of online service utility is its impact on development either directly in provision of services to citizens or indirectly, for example through investment linked to apparent ease of doing business. Low- and middle- income countries with relatively low levels of Internet use such as Ethiopia (1.48 per cent of the population are Internet users), Rwanda (8.02 per cent of the population are Internet users) and Sri Lanka (18.29 per cent of the population are Internet users), and relatively high online service scores may need to invest more in securing telecommunication infrastructure to fully optimize the benefit of e-services.

The converse also applies to high income countries with widespread telecommunication infrastructure and low online service scores such as Monaco (87.00 per cent of the population are Internet users), Saint Kitts and Nevis (79.35 per cent of the population are Internet users) and Barbados (73.33 per cent of the population are Internet users). These are all small countries, and it may be the case that a larger critical mass of Internet users, or potential users, makes it more worthwhile for a country to invest in resource intensive forms of online service delivery such as remote health care, smart energy grids and real-time environmental monitoring. The *Survey* does not, however, require such technological advancement for high scores reflecting the view that even relatively simple information sharing and interaction can produce important benefits when the primary needs and attributes of population segments are reflected in online service design.

Box 2.3. Rwanda—"Our Environment Our Future"

Rwanda has made development of its ICT sector a national priority as a key element of its Vision 2020 and seeks to foster economic growth while combating challenges of environmental degradation attributed to a growing population. The government maintains that ICT applications and services are essential for ensuring sustainable economic development and that good governance includes efficiency in deploying scarce resources and empowering communities through improved access to information and services.

To this end, the country has developed a land administration information system as part of its National ICT Policy and Action Plan 2011–2015. The aim of the project is to substantially reduce cases of competing property ownership claims, the cost of land registration and time taken to produce title deeds. A mining portal has also been implemented and the country is embarking on a number of "Green ICT" initiatives to reduce electronic waste and enable efficient energy generation, consumption and distribution. Public awareness of the importance of environmental protection and sustainable development are promoted through the website of the government's environmental management authority and other media.[3]

Source: http://www.rdb.rw/uploads/tx_sbdownloader/NICI_III.pdf

Box 2.4. Colombia—fishbowl government

Colombia uses its national portal to engage stakeholders in decision-making as part of its "fishbowl government" policy to practice transparency at all levels. The fishbowl approach embodies efforts to enhance access to information, provide services online, encourage citizen participation in policy-making and pursue anti-corruption strategies, all in the name of good government.

An online public consultation site—known as the "urna de cristal"—combined with ongoing coverage of current affairs, use of social media and publication of open data across ministries make the Colombian transparency initiative a standout in the region. The fishbowl policy is an integral part of the National Development Plan 2010–2014, intended to promote prosperity for all through the eight pillars of economic growth, regional development, equal opportunity, innovation, peace consolidation, environmental sustainability, good government and international relevance.

Source: http://www.irc.gov.co/irc/en/fiscalinformation/National%20Development%20Plan%202011-2014.pdf.

Box 2.5. Ethiopia—investing in the future

At 72nd place globally, Ethiopia is one of the best performing LDCs in online service delivery, ahead of many wealthier countries, including a number of European nations. The country's success can be traced in part to high-level recognition of the need to coordinate online services at national level, provide

a strategic direction for e-government development in the country and allocate sufficient resources. The national strategy includes provisions for citizen-centric mechanisms for stakeholder involvement, implementation of 219 online services over a five-year period from 2011–2015, tracking of indicators of achievement and establishment of a national e-government leadership council.

The strategy is linked to the country's national development strategy that envisages a transformation from a primarily agricultural to an ICT-based economy. Despite the country's status as a low-income, landlocked, conflict-affected country, Ethiopia's achievements demonstrate that a vibrant online public administration can emerge from a combination of high-level political commitment, engagement of stakeholders and a specific plan of action linking e-government to national sustainable development priorities.[4]

Source: http://www.mcit.gov.et/documents/1268465/1282796/e-Government+Strategy+Final/ebedc221-0ec2-420d-bd90-dfe362956751?version=1.0documents/12684 65/1282796/e-Government+Strategy+Final/ebedc221-0ec2-420d-bd90-dfe362956751?version=1.0

2.4. Conclusion

On the whole, there is a substantial variability in the scope of online service delivery. Differences between the highest and lowest online service scores and between the four stages of e-service development are considerable, despite progress in a number of areas. A large number of countries fall in the bottom third of the OSI. Improved access to telecommunication infrastructure has facilitated e-government development in some cases, but in general the most advanced countries have continued to outpace the less developed in online service delivery.

Progress in online service delivery is related to income but other factors also play a role. Although each country faces particular conditions and challenges, a strong association with GNI can be discerned in the extent of online service delivery as well as the type of services provided. This finding reaffirms the need for a close connection between online service strategies, telecommunication infrastructure, human capacity and other social and economic factors.

Additional investment in telecommunication infrastructure and human capacity may have the largest proportionate impact and presents the greatest challenge, at low-income levels where the scarcity of both is most pronounced. Given low Internet penetration rates and the continuing high cost of access, national coordinating authorities in low-income countries can play a valuable role in promoting efforts to establish national and regional Internet exchange points, expand community-level access facilities and introduce forward-looking universal service policies tailored to background conditions. Top political commitment to online service delivery as part of a national ICT strategy can be very helpful in this respect, alongside consideration of public-private partnerships and other development financing modalities.

Successful middle-income countries, while continuing to enhance leadership and infrastructure, have also been able to draw on investments in tertiary education and a strengthened ICT sector. Ready access to ICT skills can make a difference in online service performance at the transactional and connected stages in particular, where a range of advanced managerial and technical knowledge is needed to

oversee service integration across functions and levels of government. Partnerships between academic institutions in different countries in the field of e-government, supported by government, civil society organizations and the private sector, are one way that middle-income countries may begin to reduce the skills gap.

Where high-income countries are concerned, the Survey finds an apparent trend towards convergence in online features with increasing commitment to expanding e-participation opportunities and promoting open government data. All countries, including those with lower incomes, can improve online services by ensuring high-level political support and administrative leadership and by strengthening institutional capacity and public accountability. Cooperative arrangements such as international benchmarks appear both to guide progress and hasten activity in priority practice areas such as those covered by the *Survey*.

National capacity for innovation is generally conducive to online service development. Specifically, higher online service scores are associated with increased levels of online creativity in the broader economy as evidenced by WIPO's global innovation index.[5] Countries that have a more vibrant information society are better able to leverage talent and ICT services for improved e-government performance. This positive connection underscores the fact that ICT policy encompassing telecommunication strategy, Internet governance and tertiary education in science, mathematics, engineering and technology can be a key driver of online service expansion in public administration.