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E-Government Survey 2022

The Future of
Digital Government



E-GOVERNMENT SURVEY

The Future of Digital Government

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United Nations E-Government Survey 2022

12TH

Edition of the UN E-Government Survey

The Survey includes digital government ranking of the **193 UN Member States**.

The 2022 Survey also marks the first study to incorporate an assessment of e-government in the **most populous city** in each of UN Member State.



More than 20 years of data – and a vision of the future

The Survey looks at how digital government can facilitate integrated policies and services across 193 UN Member States. It supports countries' efforts to provide effective, accountable and inclusive digital services to all, bridge the digital divide and leave no one behind.

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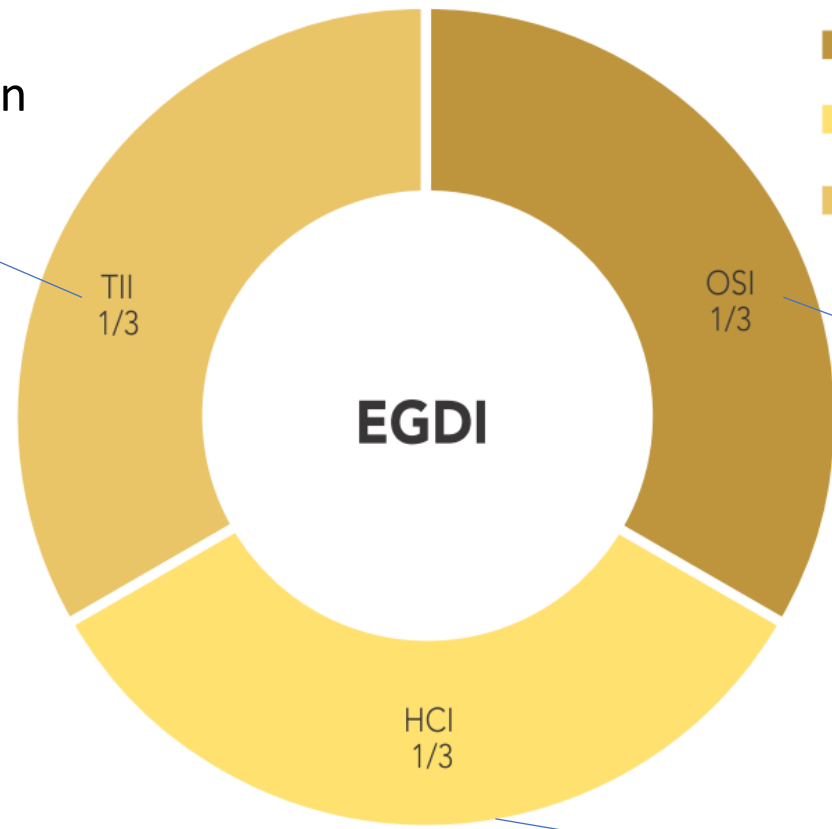


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The e-Government Development Index

Data from International Telecommunications Union (ITU)



- OSI - Online Service Index
- HCI - Human Capital Index
- TII - Telecommunication Infrastructure Index

Data collected by UN DESA

Data from UNESCO



OSI methodology

- ❑ Methodological framework organized in 5 categories (see right panel)
- ❑ New category on Institutional Framework
- ❑ Questions on service provision including more life events
- ❑ Questions on inclusion - vulnerable groups (women, youth, old people, people with disability, immigrants)
- ❑ Questions on e-participation

OSI: Categories	Weight
Institutional Framework	10%
Technical (access & affordability)	5%
Content Provision	5%
Service Provision	45%
Participation (EPI)	35%





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Rwanda Key Findings



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The Methodology – EGDI

E-Government Development Index (EGDI)

Assesses national websites and how e-government policies and strategies are applied in general and in specific sectors for delivery of essential services.

EGDI) is the weighted average of normalized scores on the **three** most important dimensions of e government below

E-Participation Index (EPI)

Offers a multifaceted framework, composed of three core components, i.e., e-information, e-consultation and e-decision-making.

Telecommunication Infrastructure Index

Provides an arithmetic average composite of four indicators: (i) estimated internet users (ii) number of mobile subscribers (iii) number of wireless broadband subscriptions; and (iv) number of fixed broadband subscriptions (all per 100 inhabitants).

Online Service Index (OSI)

Is a proprietary quantitative tool designed to provide evidence-based data on online e-government service

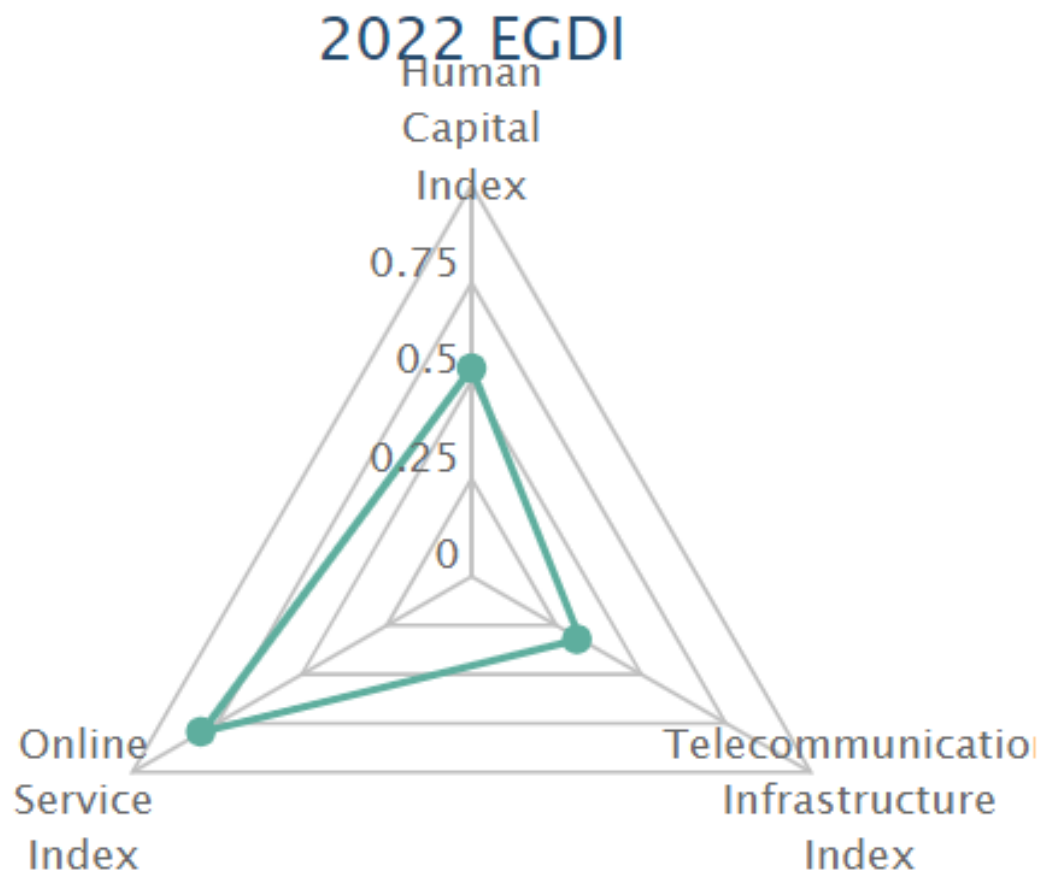
Local Online Service Index (LOSI)

captures the state of the development of e-government service provision at the city level across the United Nations Member States.

Human Capital Index (HCI)

consists of four components: (i) adult literacy rate; (ii) the combined primary, secondary and tertiary gross enrolment ratio; (iii) expected years of schooling; and (iv) average years of schooling

E-Government Development Index (EGDI)

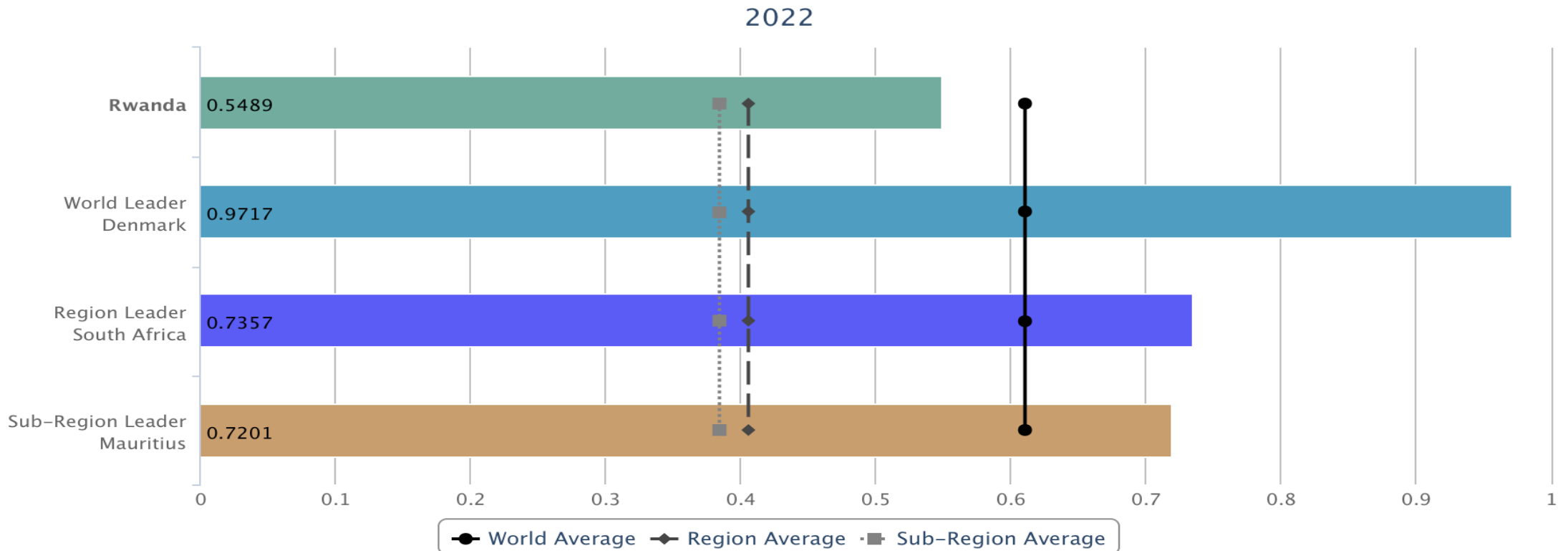


<u>E-Government (2022 EGDI: 0.5489)</u>	
2022 Rank	119
Group	HEGDI
Rating Class	H1
2020 Rank	130
Change	-11

Rwanda's E-Government Development Index (EGDI) is 119th this year, 11 spots up from 2020.

E-Government Development Index (EGDI)

E-Government Development Index



Highcharts.com

E-Government Development Index	2022	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
Rwanda (Rank)	119	130	120	138	125	140	148	141	143	140	138
Rwanda (Value)	0.54890	0.47890	0.45900	0.33904	0.35888	0.32913	0.27494	0.29410	0.25297	0.25107	0.24391

Countries with Upward Movement

Key Findings:

14 countries moved to higher E-Government Development Index (EGDI) groups:

- 2** from the low to the middle group
- 8** from the middle to the high group
- 4** from the high to the very high group

The upward movement of countries between EGDI groups usually involves a shift from the top rating class of one EGDI group to the lowest rating class of the next highest group.

Upward movement between EGDI groups, 2022			
Country	Region	Rating Class 2020	Rating Class 2022
Serbia	Europe	HV	V2
Ukraine	Europe	HV	V1
Peru	Americas	HV	V1
Georgia	Asia	HV	V1
Rwanda	Africa	MH	H1
Cote d'Ivoire	Africa	MH	H1
Lebanon	Asia	MH	H1
Guyana	Americas	MH	H1
Nepal	Asia	MH	H1
Tajikistan	Asia	MH	H1
Belize	Americas	MH	H1
Zambia	Africa	M3	H1
Democratic People's Republic of Korea	Asia	LM	M1
Guinea-Bissau	Africa	LM	M1





Regional rankings

Table 2.1 Countries in Africa with the highest EGD values

Country	Rating class	EGDI rank	Subregion	OSI value	HCI value	TII value	EGDI (2022)	EGDI (2020)
South Africa	HV	65	Southern Africa	0.7487	0.7733	0.6850	0.7357	0.6891
<i>Mauritius</i>	HV	75	Eastern Africa	0.6282	0.7733	0.7588	0.7201	0.7196
<i>Seychelles</i>	H3	85	Eastern Africa	0.4424	0.7758	0.8198	0.6793	0.6920
Tunisia	H3	88	Northern Africa	0.6031	0.6911	0.6646	0.6530	0.6526
Morocco	H2	101	Northern Africa	0.4721	0.6350	0.6676	0.5915	0.5729
Egypt	H2	103	Northern Africa	0.5730	0.6375	0.5579	0.5895	0.5527
Ghana	H2	106	Western Africa	0.5361	0.6176	0.5934	0.5824	0.5960
<i>Cabo Verde</i>	H2	110	Western Africa	0.4965	0.6507	0.5507	0.5660	0.5604
Algeria	H2	112	Northern Africa	0.3743	0.6956	0.6133	0.5611	0.5173
Kenya	H2	113	Eastern Africa	0.6821	0.5641	0.4305	0.5589	0.5326
Gabon	H2	116	Middle Africa	0.3578	0.6706	0.6279	0.5521	0.5401
Botswana	H1	118	Southern Africa	0.2740	0.6932	0.6814	0.5495	0.5383
Rwanda*	H1	119	Eastern Africa	0.7935	0.5322	0.3209	0.5489	0.4789
<i>Côte d'Ivoire*</i>	H1	120	Western Africa	0.5467	0.5748	0.5186	0.5467	0.4457
Namibia	H1	121	Southern Africa	0.4316	0.6516	0.5133	0.5322	0.5747
<i>Zambia*</i>	H1	131	Eastern Africa	0.4414	0.6744	0.3909	0.5022	0.4242

Sources: 2020 and 2022 United Nations E-Government Surveys.

Note: Countries in italics are LDCs, LLDCs or SIDS.

* Countries that moved from the middle to the high EGD group in 2022.



Regional rankings

Rwanda is ranked 3rd among the least developed countries (LDC)

Least developed countries with the highest EGD value

Country	Rating class	EGDI rank	Subregion	OSI value	HCI value	TII value	EGDI (2022)	EGDI (2020)
Bangladesh	H2	111	Southern Asia	0.6521	0.5900	0.4469	0.5630	0.5189
<i>Bhutan</i>	H2	115	Southern Asia	0.5996	0.5305	0.5261	0.5521	0.5777
<i>Rwanda*</i>	H1	119	Eastern Africa	0.7935	0.5322	0.3209	0.5489	0.4789
<i>Nepal*</i>	H1	125	Southern Asia	0.4592	0.5636	0.5123	0.5117	0.4699
Cambodia	H1	127	South-Eastern Asia	0.4181	0.5380	0.5605	0.5056	0.5113
<i>Zambia*</i>	H1	131	Eastern Africa	0.4414	0.6744	0.3909	0.5022	0.4242
Myanmar	MH	134	South-Eastern Asia	0.3073	0.5829	0.6082	0.4994	0.4316
Senegal	MH	143	Western Africa	0.4934	0.3478	0.5025	0.4479	0.4210
<i>Uganda</i>	MH	144	Eastern Africa	0.5169	0.5631	0.2472	0.4424	0.4499
<i>Lesotho</i>	MH	145	Southern Africa	0.3456	0.5950	0.3836	0.4414	0.4593

Sources: 2020 and 2022 United Nations E-Government Surveys.

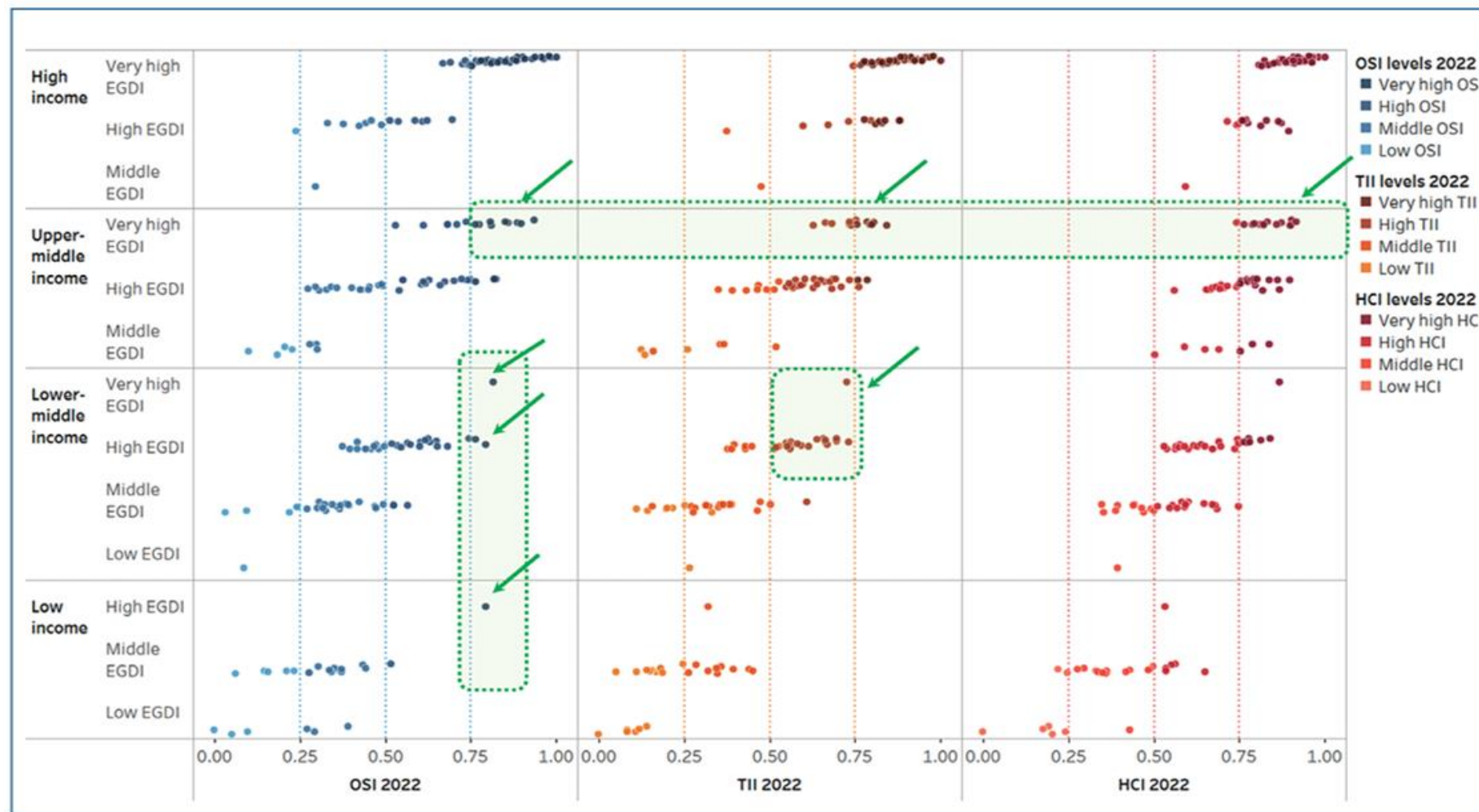
Note: Italicized countries are LLDCs in addition to being LDCs.

* Countries that have moved from the middle to the high EGD group.



EGDI Performance 2022

Figure 1.8 OSI, TII and HCI subindex values for each EGDI level, by income group, 2022



Rwanda is among countries that have **very high OSI values** even though it is a low income country.

Rwanda has achieved very high OSI levels (0.7935) despite having a poorly developed telecommunications infrastructure (0.3209)

Sources: 2020 and 2022 United Nations E-Government Surveys.

EGDI Performance 2022

- Through the use of a complex network analysis methodology, over 500 development indicators have been used to assess the e-government development of different countries relative to a cluster of countries with similar characteristics
- Rwanda performs exceptionally well** in terms of e-government development in comparison with other countries in cluster IV

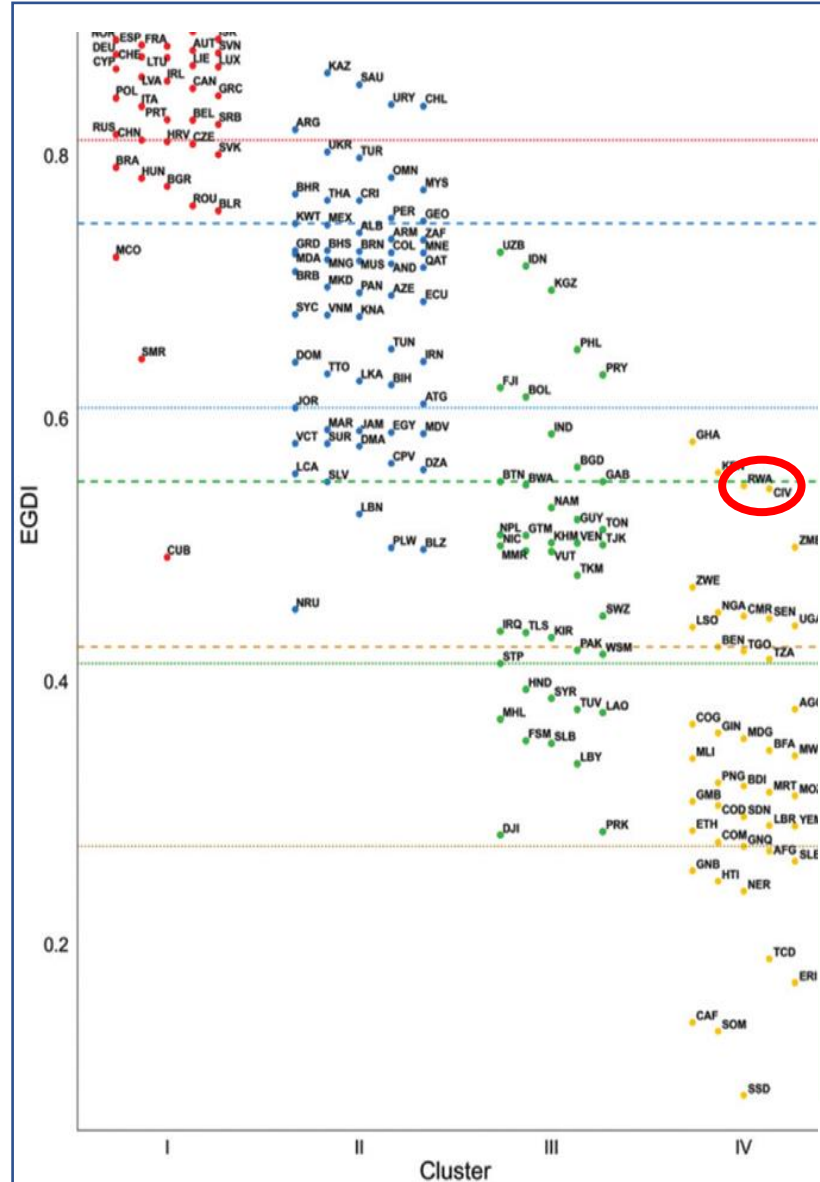
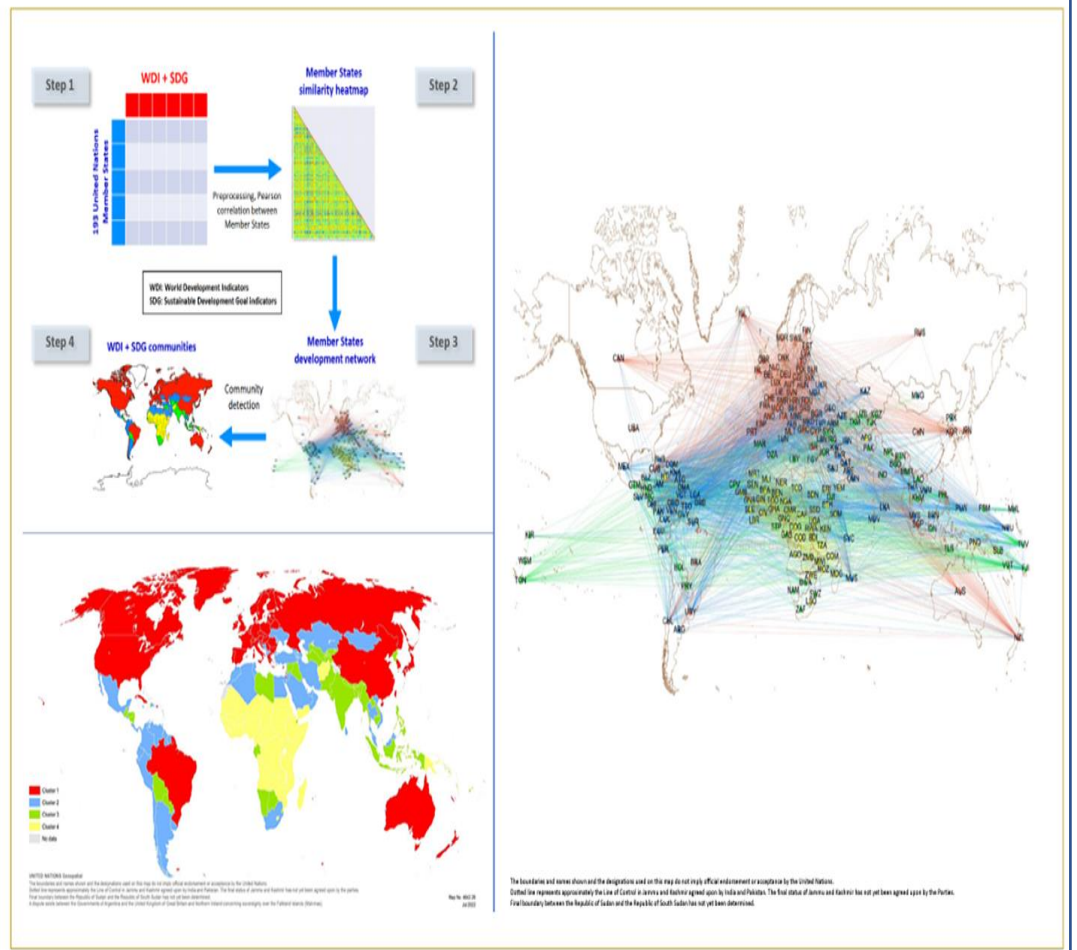


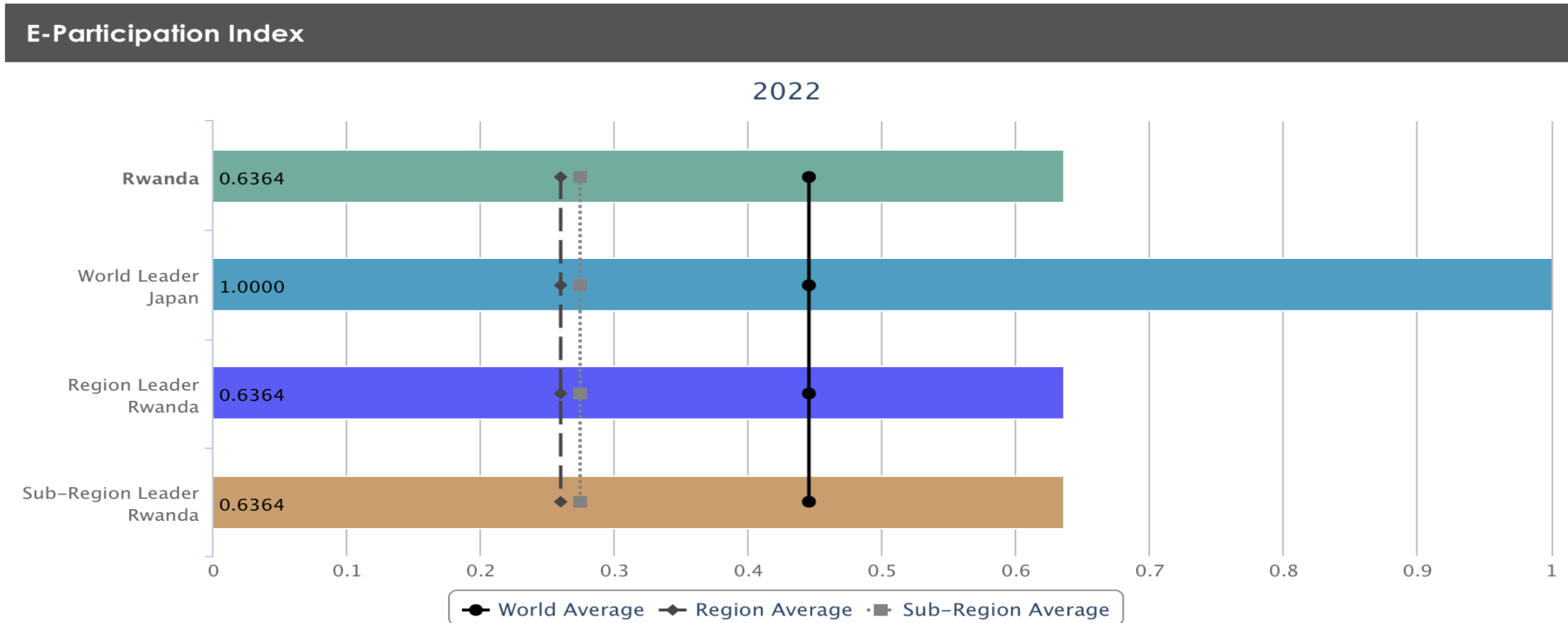
Figure B.1 Scheme representing the workflow of the complex network analysis, and map representing grouping of countries into four development clusters



Source: Complex Network Analysis Pilot Study for the 2022 United Nations E-Government Survey.

E-Participation Index (EPI)

Rwanda has advanced 29 placings and ranked 53rd in the E-Participation Index (EPI) in 2022 compared to 82nd in 2020.

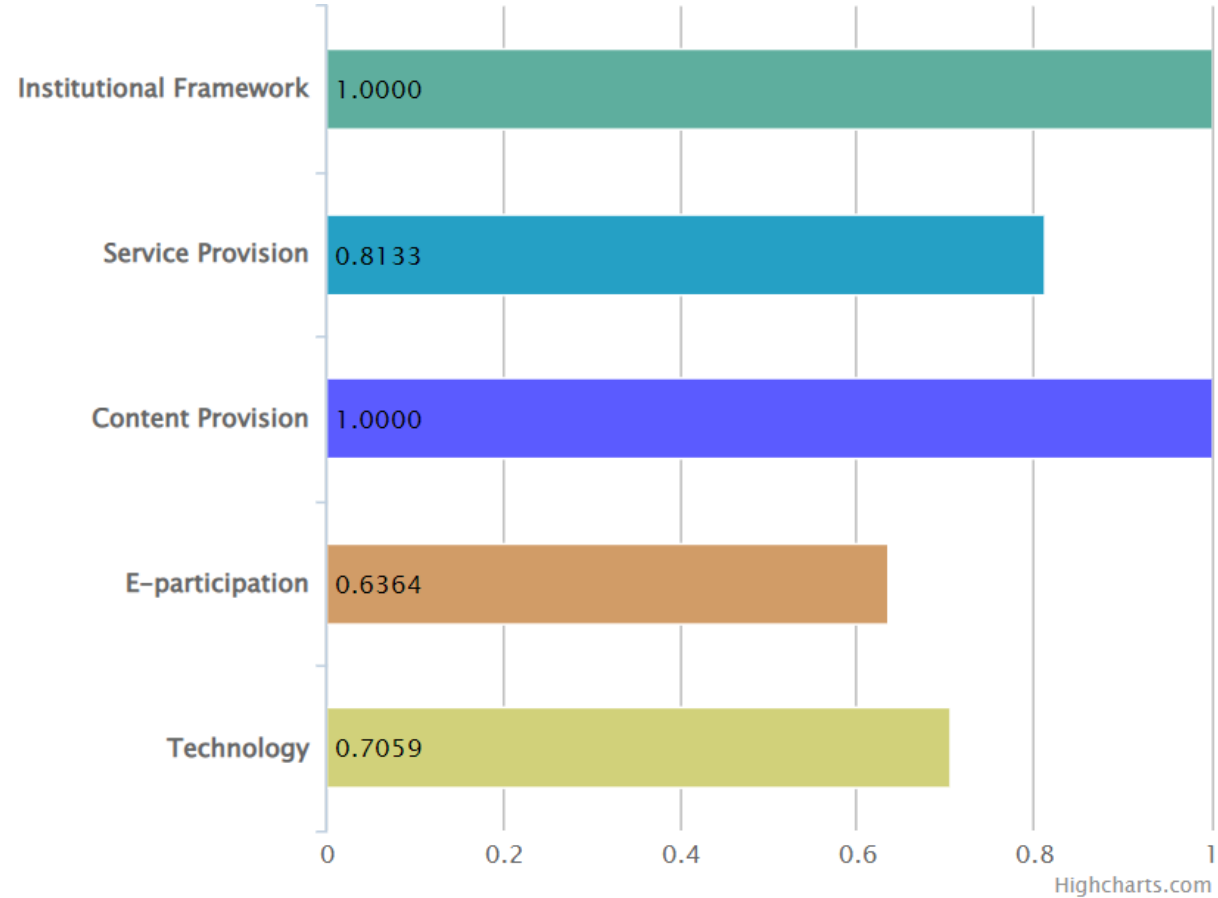
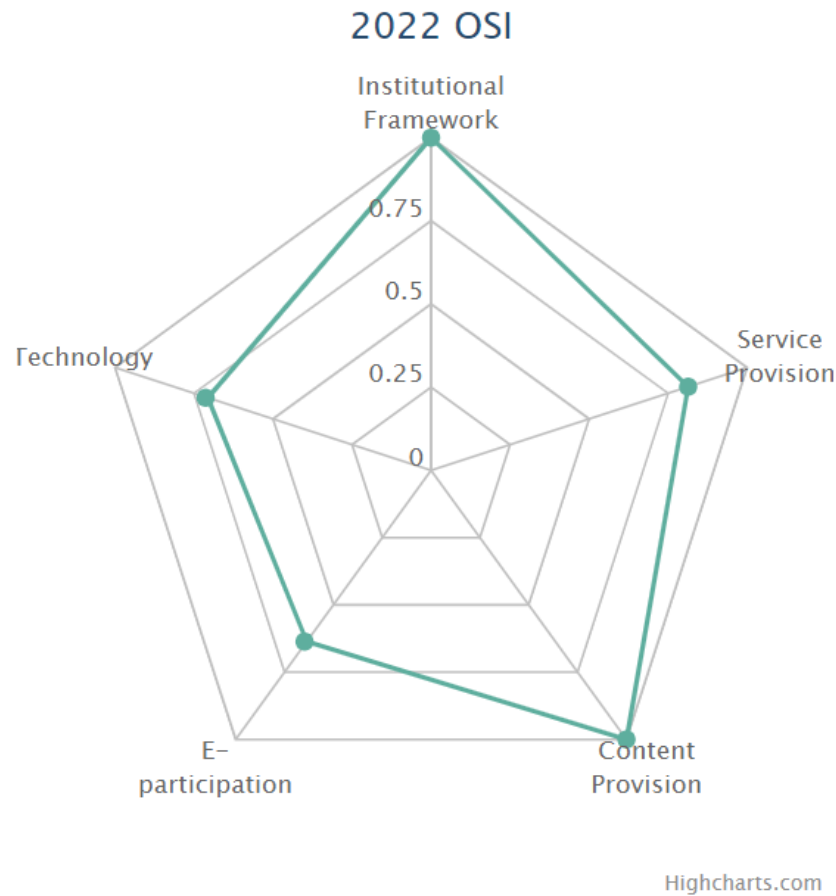


Highcharts.com

E-Participation Index	2022	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
Rwanda (Rank)	53	82	59	91	63	134	144	98	129	123	123
Rwanda (Value)	0.63640	0.63100	0.75840	0.49153	0.50980	0.02630	0.02857	0.09090	0.01587	0.01639	0.01720

Online Service Index (OSI)

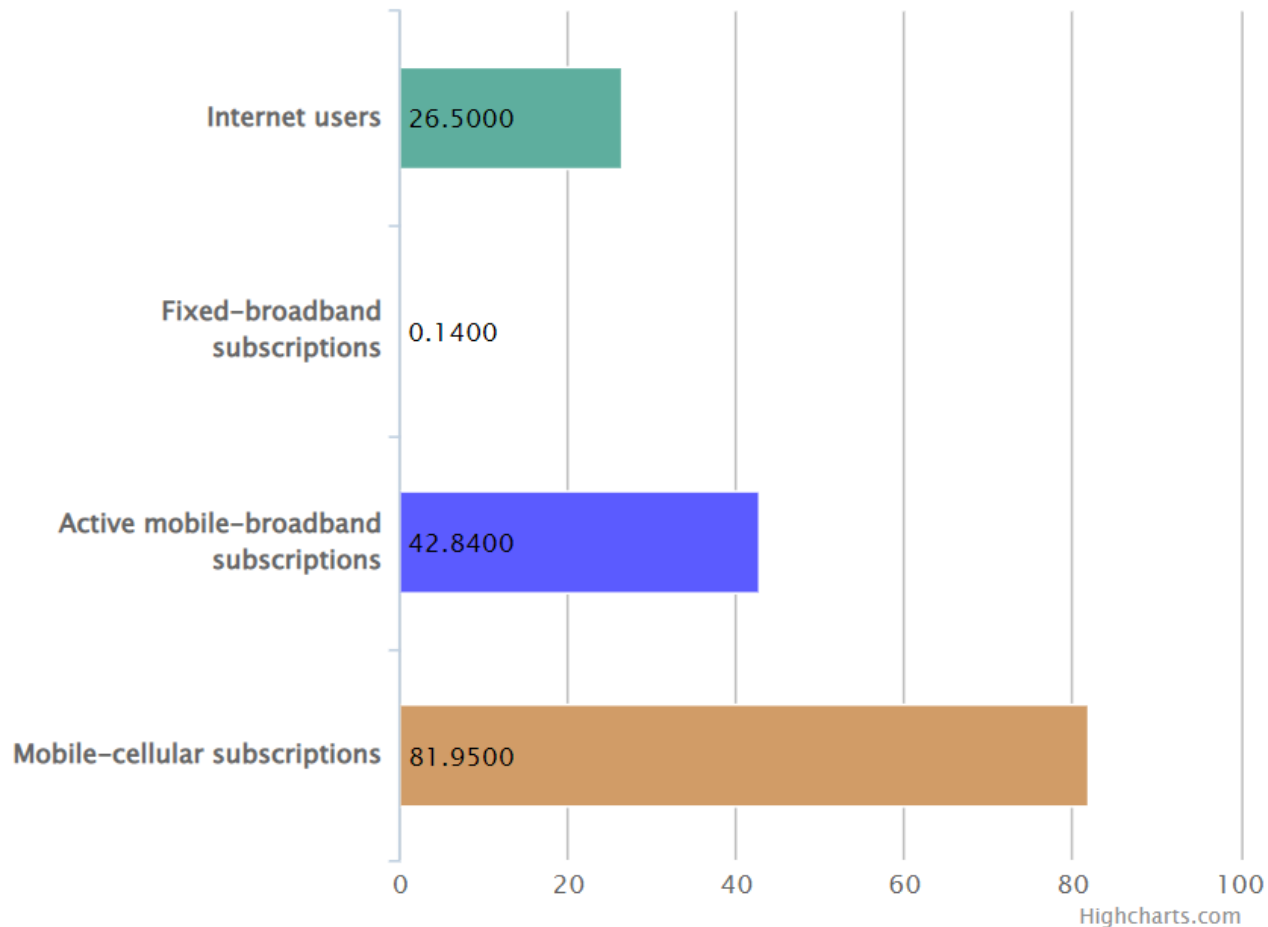
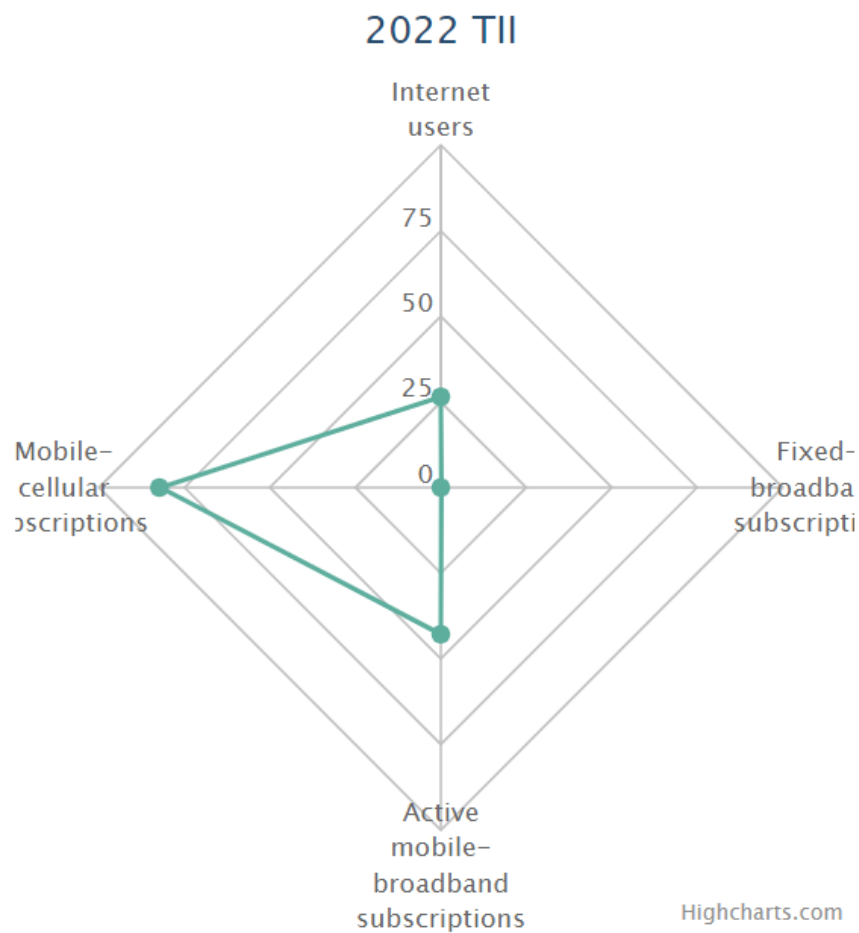
Rwanda has an OSI value (**0.79350**) in 2022 – a remarkable jump from 0.61760 in 2020.



Online Service Index	2022	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
Rwanda (Value)	0.79350	0.61760	0.72220	0.45652	0.51181	0.33986	0.17460	0.27424	0.11538	0.11969	0.14847

Telecommunication Infrastructure Index (TII)

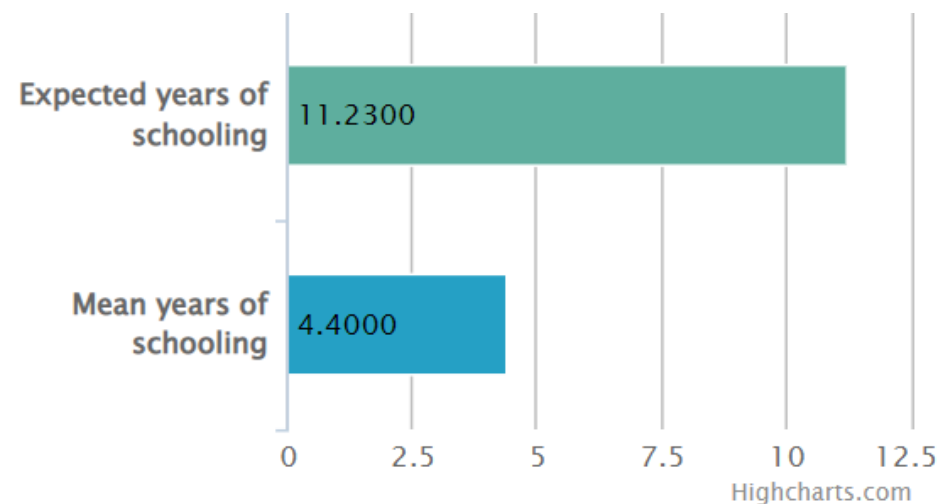
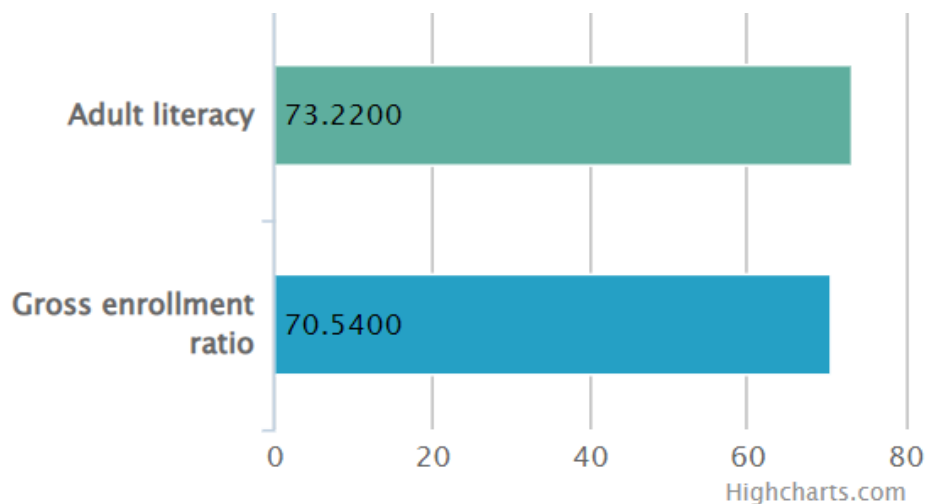
Rwanda has a higher Telecommunication Infrastructure Index (TII) value (**0.32090**) compared to 0.29310 in 2020.



Telecommunication Infrastructure Index	2022	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
Rwanda (Value)	0.32090	0.29310	0.17330	0.10840	0.08284	0.06142	0.02034	0.00639	0.00354	0.00353	0.00328

Human Capital Index (HCI)

Rwanda has a higher Human Capital Index (HCI) value (**0.53220**) compared to 0.52610 in 2020



Human Capital Index	2022	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
Rwanda (Value)	0.53220	0.52610	0.48150	0.45219	0.48200	0.58611	0.63293	0.60225	0.64000	0.63000	0.58000



Local Online Service Index (LOSI)

2020

CITY	LOSI	LOSI Rank	LOSI Level	Country	Region
Ho Chi Minh	0.4	42	Middle LOSI	Viet Nam	Asia
Lagos	0.4	42	Middle LOSI	Nigeria	Africa
Santiago	0.4	42	Middle LOSI	Chile	Americas
Amman	0.3875	47	Middle LOSI	Jordan	Asia
Jakarta	0.3875	47	Middle LOSI	Indonesia	Asia
La Paz	0.3625	49	Middle LOSI	Bolivia (Pluractional State of)	Americas
Cairo	0.35	50	Middle LOSI	Egypt	Africa
Kiev	0.35	50	Middle LOSI	Ukraine	Europe
Guatemala City	0.325	52	Middle LOSI	Guatemala	Americas
Bucharest	0.3125	53	Middle LOSI	Romania	Europe
Addis Ababa	0.3	54	Middle LOSI	Ethiopia	Africa
Casablanca	0.3	54	Middle LOSI	Morocco	Africa
Algiers	0.2875	56	Middle LOSI	Algeria	Africa
Luanda	0.2875	56	Middle LOSI	Angola	Africa
Tashkent	0.2875	56	Middle LOSI	Uzbekistan	Asia
Kathmandu	0.275	59	Middle LOSI	Nepal	Asia
Kigali	0.275	59	Middle LOSI	Rwanda	Africa
Dushanbe	0.2625	61	Middle LOSI	Tajikistan	Asia
Harare	0.2625	61	Middle LOSI	Zimbabwe	Africa

2022

City	Country	Region	LOSI Group	Rank	LOSI 2022	IF	CP	SP	EPI	TEC	OSI Group	OSI 2022
Tehran	Iran (Islamic Republic of)	Asia	Middle LOSI	103	0.3256	0.5556	0.3600	0.1667	0.1176	0.5294	Middle OSI	0.4196
Kigali	Rwanda	Africa	Middle LOSI	106	0.314	0.4444	0.3200	0.1111	0.2353	0.5294	Very High OSI	0.7935
Sarajevo	Bosnia and Herzegovina	Europe	Middle LOSI	106	0.314	0.5556	0.4400	0.0000	0.2941	0.3529	Middle OSI	0.4898
San Salvador	El Salvador	Americas	Middle LOSI	108	0.3023	0.6667	0.2400	0.0556	0.2353	0.5294	Middle OSI	0.467
Brazzaville	Democratic Republic of the Congo	Africa	Middle LOSI	109	0.2907	0.4444	0.2400	0.0556	0.1765	0.6471	Low LOSI	0.2341
Port Louis	Mauritius	Africa	Middle LOSI	109	0.2907	0.5556	0.2800	0.1667	0.0588	0.5294	High OSI	0.6282
Vientiane	Lao People's Democratic Republic	Asia	Middle LOSI	109	0.2907	0.3333	0.3200	0.1111	0.2941	0.4118	Middle OSI	0.3005
Dushanbe	Tajikistan	Asia	Middle LOSI	112	0.2791	0.5556	0.3200	0.0000	0.1176	0.5294	Middle OSI	0.3968
Karachi	Pakistan	Asia	Middle LOSI	112	0.2791	0.4444	0.3600	0.0556	0.2353	0.3529	High OSI	0.5658



In **Rwanda**, public institutions offer 98 online services. The significant increase in national investment in online services provision has allowed the country to become a leader among the LDCs and to compete with the world's leading countries in e-government development. Aiming to address challenges and improve user-centricity in services provision, Rwanda is focusing on collecting real-time information for internal and strategic public planning, to guide decision-making processes, and to inform the development of targeted solutions. The country uses real-time specific, measurable, attainable, relevant and time-bound (SMART) analytics to track services delivery performance, including through heat maps and location-referenced quick performance reviews of public entities such as schools, hospitals and farming areas. The Government is strengthening inter-agency data sharing to facilitate problem solving and policy alignment and is taking steps to reduce costs, to improve the quality of existing services or develop new ones, to prevent, detect and mitigate errors, to decrease corruption, and to foster innovation with an eye to anticipating future trends. With financing from the World Bank Group and through collaboration with the private sector, Rwanda has launched several digital inclusion initiatives to help 250,000 households acquire digital devices and to provide 3 million people with the opportunity to improve their digital literacy. As part of its ICT for Governance Cluster Strategy 2020-2024, Rwanda is planning to further expand inclusive digital services and ICT-enabled empowerment.



Some low-income countries (such as **Rwanda**) have done exceedingly well in online services development. (*E-government Survey 2022 P48*)

The success enjoyed by **Rwanda** in e-government development derives from a long-term vision that was initiated in 2000 and realized in 2020 with the SMART Rwanda Master Plan. The strategy and its focus on digital transformation are intended to contribute to the attainment of the SDGs, in particular Goal 9. Besides significantly increasing access to ICT and striving to provide universal and affordable access to the Internet, the Government has expanded investment to facilitate sustainable infrastructure development and support domestic technology development. By 2024, the Government is committed to making its services available online 24 hours a day and making all citizens and residents digitally literate regardless of their socio-economic or political status.



In **Rwanda**, different smart city solutions are being piloted and implemented as part of the **Smart city Masterplan** and are supported by the ICT Sector Strategic Plan. (*E-government Survey 2022 P108*)

In a research study undertaken in **Rwanda**, official estimates indicate that 1 in 5 (or 20 per cent) of the country's residents are using the Internet, but the numbers for **meaningful connectivity are as low as 1 in 160** (just over 0.6 per cent). (*E-government Survey 2022 P129*)



In summary:

- Rwanda's **E-Government Development Index (EGDI)** is **119th** this year, 11 spots up from 2020.
- Compared to 2020, it has made improvements in the Online Service Index (OSI), the Telecommunication Infrastructure Index (TII), and the Human Capital Index (HCI).
- It has progressed 29 places, to be ranked **53rd in the E-Participation Index (EPI)** this year, compared to 82nd in 2020.
- **Rwanda is classified in the high EGDI group.** It is at the very high level in the scope and quality of online services (Online Service Index, OSI) and at the high level in the inherent human capital (Human Capital Index, HCI) and at the medium level in the telecommunication infrastructure (Telecommunication Infrastructure Index, TII).
- Kigali's Local Online Service Index (LOSI) ranks 106th (out of 193 cities), as compared to 59th in 2020 (out of 100 cities); but stays at the middle level as in 2020.



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