OpenData Barometer

OPEN DATA BAROMETER

Leaders Edition

From Promise to Progress

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www.opendatabarometer.org

WORLD WIDE WEB FOUNDATION

CONTENTS

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OMIDYAR NETWORK

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Contact the Open Data Barometer team at: project-odb@webfoundation.org

The Web Foundation was established in 2009 by Sir Tim Berners-Lee, inventor of the World Wide Web. Our mission is to establish the open web as a public good and a basic right.

EXECUTIVE SUMMARY

2018 marks ten years since a group of open government advocates gathered to develop a set of principles for open government data, triggering the beginning of the open data movement in government. Since then, open data champions have worked with governments to open up information to the public, make government more accountable, and give citizens new ways to participate in their communities. The *Open Data Barometer - Leaders Edition* looks at how leading governments are performing a decade into the open data movement, and outlines what needs to happen for the movement to progress forward.

The report looks specifically at 30 governments that have made concrete commitments to champion open data, either by adopting the Open Data Charter, or, as members of the G20, by signing up to the G20 Anti-Corruption Open Data Principles. We have called them "leaders" on the basis of making these commitments, but, as the report shows, we are yet to see any government undertake the organisational and infrastructural changes needed to make open data a norm of day-to-day governing. Progress towards this, even among these leader governments, is slow.

That said, the results of the Open Data Barometer show that these commitments do matter. Scores in this *Leaders Edition* were, on average, two to three times higher than the scores of a wider group of 115 governments measured in the *Fourth Edition*. This indicates that these governments are indeed leaders in terms of overall performance — two-thirds of these 30 governments have made double-digit progress over five years of analysis, and more than one-third have increased their scores by over 50%.

Furthermore, we are starting to see stronger evidence of impact among these 30 governments. However, we also see a number of worrying trends:

- **Fewer than 1 in 5 datasets are open:** Given that these 30 governments are expected to be open data leaders, it is deeply concerning that the vast majority of their datasets remain closed to the public. This shows how little progress has been made in 10 years of open data.

- **Early world leaders are faltering:** The UK — the global open data leader for many years — has seen its total score decline slightly in the five years we have been measuring performance for the Barometer. The only other government to see an absolute reduction in score in this leaders group is the USA — another early pioneer which has seen its score fall by 11 points and can no longer be considered an open data champion.

- **Governments still treat open data as a side project:** The Barometer results show that governments are still treating open data as isolated initiatives. Governments must prioritise and invest in open data governance to support the substantial changes needed to embed an open approach across agencies and departments.

To show true leadership, governments must do more than make promises to promote open data. Open data must become part of how they govern day-to-day, not only in one or two departments, but across the whole of government. Otherwise, open data will continue to be published in the haphazard, incomplete way that it has been for the past decade.

The biggest action governments can take to speed up progress is to start investing the significant resources needed to build the policies, practices and infrastructure that will drive this transformation.

The report outlines a number of specific recommendations that governments can make in three key areas:

1. **Put "open by default" into action:** Develop clear plans, guidelines and procedures to disclose data proactively. This includes listening to people's demands, facilitating data sharing, and investing in the financial and human resources needed for better open data governance.
2. **Build and consolidate open data infrastructure:** Improve data quality and interoperability through effective data management practices and data management systems that are built to manage open data. Invest in building capacity and data skills.
3. **Publish data with purpose:** Work closely with civic groups and multi-stakeholder advisory groups to identify pressing challenges that open data can help solve. Publish the relevant datasets and analyse the impact achieved.

This report finds that, despite being the global leaders in open data today, **these governments still have a long way to go to move from promise to progress** on open data implementation and impact. For the open government data movement to not only survive but thrive, governments need to radically change their approach to open data and focus their efforts on data governance. Only then will we start to see evidence of open data's real impact on people's lives.

01

INTRODUCTION: A DECADE OF OPEN DATA

Ten years have passed since a group of open government advocates gathered to develop a set of principles for open government data — a moment that triggered the beginning of the open data movement in government.

We are also now into the fifth year of the Open Data Barometer — our research tool that measures the prevalence and impact of open data initiatives in governments around the world. In this period, governments have made progress. Dozens of national open data initiatives have been launched. However, we remain a long way from reaching open data's potential to make government more effective and accountable to citizens, and there remains a great deal of uncertainty about what the future of open data looks like.

This milestone is an opportunity to take stock of where the movement is and what we need to do to ensure it continues to move forward. The *Open Data Barometer - Leaders Edition* looks specifically at those governments that have made concrete commitments to champion open data — the "leaders" in the open data movement. These are the 30 governments that have adopted the Open Data Charter — a globally-agreed set of best practices for publishing, using and maximising the potential of data — and those that, as members of the G20, have signed up to the G20 Anti-Corruption Open Data Principles (which are themselves based on the Open Data Charter Principles).

This report puts this leadership to the test by measuring the progress these 30 governments have made against three essential ingredients for good open data governance, defined as part of the Open Data Charter update process:

- **Open by default:** Are governments successfully building policies, skills and processes across the whole of government to enable a culture of data openness in which publishing open data is the accepted norm?
- **Data infrastructure:** Are governments working to build or improve the technical infrastructure that will support openness in government and organisational transformation over the long term?
- **Publishing with purpose:** Are governments thinking about who will use open data and what they will use it for? Are they publishing the data that people need, in a way they can easily use?

1.1 Looking back: global lessons from past editions

Five years of Open Data Barometer research offers some interesting insights into where governments are today, and how they have evolved in the open data space. Taking a step back to look at the broader picture of progress made by all governments we researched in these five years, we can see:

- **Better policies, but modest results:** Open data has entered the mainstream and open data policies have spread quickly over the last five years. However, there has been little to no progress on the number of truly open datasets around the world. Fewer than 10% of all datasets surveyed are open and governments have been reluctant to publish the datasets that can most benefit citizens. When available, such data is typically incomplete and of poor quality.
- **Data openness requires resources — not just political will:** We have seen that political will can make or break the success of open data initiatives. But, more often than not, resourcing has been the weakest link, with governments often lacking the sustained investment needed to build capacity. We have also seen "open-washing" — where governments release selective information without providing an environment for people to use it. This undermines the progress of reforms that support true data openness.
- **Promises on infrastructure and community building remain undelivered:** Governments that historically have ranked highly in the Barometer have been promising to invest in national data infrastructure and community building around open data for years. But these conversations continue year after year with very little actual investment.
- **Weak legislation impedes the growth of open data:** The absence of strong Right to Information (RTI) laws has prevented many citizens from using open data to hold government to account. At the same time, weak or absent data protection laws across many countries have undermined citizen confidence in open government data initiatives.
- **There is inadequate evidence of impact:** There is little historical evidence of real benefits from open government data initiatives, particularly for social impact. Few programs have been properly evaluated and most of the discussion relies on anecdotes rather than empirical studies.

CHANGES TO METHODOLOGY

There are a number of methodological changes in the *Open Data Barometer - Leaders Edition*. The most significant is that the scope of the study has been reduced, now measuring 30 governments, down from over 100. We are also using absolute values for scores, rather than scaled values. In previous editions, for example, the top performing government was given a score of 100 and other governments were scored relative to this. This is no longer the case. This change is part of an ongoing effort to improve our methodology and to provide more realistic evaluations of performance. However, to allow for direct historical comparisons, we have provided recalculated absolute values as well as scaled values for all previous editions on our website.

A full updated description of the Open Data Barometer methodology and full historical data is also available at opendatabarometer.org.

1.2 True open data leaders?

Having made explicit commitments, the 30 governments studied in this edition should be the top performers in the open government data space. Broadly speaking, this is the case — the scores of the countries measured in this edition are, on average, two or even three times higher than the scores of the 115 governments measured in the *Open Data Barometer - Fourth Edition*.

However, true open data leadership is about more than performing above a global average. It is about governments moving beyond open data as a side project, and making open data an integral part of governance. In this report, we review where these open data leaders currently stand, before measuring their performance on the three key ingredients for good open data governance:

1. **Open by default**
2. **Data infrastructure**
3. **Publishing with purpose**

For the open government data movement to not only survive but thrive, governments need to radically change their approach to data governance. They should start by focusing on these three key ingredients. Only then might we start to see evidence of open data's real impact on people's lives.

02

FINDINGS: WHERE THE LEADERS STAND

The majority of governments studied in this edition have advanced, with the development and passage of new and improved open data policies and practices over the past five years. However, not all governments are progressing at the same pace, and there remain substantial chasms between them.

We can divide the 30 governments assessed into three groups, based on their performance: (1) champions; (2) contenders; and (3) stragglers.

1. Champions

These are the governments with the highest total scores — all above 65 — and with a balance between scores on the sub-indexes of open data readiness, implementation, and impact. Canada and the UK are this year tied for first place — though the evolution of each government looks quite different. While the UK was an early leader in the open data space, it is one of only two governments — along with the USA — to see its score decline over the course of five Barometer editions (down 4 points). In contrast, Canada has advanced slowly but steadily and is now challenging the UK and raising the bar. Other governments in this group, including Australia, France, South Korea, Japan and New Zealand have seen similar strong improvements.

2. Contenders

Governments in the second group have not yet passed the 65-point threshold and remain significantly behind the first group. They are also lacking strong evidence of impact. Still, a number of governments in this group — including Ukraine, Colombia and Uruguay — have shown tremendous progress since the first edition of the Barometer (up 25 points from five years ago). Others — like Brazil, India, Argentina and the Philippines — are showing fairly good progress, with improvements of over 15 points. The USA, another early open data leader, has been demoted into this group, having seen its score drop by 11 points.

3. Stragglers

Finally, another group of governments — including Chile, Costa Rica and Turkey — appear to have stagnated, making little to no progress at all in five years. All of these governments have a serious weakness in at least one of the readiness, implementation or impact components. However, some countries, such as Saudi Arabia and Sierra Leone — while making only small improvements — have seen some progress in the past year, giving them a more promising short-term outlook.

GOVERNMENTS AND GROUPS	TOTAL SCORE (out of 100)	TOTAL SCORE CHANGE (since 1st Ed.)	READINESS (out of 100)	IMPLEMENTATION (out of 100)	IMPACT (out of 100)	G20 MEMBER	CHARTER ADOPTER
Canada	76	18	86	87	55	✓	✓
UK	76	-4	83	89	57	✓	✓
Australia	75	17	79	84	62	✓	✓
France	72	17	84	77	55	✓	✓
South Korea	72	25	82	67	67	✓	✓
Mexico	69	33	79	67	62	✓	✓
Japan	68	24	78	68	58	✓	✗
New Zealand	68	5	79	72	52	✗	✓
USA	64	-11	79	76	37	✓	✗
Germany	58	2	76	72	27	✓	✗
Uruguay	56	23	71	70	28	✗	✓
Colombia	52	25	69	60	28	✗	✓
Russia	51	10	62	59	32	✓	✗
Brazil	50	15	63	56	30	✓	✗
Italy	50	8	61	61	27	✓	✓
India	48	16	64	49	32	✓	✗
Argentina	47	14	66	56	20	✓	✓
Ukraine	47	25	60	52	28	✗	✓
Philippines	42	19	54	42	30	✗	✓
Chile	40	2	54	55	12	✗	✓
Indonesia	37	17	49	45	17	✓	✗
South Africa	36	14	50	37	22	✓	✗
Paraguay	34	15	41	45	15	✗	✓
China	31	15	44	38	10	✓	✗
Costa Rica	31	1	48	43	3	✗	✓
Turkey	31	5	33	53	7	✓	✗
Panama	30	10	47	42	0	✗	✓
Guatemala	26	2	36	37	5	✗	✓
Saudi Arabia	25	12	40	32	3	✓	✗
Sierra Leone	22	11	33	23	10	✗	✓

Table 1 — Open Data Barometer scores for Open Data Charter adopters and G20 members (minus EU) - Champions, Contenders and Stragglers groups on green, yellow or red background respectively.

2.1 The path to progress

A number of governments have made large improvements and continue to progress at a good pace. South Korea, Colombia, Ukraine, Japan and Uruguay have all seen their scores jump by over 20 points during the last five years; Mexico holds the record for absolute improvement, with a score increase of 33 points since the first edition of the Open Data Barometer.

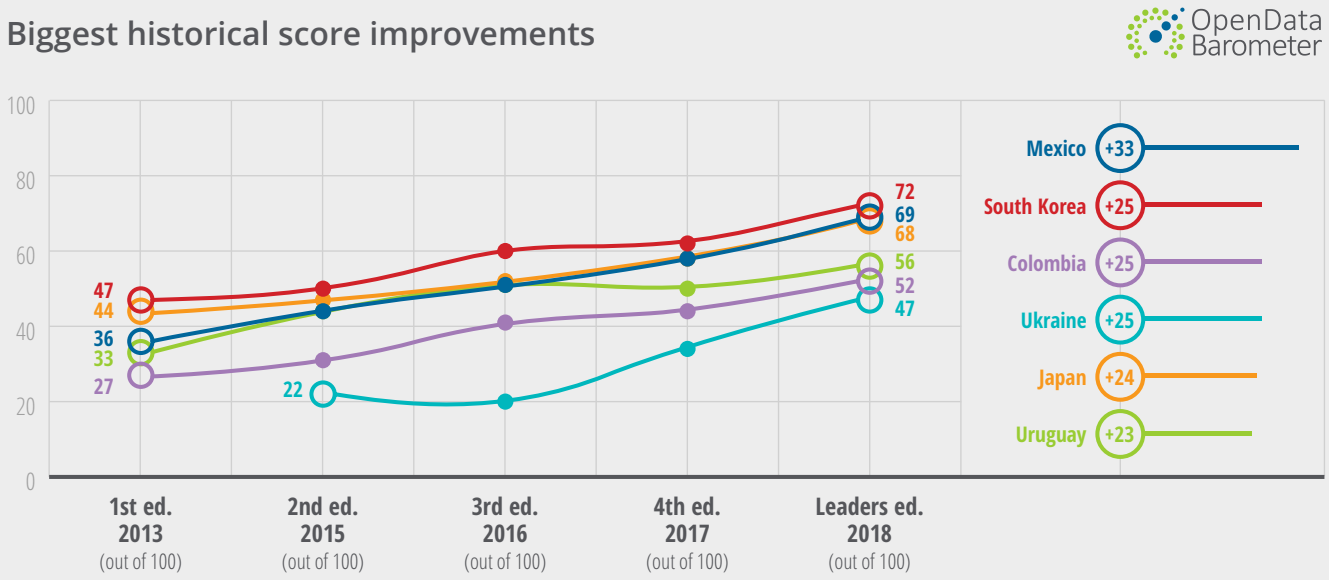

Figure 1 — Leader governments with the biggest score improvements in the Barometer historical comparison of absolute scores. Note that the older edition scores have been re-calculated using absolute values.

Some of these top improvers are now within touching distance of the top open government data performers. South Korea has already joined their ranks. As these countries continue to seek improvement, they should look to the current leadership to understand what they can do to position themselves at the top of the table.

Canada has advanced steadily, retaining its position as a top performer for the past five years and rising to the top in this edition. The government's continued progress reflects a strong performance in virtually all areas — from policies to implementation. Its consistent political backing has been one the keys to its success. As Canada starts to show substantial evidence of the impact of this focus on open data across the government, social, and economic sectors, we can see this approach starting to pay off.

France has seen a similarly positive trajectory. The government has made impressive advances in recent years, particularly in the economic and social impact sectors. However, in other areas, such as support for innovation and open data at the subnational level, a strong start five years ago looks to be stagnating. This may be connected to its recent political transition. Nevertheless, French President Emmanuel Macron has expressed the government's commitment to openness and innovation and we hope to see this enthusiasm reflected in the indicators of future Barometers. This would place France in the running for the top spot once again.

South Korea is among the most improved governments for open data over the Barometer's five-year period and has become a strong candidate for world leader. It is one of the few governments that has improved across all indicators in our study, and its growth in some areas is remarkable. For example, the indicators for civil society engagement, support for innovation and open data activity at the subnational level have all doubled since our first assessment. Furthermore, South Korea has seen the most open data impact so far, including some social impact — which few other governments have.

THE SEARCH FOR OPEN DATA IMPACT

The ultimate goal of opening government data is to drive positive change in our lives. But establishing a causal connection between open data and positive societal change is notoriously difficult.

Past Barometer research has uncovered little evidence that open data initiatives have produced real benefits. However, in this *Leaders Edition* we see greater evidence of open data impact on governments, citizens and the economy.

Open data is **improving how government resources are used**. In France, it has helped the government better use energy resources in public buildings. In Australia, government departments have improved collaboration through a Multi-Agency Data Integration Project.

Open data is **driving more transparency, accountability and participation**. In Uruguay, it has helped journalists uncover wrongdoing in political party financing. Citizen participatory budgeting in South Korea has allowed the public to scrutinise government spending, and citizens in Japan are now able to monitor government IT investments. In Germany, people can participate in public urban planning and decision making.

Open data is also **driving social impact** by making the policy process more inclusive. New digital data tools have helped to promote financial inclusion in Mexico's biggest social program and are helping communities in South Africa have a voice in government. Open data is also being used to tackle pollution in China, address the effects of climate change in Canada, manage natural disaster risks and natural resource planning in the Philippines, and improve the management of natural resources in New Zealand.

Finally, open data has **positive economic impacts**. It is boosting economic growth in the USA, while in the UK it is delivering business opportunities and making entire sectors more efficient. Hundreds of data-based companies have flourished in Australia, Mexico, USA, Italy, South Korea, Canada and across the world — creating new market opportunities and data business models.

There are clear social and economic benefits for governments that commit to opening data. The impact we see now is only the beginning of what is possible if data is open and people have the skills and tools to use it. Going forward, the open data movement needs to improve measurement of impact so we can move beyond individual case studies to understand broader open data impacts.

2.2 Areas of weakness

There are several areas of weakness found across all governments in this edition, and which are standing between the promise of open data and meaningful progress, even among leaders.

1. **Overall progress is slow:** Five years after we started assessing open government data, less than half of the governments in the *Leaders Edition* score above 50 points. Others have slipped or barely advanced at all — including the UK, Germany, USA, Chile and Costa Rica. As governments that have made explicit commitments to open data, this is worrying — particularly as the Open Data Charter Principles have now been active for over three years.

Governments not advancing after five Barometer editions

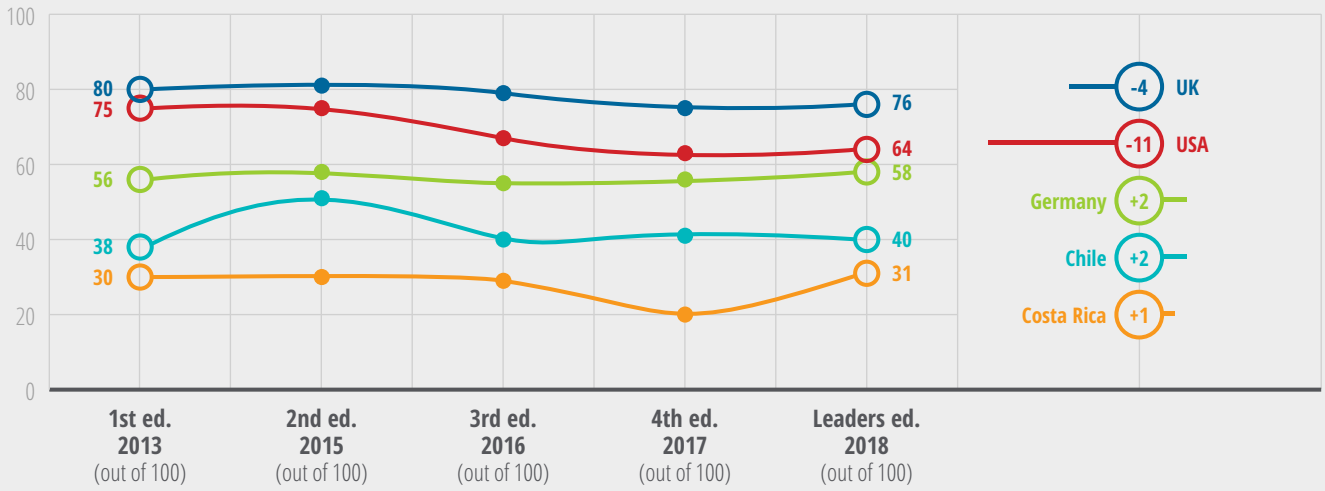

Figure 2 — Historical ODB scores comparison for *Leaders Edition* governments not advancing after five editions of the Barometer. Note that the older edition scores have been re-calculated using absolute values instead of scaled ones.

2. **Open data is treated as a side project:** For open data to have real, lasting impact, it needs to be embedded throughout government. This requires solid open data policies, strategies and data management guidelines. While scores for open data policies and management practices are increasing, they remain lower than scores for the maturity of individual initiatives. This tells us that most governments treat open data largely as an experiment — starting with small initiatives, then following up to build policies to support these. It is time to move out of this beta phase and put into place the fundamental governance infrastructure needed to support sustainable initiatives.

3. **Governments and civil society need to collaborate:** Engagement between government and civil society has stagnated. This is one of the few indicators that has not advanced significantly in this *Leaders Edition*. Worse, many governments are now backsliding on this indicator, including Brazil, Italy, South Korea, New Zealand, Turkey and USA. Collaboration between civil society and government is crucial to making open data work for people. Therefore governments should commit to engaging with civil society regularly and for the long term. Short-term, one-off actions like hackathons have become the norm, but lack the impact of long-term partnerships.

These findings indicate weak data governance practices that are affecting not only this group of leaders, but the entire open data movement. The following section measures our 30 leader governments against key areas of data governance and compares their performance against the full group of governments we had in the previous editions.

WHY ARE HISTORICAL LEADERS FALTERING?

UK

Long the global open data leader, the UK has seen few changes to its open data initiative in the past five years — leading to a small regression of 4 points. On the upside, the UK has built on its data management practices, the movement for openness has reached the subnational level, and data training options are now broadly available. However, the government's policies have not evolved at the same pace as its initiatives. It has softened its initial strong commitment to openness and has adopted a new "open government data when appropriate" policy. There are signs that the government is considering a retreat from its open data aspirations. Other areas of deterioration include dropping engagement with civil society and reduced support for open data innovation culture. Right to Information (RTI) and data protection frameworks are also slipping behind best practices. Finally, while evidence of impact remains quite strong, there are signs of weakness on inclusion efforts.

USA

Decline in the USA has been more pronounced. It appears that fewer resources are being invested in open data and the government's performance has regressed across almost all indicators, particularly in the last couple of years, leading to a drop of 11 points. The government has dropped out of the champions group as its open data initiative has weakened. The country's RTI framework deserves particular mention, as the government has become less responsive to FOI requests in recent years. The only areas of improvement have been data management practices, the availability of data training programs, and some emerging impacts around inclusion and entrepreneurship. Open data at the subnational level remains constant.

03

OPEN DATA AS A WAY OF GOVERNING

*Open data should not be a side project, but embedded throughout the work of all government agencies. This means investing not only in open data initiatives, but in **open data governance**.*

While open data governance as a concept requires further exploration, in our understanding it is about the policies, structures, and decision making processes, resources, and tools used to improve how governments create and use open data across departments. In this section, we measure governments against three key ingredients critical to good open data governance: (1) open by default; (2) data infrastructure; and (3) publishing with purpose.

3.1 Open by default

"Open by default" — with the end goal of publishing data when it is created — requires an entire culture of data openness. Writing "open by default" in a policy paper does not automatically open up all data. To be "open by default", governments must radically change the way they work — an aspirational but achievable aim that demands a long-term commitment to reform.

Why it matters

The principle of "open by default" describes all the structural changes needed in government to support the opening of government data when it is created — rather than being stored in a closed format to be opened up later. The shift required to open data by default makes the underlying concept quite complex. It requires changes to both culture and ways of working in government.

One of the many challenges of the "open by default" principle is that it lacks clear definition. No consensus on its exact meaning has yet been reached, and not even the open definition references "open by default". Because the concept remains abstract, it is difficult for governments to put it into practice.

In the Global North, some governments have been trying to incorporate the concept into their open data policies and/or strategies, although not necessarily into the practices that follow. For other governments, particularly in the Global South, "open by default" is still perceived as unrealistic, as it requires a strong foundation of resources, strategies and laws. These countries often have weak or non-existent RTI and data protection frameworks, leaving additional obstacles to achieving "open by default".

How "open by default" are governments?

The availability of open data among governments in this *Leaders Edition* has increased compared with the previous *Fourth Edition*, rising from 7% to 19% — largely because many of the lower-performing governments from previous editions were not included in this smaller sample. Moreover, while an improvement on last year's global figure, 19% is a fairly modest achievement, especially for governments that have committed to opening their data by default.

What is preventing these governments from being leaders in making data "open by default"? It is clear that having an open government data initiative and an "open by default" policy is insufficient to ensure data is actually made open at the point of creation. The following four indicators represent some of the elements necessary to ensure a government can be truly "open by default":

- **Sufficient resources:** Open government data initiatives need to be well resourced, with strong leadership, dedicated staff and allocated budgets. While most governments in the *Leaders Edition* have mature open data initiatives and scored highly on this metric — as a group they outperformed the global average in the last edition with an overall score of 7 (out of 10), compared with a score of 4.4 last year — many are lacking strong leadership and political will. Moreover, staffing and budgets tend to be tight. Without high-level political backing and a proper team, it becomes very challenging to make progress on "open by default".

- **Government strategy and policies:** Open data strategies and policies are essential to articulate processes and responsibilities, and yet, this edition shows that governments typically build these only after open data initiatives are already in place. As a result, they tend to be undeveloped or incomplete (6.2 out of 10 on average for government policies among leader governments). A large number of governments lack solid medium- and long-term strategies and policies, including Chile, China, Costa Rica, Guatemala, Indonesia, Paraguay, Saudi Arabia, Sierra Leone, South Africa and Turkey. As well as putting strong strategies in place, governments must invest more in capacity building so they are able to embed these strategies across all agencies and departments.

- **RTI and data protection frameworks:** Data protection and RTI policies and frameworks are the other two key elements for supporting an "open by default" culture. Together they help to make more data available, while protecting individual rights to privacy. However, on average, leader governments had relatively modest scores in these areas, at 5.9 for RTI and 6.2 for data protection (out of 10). These are the only indicators that have barely advanced at all for this leaders group over five editions of the Barometer. Moreover, half of leader governments are faltering in at least one of these two indicators. Data protection and RTI are foundational pillars of an open government, and so regression in these areas makes "open by default" difficult to achieve.

CASE STUDIES

Canada: "Open by default" in action

As part of Canada's commitment to "open by default", it launched its Open by Default Pilot in 2017. Since then, federal government departments have been working to open up their scientific and cultural research contributions to public researchers, businesses and interested citizens. One of these departments, the Environment and Climate Change Canada (ECCC), is publishing documents as snapshots of works-in-progress from public servants. These include field notes, research documents, reporting documents and organisational charts. This is a good start from Canada as it moves toward its "open by default" transformation, but there is much work ahead.

Japan: planning for openness

For almost a decade, Japan's government has had an overarching Open Government Data Strategy designed to promote the use of public data as an asset for citizens. The strategy includes objectives, fundamental principles and key measures for promoting the open government data movement. In particular, the fundamental four principles in the strategy cover almost all principles of the Open Data Charter, with "open by default" listed as the first fundamental principle. Furthermore, the High-Level Roundtable for Promoting Open Data has been monitoring and reporting open government data activities at the national and local level.

3.2 Data infrastructure

Open data infrastructure and management practices are weak and inconsistent, and they change frequently. Governments need to work on the technical and organisational transformation that is required to promote and sustain data openness.

Why it matters

Timeliness, comprehensiveness, accessibility, usability, comparability and interoperability are essential requirements for quality data. In order to publish data with these attributes, governments need to invest in technical infrastructure, including hardware and software tools, but also investments in guidelines, technical standards, capacity building, organisational transformation and decision making processes to support data management practices.

How are governments performing in data infrastructure?

Governments should aim to publish quality datasets in a uniform way across all agencies and departments so that it becomes easier to use and understand this data. However, according to our indicator evaluating data management, almost half of leader governments measured still lack comprehensive guidelines, technical standards, and management procedures. Even so, these governments perform far better than the global average from the *Fourth Edition*, with average scores doubling from 2.8 to 5.6 (out of 10).

Data management is often only considered once open data initiatives have already been in place for some time and a government-wide strategy or policy has been developed. This is usually too late. This cart-before-horse approach is frequently one of the chief causes for poor quality data. While almost all 30 leaders performed better on data quality indicators when compared with the 115 governments measure in the *Fourth Edition* (see Table 2 below), scores for these indicators remain modest — less than 20% of data is truly open, 25% is not available in a machine-readable format, less than half is available under an open license, and less than 10% contains common identifiers that make data easily comparable and interoperable.

DATASET	OPEN	MACHINE READABLE	BULK	FREE	OPEN LICENSE	UPDATED	SUSTAINABLE	DISCOVERABLE
Maps	20%	85%	42%	81%	39%	46%	46%	85%
Land	7%	67%	33%	73%	33%	73%	80%	80%
Statistics	27%	90%	47%	97%	50%	93%	87%	93%
Budget	30%	79%	45%	100%	59%	100%	100%	79%
Spending	13%	89%	67%	100%	56%	78%	78%	56%
Companies	13%	60%	35%	70%	35%	55%	55%	60%
Legislation	13%	37%	20%	100%	30%	100%	100%	93%
Transport	30%	64%	36%	100%	56%	68%	76%	80%
Trade	23%	90%	37%	100%	43%	90%	93%	67%
Health	17%	80%	27%	100%	43%	63%	60%	53%
Education	13%	82%	26%	100%	44%	67%	59%	59%
Crime	17%	71%	29%	100%	39%	79%	64%	39%
Environment	20%	85%	33%	96%	52%	41%	33%	44%
Elections	17%	82%	32%	100%	29%	96%	82%	89%
Contracts	27%	61%	36%	100%	43%	96%	82%	75%
Average Leaders Ed. (30 governments)	**19%**	**75%**	**35%**	**96%**	**43%**	**77%**	**74%**	**71%**
Average Global 4th Ed. (115 governments)	7%	53%	24%	90%	26%	74%	66%	73%

Table 2 — % of all 15 government datasets analysed by the Barometer among the 30 leader governments that meet each quality criterion, and comparison with the *Fourth Edition* of the Barometer for all 115 governments. (Green and red cells are highest and lowest values per indicator respectively)

In many cases, open data publishing is driven by a small group of open data curators working as part of informal networks within government to upload files manually — or semi-automatically — to a centralised open data portal with some degree of official support. This is not a scalable approach. Governments need both the appropriate technical infrastructure as well as the data management teams and processes to support the efficient scaling of data openness. Most governments lack these elements, and legacy IT systems that have not been built to support open data create additional challenges to developing technical infrastructures.

Yet there are more challenges at play aside from the slow uptake from governments. In particular, the movement for better data infrastructure and open data standards lacks diversity and ownership beyond the Global North. Many Global South governments lack basic foundations and well-managed and digitised government datasets. Alternatives for all possible environments and starting points need to be considered.

CASE STUDIES

Building open data standards

Open Ownership was established to create a global register of beneficial ownership data, providing information about who owns companies. The register, now in beta, aims to drive corporate transparency and tackle fraud, money laundering and tax evasion. The initiative followed commitments from 40 governments to establish public registers of beneficial ownership at the UK's Anti-Corruption Summit in May 2016.

Sector-specific projects, such as the Extractives Industry Transparency Initiative, and development bodies, such as the World Bank, are also embracing transparency frameworks that include public beneficial ownership requirements.

Defining data infrastructure

The UK Government's Digital Service (GDS) Standard is a set of 18 criteria to help government create and run effective digital services. Relevant criteria include:

8 make all new source code open

9 use open standards and common platforms

10 test the end-to-end service

12 make sure users succeed first time

13 make the user experience consistent with GOV.UK

15 collect performance data

16 identify performance indicators

17 report performance data on the performance platform

data.gov.uk has a standardised format for listing datasets, including metadata (DCAT) and uses open formats for its data as default. The UK's Open Standards Board has adopted several open standards for data, such as ODT, ODS, and CSV. It has also adopted the Open Contracting Data Standard and the IATI data standard. Anyone can request datasets to be published as open data via the data request process.

3.3 Publishing with purpose

The success of open data must be measured by whether it improves people's lives. Governments must publish the data that people need and want. To make this happen, governments and civil society have to collaborate, and governments need to lead the way and invest in and prioritise highly demanded data and digital literacy trainings.

Why it matters

The true value of data derives from how people use it. Governments must engage with the public to understand what data is most important, and then make sure it is published in a way people can use. Too often, governments are not prepared for such long-term collaboration.

While the ultimate goal is to publish data that is "open by default", this will be a gradual transition; in the meantime, governments must prioritise the data that people need most. When governments identify data with a specific purpose in mind, they must reflect on both the need for this data, and the potential impact on citizens, before working on the steps needed to release it.

How are governments performing in publishing with purpose

The most important factor is whether the data that people need — the data necessary for social impact — is available as open data. As shown in Figure 3 below, less than a quarter of the data with the biggest potential for social impact is available as truly open data in leader governments. Even though this *Leaders Edition* has seen a significant boost in average performance with respect to past global editions, our open data quality indicators show that there remains a great deal of room for improvement on social data quality. Nevertheless, the improved performance around statistical data is a welcome trend.

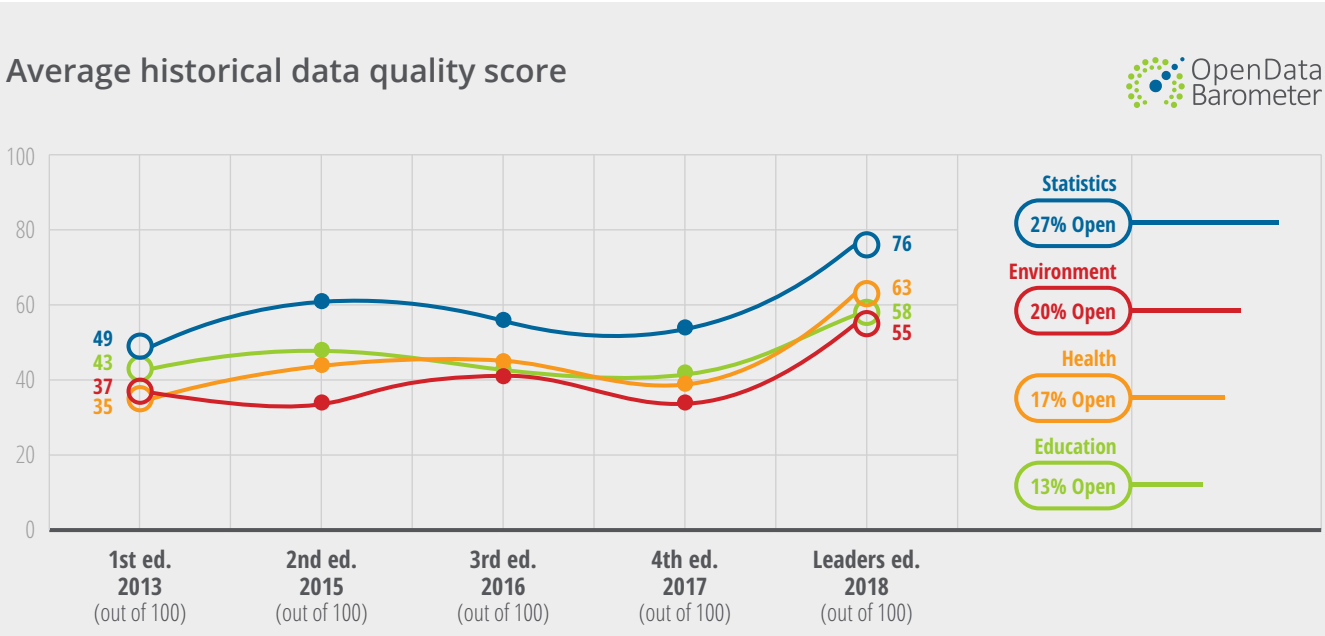

Figure 3 — Availability of truly open data (%age) and average quality score (out of 100) of the data available in the 30 leader governments for the Barometer social datasets cluster compared with the quality score of the the full governments group in all previous editions.

Why is so much of this key data still not available after all these years? The Charter's focus on publishing with purpose makes clear that the open data movement must prioritise which datasets to open up first, and to do so in ways that are data-driven and participatory. However, we have found that governments are not engaging enough with groups beyond the open data and open government communities. Engagement has been improving slowly over the last five Barometer editions, but a third of governments in the *Leaders Edition* have low scores for this indicator (≤5/10) and have made barely any progress over this time.

Moreover, there is noticeably less formal engagement on open data between civil society and government than in the past. In several governments that were initially more advanced, sector panels and working groups set up for engagement in earlier years are no longer operating. Engagement between civil society representatives and open data practitioners now tends to be more informal.

A lack of data skills among civil society acts as another barrier to better engagement. Nevertheless, there is little opportunity for people to build these skills. While the scores on data training opportunities — including training programs, education systems and other individual training opportunities — are better on average for these 30 leader governments compared with the performance of the 115 governments measured in the *Fourth Edition*, they are still modest (see Figure 4). Government support for innovation also plays an essential role in driving data-enabled transformation, and yet these scores, while higher for the leaders, remain fairly low. Such support typically takes the form of one-off activities, organised with minimal budgets and with the participation of very small groups of government staff.

Despite the challenges outlined, we are slowly starting to see the impact of open data. While the overall impact of open government data is still quite low, it is clear that among these 30 leading governments, the evidence of impact is stronger and starting to become more significant when compared with the initial performance of the full group of governments assessed in the first Open Data Barometer edition — particularly for government efficiency, accountability and entrepreneurship (see Figure 5).

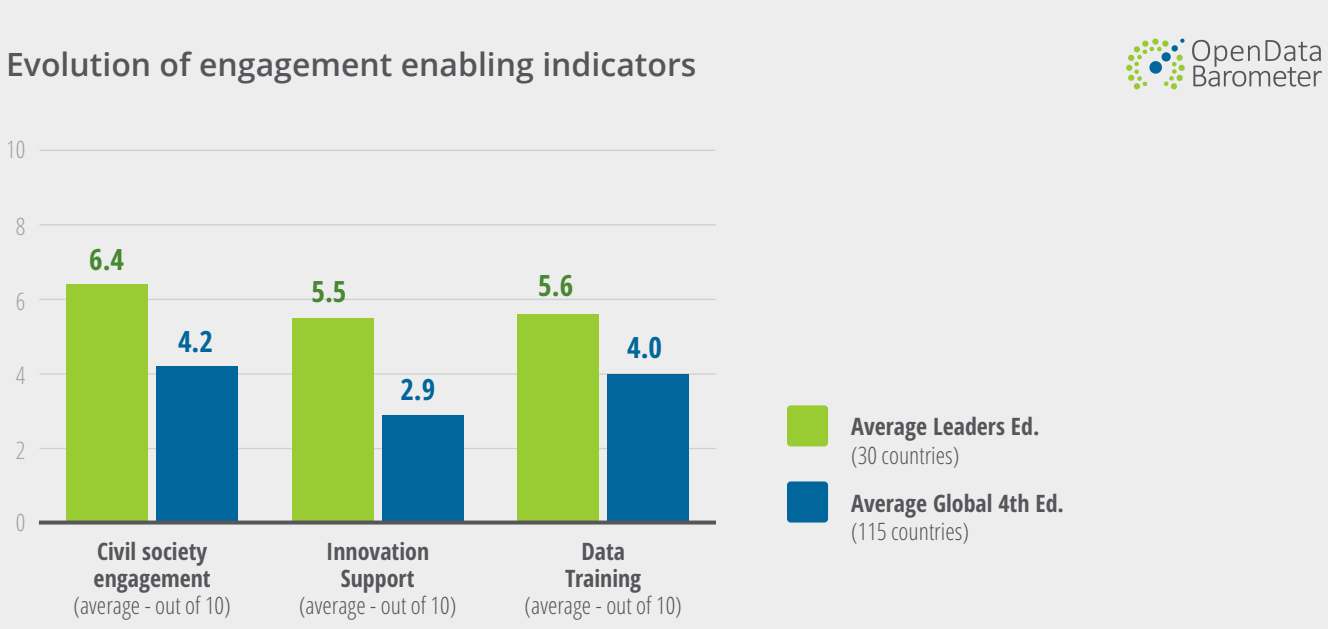

Figure 4 — Open Data Barometer scores comparison for civil society engagement, innovation, and training indicators between the 30 governments in the *Leaders Edition* and the 115 governments in the previous *Fourth Edition* global assessment.

CASE STUDIES

Public procurement transparency and accountability

The Open Contracting Partnership was established to tackle corruption in contracting projects. Open contracting is about publishing and using open, accessible and timely information about public procurement (government contracting) to engage citizens and businesses in identifying and fixing problems. It is about reducing procurement costs for governments, creating a fairer system for companies, and making sure taxpayers receive higher quality goods and services. High-level commitments have been made by the Contracting 5 which was launched at the OGP Summit in 2016 by the UK, Mexico, France, Colombia and Ukraine. Argentina later joined the initiative.

Open data to fight corruption

In Indonesia, the lack of progress on publishing data for anti-corruption has been discouraging. Five key G20 members — including Indonesia — have failed to meet their commitments to tackle corruption through the publication of key anti-corruption datasets. The publication of these datasets would be instrumental in allowing citizens to better monitor the flow of government funds, the allocation of public resources and procurement activities, and the financial sources of political campaigns. There is much work ahead for governments to fulfil their commitments to open up data and invest in the skills and initiatives needed to tackle global corruption.

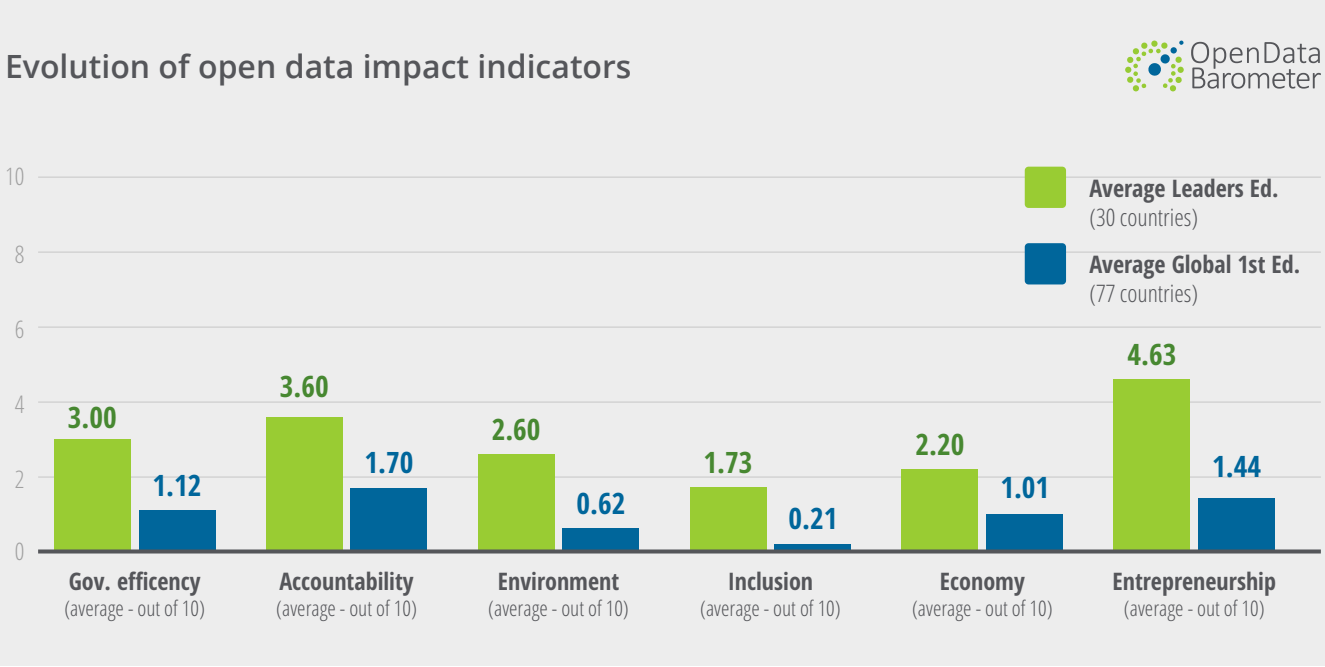

Figure 5 — Open Data Barometer scores comparison for political, social and economic impact between the 30 governments in the *Leaders Edition* and the 77 governments in the first Open Data Barometer global assessment (average out of 10 - where 10 is highest level of positive impact).

04

LOOKING FORWARD: POLICY RECOMMENDATIONS

With open data now a decade old, it is time for governments to move beyond open data promises and commit the resources required to be true leaders.

This means developing strong policies and practices and embedding these across all agencies. It means making open data core to governing — not just a side project. It means fulfilling their open data commitments.

These leading governments are generally advancing, but have yet to introduce the reforms required to make open data a part of day-to-day governance. They must start **investing significant resources to build the infrastructure, policies and practices necessary to drive this transformation**. If they do not, the open data movement will continue to stagnate.

The following recommendations outline specific ways governments can improve their open data governance. Some of these recommendations are longstanding, but have yet to be put into place and are necessary to solve crucial systemic issues.

4.1 Put "open by default" into action

Move from policies, to guidelines, to action: The open data movement needs to move beyond experimentation and put the fundamental policies and practices in place to support a sustainable open data culture across government. This requires governments to:

- **Develop clear plans** to put policies into practice by defining processes, responsibilities, timelines, resources, and a national authority in charge of execution.
- **Introduce guidelines and formal procedures** for consistent government-wide data management, with standardised processes for the publication and update of datasets.
- **Provide financial and human resourcing** to put policies and plans into practice, including capacity building, infrastructure, engagement, innovation, research and monitoring.

Take steps towards "open by default": "Open by default" is an aspirational goal — not something governments can set up overnight. There are a number of steps governments can take on the journey to "open by default":

- **Start with proactive disclosure of data**, either by amending Right to Information (RTI) frameworks and by publishing key datasets proactively on government websites.
- **Prioritise publishing data with a purpose** by listening to people's demands, analysing the most pressing social issues and the most needed datasets.
- **Move towards open by design** by adapting policies, procedures and systems to facilitate data sharing, rather than impede it.

4.2 Build and consolidate data infrastructure

"Open-data has to start at the top, it has to start in the middle, and it has to start at the bottom."

– Sir Tim Berners-Lee, Inventor of the World Wide Web

Build open data skills across government: As Web Foundation founder Tim Berners-Lee said in 2010, governments can not rely solely on senior government officials to execute open data strategies. They need a well-resourced middle layer of skilled government officials and an active community of civic hackers. To scale open data efforts beyond the experimental stage, governments need to proactively promote this ecosystem:

- **Develop effective data management practices**, establishing reference data workflows that are managed in a way that complies with the established policies and guidelines.
- **Invest in training and capacity building** for mid- and low-level staff. Promote data literacy for all those who work directly or indirectly with data, not just the leaders or champions.

Update technical infrastructure: Most government data systems are not designed for open data. Too often, governments are struggling to transform huge volumes of government data into open data using manual methods. We frequently see open data portals that are incomplete, out of date, or filled with bad quality data. There is no single global solution to data infrastructure. Governments must transform their technical infrastructure to allow them to publish open data efficiently, especially for those sectors that are falling behind (see Table 2):

- **Improve data quality** by setting up a minimal quality threshold and requirements, as well as routine verifications for all data producing or data updating processes.
- **Make data systems open data-ready** by demanding data sharing capabilities in procurement requirements for any new development or update.
- **Connect with other departments and agencies** and build on shared reference data and global metadata and interoperability standards (such as APIs).

4.3 Publishing with purpose

Ensure sustained, meaningful engagement: The open data movement is ultimately about helping people. To make open data work for people, governments need to communicate openly, working to understand what data they want and how they can use it to improve services and governance. This requires sustained engagement and collaboration, particularly for increasing the inclusion of marginalised groups:

- **Work closely with civic groups**, including marginalised groups, to understand their needs and what data should be prioritised for publication.
- **Connect with multi-stakeholder advisory groups** that can help to address more complex and specific data openness issues and projects (e.g. the Open Contracting or the Open Ownership communities — see Section 3 case studies).

Approach open data hands-on: In the past few years, it has become clear that data openness requires a practical approach. After an initial rush to "all raw data now", the open data community is now asking "Why?" and "What for?". Open data portals are easy and cheap but, done well, open data takes time, resources and a clear understanding of what it should achieve. If governments truly believe in open data, they must:

- **Identify challenges** that government data can help solve, and work in collaboration with communities who can help deliver impact.
- **Commit to publishing key datasets** that are essential to addressing challenges and that will benefit communities.
- **Follow up and adapt.** Study the impact of releasing datasets and then learn and adapt to maximise the benefits of disclosing data.

After 10 years of open government data, governments are still failing to take on the serious obstacles preventing open data from reaching its potential. We strongly encourage all governments — and particularly the 30 open data leaders studied in this edition — to implement these recommendations and to work toward building strong embedded open data governance practices that will allow us to realise the true promise and impact of open data.

APPENDICES

List of tables and figures

Methodology

The *Open Data Barometer - Leaders Edition* is based on three kinds of data:

- A peer-reviewed expert survey carried out between October 2017 and March 2018, with a range of questions about open data contexts, policy, implementation, and impacts and a detailed dataset survey completed for 15 kinds of data in each government, which touched on issues of data availability, format, licensing, timeliness, and discoverability.
- A government self-assessment simplified survey carried out between July and October 2017 with the same range of context, implementation, and impacts questions, as an additional source of information.
- Secondary data selected to complement our expert survey data. This is used in the readiness section of the Barometer, and is taken from the World Economic Forum, International Telecommunications Union, United Nations e-Government Survey, and Freedom House.

This edition of the Open Data Barometer seeks to repeat the analysis from previous editions, with some minor methodological revisions and two major modifications:

- The scope of the study has been reduced, now measuring 30 governments only — those that have publicly committed to adopt the International Open Data Charter Principles or the equivalente G20 Anti-Corruption Open Data Principles.
- We are using absolute values in the 0-100 scale for scores now — rather than the previous scaled values — to provide more realistic evaluations of performance. However, to allow for direct historical comparisons, we are providing recalculated absolute values as well as scaled values for all previous editions on our website.

Overall, however, we have sought to maintain certain consistency with the questions used in previous editions. Wider methodological revisions will continue to be explored in future editions as we keep improving our measurement methods as part of our work in the Open Data Charter measurement and accountability working group.

You can read more about the methodology and research process and method in the detailed methodology description (pdf version) and the research handbook (pdf version). Feel also free to provide your feedback through comments on the respective online versions. Historical and comparable consolidated (absolute and scaled) data for all Barometer editions is available on the website.

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- International Telecommunication Union (ITU)
- World Economic Forum
- Freedom House
- United Nations

About the Open Data Barometer

Produced by the World Wide Web Foundation with the support of the Omidyar Network, the Open Data Barometer (ODB) aims to uncover the true prevalence and impact of open data initiatives around the world. It analyses global trends, and provides comparative data on governments and regions using an in-depth methodology that combines contextual data, technical assessments and secondary indicators.

Covering 30 governments in this *Leaders Edition*, the Barometer ranks governments on:

- **Readiness** for open data initiatives.
- **Implementation** of open data programs.
- **Impact** that open data is having on business, politics, and civil society.

While previous editions measured over 100 governments, the *Open Data Barometer - Leaders Edition* focuses on those governments who have adopted the Open Data Charter or those who, as members of G20, have signed up to the G20 Anti-Corruption Open Data Principles — which are themselves based on the Charter Principles. These 30 governments should — having made specific commitments — be leaders in the space. This Barometer puts this leadership to the test by measuring their progress and compares this with global results from previous editions.

This report is intended to be a summary of some of the most striking findings. The full data and methodology are available online, and are intended to support further secondary research and inform better decisions into the progression of open data policies and practices across the world.

About the World Wide Web Foundation

Established by web inventor Sir Tim Berners-Lee, the Web Foundation fights for digital equality — a world where everyone has the same rights and opportunities online. Using world-class research, policy advocacy and practical innovation, we're working around the world to ensure that everyone can access the web, and use it to improve their lives.

World Wide Web Foundation
1110 Vermont Ave NW, Suite 500
Washington, DC 20005, USA

www.webfoundation.org

Twitter: @webfoundation