

ODB 4TH EDITION GLOBAL REPORT

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Global Report

Fourth Edition

opendatabarometer.org



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Context

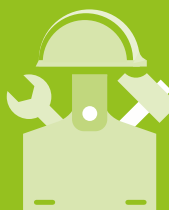
The Web Foundation believes that **open data must be:**



*for everyone —
a right for all.*



*the data
people **need**.*



*data people can
easily use.*

The findings from the fourth edition of the Open Data Barometer show that while some governments are advancing towards these aims, open data remains the exception, not the rule.







Why does this matter? Everyone should be able to access and use open data on an open web to allow them to participate fully in civic life. Without good data, it is impossible to hold governments to account for the decisions that they make, the policies they pass, and the money they budget and spend.

In its fourth edition, the Open Data Barometer covers 115 countries and jurisdictions, a 25 percent increase on coverage from the last edition.

To deliver real change, open data must meet the [principles](#) set out in the [Open Data Charter](#) — adopted by [more than 15 national and 25 local governments](#) to date.




ODB 4th Edition Ranking

 Rank	 Score	 Country	 Readiness	 Implementation	 Impact
1	100	United Kingdom	99	100	94
2	90	Canada	96	87	82
3	85	France	100	71	88
4	82	United States of America	96	71	80
5	81	Korea	95	59	100
5	81	Australia	85	78	78
7	79	New Zealand	92	58	99
8	75	Japan	84	60	89
8	75	Netherlands	94	64	68
10	74	Norway	77	71	73
11	73	Mexico	83	58	88
11	73	Spain	81	58	88
13	71	Denmark	67	71	71
14	70	Austria	83	56	78
14	70	Sweden	87	70	47
14	70	Germany	67	69	71
17	61	Uruguay	75	64	38
18	59	Brazil	66	55	59
19	58	Switzerland	77	50	48
20	56	Italy	79	51	37
20	56	Finland	63	60	42
22	55	Philippines	58	41	76
23	53	Singapore	73	46	41
24	52	Colombia	72	42	46
25	49	Russia	60	54	27
26	47	Ireland	70	51	17

 Rank	 Score	 Country	 Readiness	 Implementation	 Impact
26	47	Chile	62	56	16
28	46	Israel	66	37	42
29	45	Belgium	79	38	20
29	45	Slovakia	59	43	34
31	44	Czech Republic	54	44	36
31	44	Moldova	55	54	14
33	43	India	68	32	35
34	42	Portugal	58	47	16
35	40	Kenya	57	22	58
36	39	Greece	59	38	20
36	39	Iceland	48	47	17
38	38	Indonesia	51	39	25
38	38	Argentina	57	35	23
40	37	Georgia	52	45	11
40	37	Bulgaria	51	45	11
40	37	Jamaica	44	35	36
40	37	Turkey	35	53	15
44	36	Estonia	49	45	10
44	36	Ukraine	55	35	19
46	34	South Africa	51	28	29
46	34	Poland	61	24	23
46	33	Peru	47	38	14
48	33	Macedonia	57	29	13
50	32	Albania	54	37	4
50	32	Dominican Republic	45	32	22
50	32	Tunisia	45	32	22
53	28	Paraguay	35	33	16
53	28	Malaysia	53	20	19
53	28	Latvia	34	43	0
53	28	Bolivia	33	36	13
53	28	Thailand	40	31	11
58	27	Croatia	52	24	8

 Rank	 Score	 Country	 Readiness	 Implementation	 Impact
59	26	Mauritius	38	33	6
59	26	United Arab Emirates	47	23	12
59	26	Kazakhstan	39	32	6
59	26	Ghana	52	11	28
63	24	Guatemala	32	29	11
63	24	Kosovo	47	21	7
65	23	Hungary	21	31	19
65	23	Serbia	44	25	0
67	22	Tanzania	40	17	14
67	22	Burkina Faso	31	16	28
67	22	Ecuador	37	27	0
70	21	Nigeria	31	7	41
71	20	Costa Rica	25	28	6
71	20	China	46	10	11
71	20	Rwanda	29	27	3
74	19	Qatar	41	18	2
74	19	Bahrain	33	20	7
74	19	Saudi Arabia	37	15	12
77	18	Trinidad and Tobago	38	12	13
77	18	Panama	44	15	0
79	17	Morocco	38	12	7
79	17	Vietnam	25	18	13
81	16	Ethiopia	47	9	0
81	16	Togo	23	24	0
83	15	Nepal	23	14	17
83	15	Montenegro	33	13	4
85	14	Egypt	27	14	6
85	14	El Salvador	20	20	4
87	13	Kyrgyzstan	23	13	11
87	13	Jordan	28	11	6
87	13	Saint Lucia	33	10	0
90	12	DR Congo	35	9	0

 Rank	 Score	 Country	 Readiness	 Implementation	 Impact
90	12	Venezuela	15	19	4
90	12	Uganda	26	11	4
93	11	Côte d'Ivoire	35	7	0
93	11	Belarus	27	10	2
93	11	Bangladesh	32	6	2
93	11	Malawi	8	16	13
97	10	Tajikistan	15	14	4
98	9	Namibia	25	8	0
98	9	Senegal	24	9	0
100	8	Sierra Leone	23	5	7
100	8	Palestine	23	7	2
100	8	Bosnia and Herzegovina	24	7	0
103	7	Benin	13	13	0
104	6	Haiti	19	6	0
104	6	Botswana	21	4	0
104	6	Lebanon	17	7	0
107	5	Cameroon	12	5	7
108	4	Zambia	14	5	0
108	4	Pakistan	15	4	0
110	3	Mozambique	14	4	0
111	2	Mali	12	3	0
111	2	Zimbabwe	9	4	0
113	1	Myanmar	2	5	4
114	0	Swaziland	10	0	0
114	0	Yemen	0	6	0

The Open Data Charter Principles

The 4th edition of the Barometer shows how all 115 governments in the study are doing against [the principles of the Open Data Charter](#). The Charter is a framework to embed the culture and practice of openness in the government in a way that is resilient

to political change and driven by user demand. The [Open Data Charter](#) can also help provide guidance on how to open up more data. In order to achieve these goals, the Charter proposes six principles for the release of data:

1



Open by default

The Barometer analyses the existence and quality of 15 key datasets (such as land registries or government budgets) across all 115 countries. These datasets are collected in some form in 97% of countries. However, 29% of those datasets are still not even published online, and only 7% are [truly open](#).

2



Timely & comprehensive

According to our findings, 74% of the data we analysed is up-to-date, which is promising, but means that one quarter of all data surveyed has very limited value.

3



Accessible & usable

73% of the datasets were relatively easy to find. 10% of all datasets we surveyed were not available free of charge. Only a quarter of the datasets we analysed were available under an open licence — meaning licensing remains a big barrier for data use.

4



Comparable & interoperable

Slightly over half of the data (53%) is available in a machine readable and reusable format, but of the data available in a machine readable format, only 24% can be accessed and downloaded in bulk.

5



For improved governance & citizen engagement

The impact of open data on increasing government efficiency and effectiveness is still very low, with an average score of only 1.20 out of 10 for all governments in the study. Similarly, the extent to which government is engaging with civil society regarding open data remains also limited with an average score of 4.23.

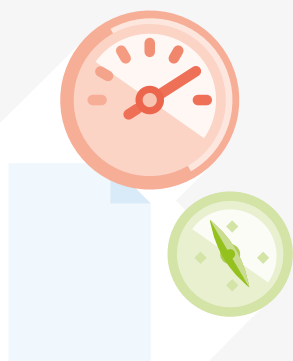
6



For inclusive development & innovation

If we look at the impact open data is having on the inclusion of marginalised groups in policymaking or on their access to public services, the Barometer finds that only 6% of governments are having some relevant impact in this area. When it comes to the availability of data essential for innovation (such as map data or public transport timetables), just 8% of relevant datasets are truly open.

This report now takes a closer look at our key findings and recommendations, before taking a broader look at themes and trends in the open data space.



Findings & Recommendations

Overall, this year's Barometer shows that governments are slowing and stalling in their commitment to open data. In some cases, progress has even been undone.

The bottom line: Most governments are not meeting the basic Open Data Charter principles. In most cases, the right policies are not in place, nor is the breadth and quality of the datasets released sufficient. This means we cannot collectively use open data to truly change people's lives for the better.

However, [those countries that have formally adopted the Charter](#) are generally making good progress on fulfilling its principles. Their performance has been improving in recent years, and Charter adopters such as the UK, France, Korea, and Mexico have even become regional open data leaders.

1



FINDING

Nine out of 10 government datasets are not open

In this edition of the Barometer, we assessed 1,725 datasets from 15 different sectors across 115 countries. Only seven governments include a statement on open data by default in their current policies. Furthermore, we found that **only 7% of the data is fully open, only one of every two datasets is machine readable and only one in four datasets has an open licence**. While more data has become available in a machine readable format and under an open licence since the first edition of the Barometer, the number of global truly open datasets remains at a standstill.

Availability of data	Barometer 4 th ed.	3 rd ed.	2 nd ed.	1 st ed.
open data	7% ↓	10% ↔	10% ↑	7%
machine readable	53% ↓	55% ↑	41% ↑	37%
openly licensed	26% ↑	24% ↑	14% ↑	12%

Table 2: Evolution of key open data indicators throughout the four editions of the Barometer.

(The number of countries covered has increased over time, which may also influence these figures)

If governments added an open licence to existing datasets that already meet all other criteria, the number of truly open datasets available would more than double to 15%. For instance, in Canada, the restrictive licensing of several datasets is one of the primary reasons it has not overtaken the UK's longstanding leadership position in the ranking.

RECOMMENDATION

Government data must be open by default

1

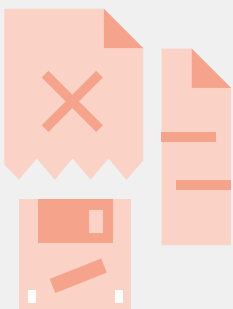
Government-held data must be open by default and follow the principles set out in the [Open Data Charter](#) — from proactive publication to clear open licensing (while being mindful that no personally identifiable data should be released). In addition, governments must maintain their commitments to open data and avoid backsliding. Governments in the UK, US, and Nordic countries have all taken steps backward this year (see Finding Three).

Where in place, right to information (RTI) laws should be revised to provide for proactive disclosure that guarantees non-personal government data will be open by default, available in machine-readable formats, and published under open licences that allow the data to be re-used.



2

FINDING

Government data is typically incomplete and low quality

Government data is usually incomplete, out of date, of low quality, and fragmented. In most cases, open data catalogues or portals are manually fed as the result of informal data management approaches. Procedures, timelines, and responsibilities are frequently unclear among government institutions tasked with this work. This makes the overall open data management and publication approach weak and prone to multiple errors.

- a) Although 79 out of the 115 governments surveyed have an open government data portal, often the most complete data is published on a source other than the official open data portal. In such countries, the majority of the most comprehensive datasets (61%) are published by other government agencies.
- b) A significant amount of reference data is published by national statistics offices (NSOs) — probably because they have longstanding data management practices that are usually better than those of open data catalogues. Overall, from the 115 governments surveyed, 24% of reference data is published by NSOs. Even in governments that have open data portals, more reference data derives from NSOs (22%) than from open data portals (17%).
- c) Data is hard to use because there is no metadata or guidance documentation available. Less than a third (31%) of the published datasets have some supporting basic metadata or companion guidance documentation.

RECOMMENDATION

Governments must decentralise open data across all agencies and departments

2



In order to guarantee long term sustainability of open data, all government data management practices and systems must be designed with openness in mind from the very beginning of the data management process. It is imperative that governments do not see opening data as an additional step at the end, but as something to be integrated throughout the whole of government. We recommend that governments [review their data governance processes in full](#) and also embed automated data publication processes in their IT systems. This will ensure the latest and most complete version of datasets is always available to the public directly from the source and will reduce reliance on manual uploads to one single central catalogue.

As it stands, open data portals should be considered as a temporary workaround in order to enable access to government data while a more consistent solution is implemented. This might be that data is published in an automated way, as outlined above, on the websites of relevant departments, with a further automated step to populate a central portal in real-time.

3



FINDING

Sustained political will is what makes or breaks the success of open data

Political momentum is key to introducing and scaling up open data. The importance of political decisions is demonstrated by countries such as Ukraine, Argentina, the Philippines, Burkina Faso, and Tanzania — all of which experienced big improvements in Barometer scores and rankings in this edition.

However, political will needs to be translated into strong legal and policy foundations, as in the cases of Canada, Mexico, Japan and Korea — all of which have achieved steady progress in their Barometer rankings. Otherwise, open data initiatives (and the resources needed to advance them) will dry up when the political winds change, as seems to have happened in Costa Rica, Ecuador, and Rwanda. In these latter three countries, positive progress was initially made on open data, but now a lack of further government action is significantly derailing progress. Similarly, the Nordic countries, which were once open data leaders, do not seem to be prioritising open data as highly as before, as evident by their decreasing rankings:

Governments	Ranking ODB 4 th ed.	3 rd ed.	2 nd ed.	1 st ed.
Denmark	13 th ↓	5 th ↑	9 th ↓	5 th
Finland	20 th ↓	11 th ↑	12 th ↑	14 th
Iceland	36 th ↓	22 nd ↑	27 th ↓	13 th
Sweden	14 th ↓	9 th ↓	3 rd ↔	3 rd

Table 3: Ranking of Nordic Countries — First to Fourth Editions of Barometer.

Open data initiatives can also flounder in cases where the leaders who back them fail to advance wider reforms that encourage a culture of openness, or where political imperatives are not translated into proper data management approaches that ensure the sustainable resources and policies needed for open data to survive political change. This is even an issue in countries which currently rank highly on the Barometer, such as the USA and the UK. The new US administration has already removed certain key datasets from websites, leading to [concerns about the future of open government data in the USA](#). Meanwhile, the UK appears to be softening some of its policy commitments through a new '[open government data when appropriate](#)' default policy.

RECOMMENDATION

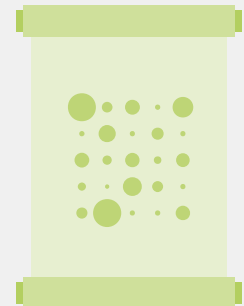
Governments must adopt the Open Data Charter to ensure open data practices are embedded beyond political mandates

3

We recommend that **governments should adopt and implement the [Open Data Charter principles](#)**, in order to have:

1. **A strong policy foundation that articulates processes; responsibilities; timelines; resources; appropriate privacy and data protection safeguards; and the national institutions or authorities in charge of its execution to establish a general right to reuse by means of an explicit ‘open by default’ mandate.**
2. **A consistent data management strategy and practice, including guidelines for metadata and publication frequency; data inventories; documentation; quality assurance procedures; and management of user feedback.**

This will ensure sustainability in creating a culture of open data beyond political transitions. We also recommend that **governments add provisions to their current right to information (RTI) legislation to reinforce the proactive release of open government data.**



4

FINDING

Governments are not publishing the data needed to restore citizens' trust

Open data portals often do not contain the data people really want and need. Governments must invest in opening up the datasets that people do need (e.g., data on budget, spending, contracting, and company registers). These datasets still tend to be highly opaque, and often the least open.

Datasets	4 th ed % of open datasets published by all governments	3 rd ed	2 nd ed	1 st ed
Budget	10% ↓	18% ↑	13% ↑	9%
Company registries	5% ↑	1% ↓	3% ↓	4%
Spending	3% ↑	2% ↓	9% ↑	6%
Contracting	3% ↓	8% ↑	6%	N/A
Land ownership	1% ↓	5% ↑	3% ↓	4%

Table 4: % of governments publishing fully open accountability related datasets for the different editions of the Barometer.

As findings show in this edition, there are a limited number of governments that have truly open data on these topics and yet these are the datasets that are key to combat corruption and enable government accountability. Governments clearly need to step up their game.

RECOMMENDATION

Governments must consult citizens and intermediaries when prioritising which open data to publish first

4

Governments need to give top priority to opening up the data that will help citizens get what they really need — better public services, more transparency, and accountability. To do this, governments must work with data intermediaries — such as civil society, community organisations and the media — to find out exactly which data and information citizens need to address their problems and improve public services.

Importantly, governments must avoid only consulting the usual suspects and should make a dedicated effort to consult a wider range of voices, with a particular focus on groups that are often marginalised from government decision-making. Based on these consultations, governments can prioritise for early release the datasets that would be most useful — for example, which datasets should the government open in order to build better health services that are responsive to citizens' needs?

Restoring citizens' trust is not just about providing citizens with the data they need. It is also about protecting citizens' personal data, and making sure that their data is in safe hands. This means making sure citizens are aware of and consent to the way in which their data is collected, processed, and used by the government.



5

FINDING

Few open data initiatives actively promote inclusion and equity



As in previous years, our researchers found some evidence that open data is contributing to economic growth and the creation of new businesses, but little or no evidence that it is contributing to social inclusion (whether by enhancing excluded groups' access to public services or increasing their participation in policy decisions). While it is great news that open data is helping to create jobs and growth, we should not simply assume that a rising tide lifts all boats.

Groups with lower income and/or less political power tend to be excluded from consultation and decision-making processes around open data, frequently [lack internet connectivity](#) and [the skills to access open data](#), and may also be less visible in the data in itself. A key example is the 'sexist data crisis': [women are less likely to be online than men](#); less likely to be consulted on the design of data policies and initiatives; under-represented among the ranks of data scientists; and often uncounted in official statistics. The table below shows the lack of sex-disaggregated data for a selection of key datasets.

Datasets	Availability of online aggregated data for all governments	Availability of online sex-disaggregated data
National Statistics	99%	66%
Health	85%	60%
Education	88%	69%
Crime	79%	32%

Table 5: Availability of sex-disaggregated data for four different sectors.

RECOMMENDATION

Governments must invest in using open data to improve the lives of marginalised groups

5

To achieve the [Sustainable Development Goals](#) — which have poverty eradication and gender equality at their core — making data open by design is a start, but not enough. In line with Open Data Charter principle six, data policies must also be inclusive by design, in order to harness the potential of open data to improve equality and social outcomes.

Concrete steps include:

- **Data collection** - Invest in [greater disaggregation of data](#) by sex, income level, or age, and develop new indicators that allow better analysis of diversity and stratification in our societies.
- **Data design** - Consult marginalised groups when designing new data collection or data release efforts. This helps to identify positive opportunities for data to advance equity. Inclusive design processes can also help avoid unintended negative consequences that could further entrench discrimination and exclusion.
- **Data access** - Invest in low-cost and accessible internet access for marginalised groups as costly and scarce internet access puts women, low-income and other marginalised groups at a huge disadvantage when it comes to data use.
- **Data use** - Invest in processes that enable marginalised groups to use data, particularly to participate in policymaking, and with the explicit aim of achieving social policy goals.



Open Data Trends

The Web Foundation believes that open data should benefit everyone. Data people want and data people can use should be opened. Our findings, summarised above, show that in most countries this is

not happening. In this section, we examine in more detail the trends behind this worrying fact, and explore some counter-examples of good practice.

1. Data for everyone

Ultimately, data is owned by people. Government-held and collected data is funded by taxpayers who in turn have the right to this data. The Web Foundation believes that all people should have a [Right to Data](#) in the same way that they should have a Right to Information (RTI). Policies that deliver [affordable broadband](#) for all and ensure adequate data protection for citizens' personal data used are also important to underpin these rights.

The Open Data Barometer findings show that a significant amount of government data is not available

to the public yet, and is rarely in an open format. Moreover, even the data which is open is failing to serve the needs of all citizens.

In the 115 countries assessed, the impact of open data continues to be greatest in the area of economic growth and new business creation. There has been little impact on improving marginalised groups' access to services and participation in decision-making. Given this, the potential of open data to promote equal opportunities for all remains underutilised.

Top 10 Barometer governments	Impact on entrepreneurship (out of 10)	Impact on economy (out of 10)	Impact on inclusion (out of 10)
United Kingdom	9	6	1
Canada	5	3	4
France	8	4	3
United States of America	8	4	2
Korea	7	5	2
Australia	6	5	3
New Zealand	8	3	2
Japan	7	3	2
Netherlands	6	3	0
Norway	7	4	0
Average top 10	7.1	4	1.9

Table 6: Comparison between impact on entrepreneurship, economy, and inclusion for the top 10 Barometer governments.

Data blind spots frequently make the needs and contributions of certain groups less visible to policymakers, so it is critical for data initiatives to devote effort to overcoming such blind spots — often best done by involving marginalised groups at the design stage. This is why on-going dialogue with civil society and citizens is so important — a more diverse array of actors can help spot potential unintended consequences and avoid data-driven discrimination. Recent examples of open data being misused include the use of open court records to blacklist [low-income tenants](#) in New York City, and the

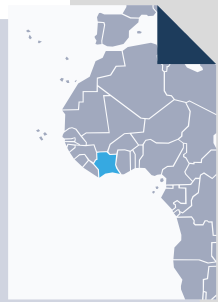
unforeseen [erosion of women's informal land rights](#) as a result of the expansion of formal land registries.

How can governments ensure they are including everyone when they are designing their data initiatives? Statistics Canada launched the [Aboriginal Community Data Initiative](#) to provide these groups with important data for planning and understanding the demographics of their community and the population in surrounding areas. Other examples from Japan and Côte d'Ivoire (discussed in the text boxes) provide further ideas.



Japan | Helping the elderly and pedestrians with disabilities

In 2015, the Ministry of Land, Infrastructure and Transport (MLIT) set up an [open data site](#) to assist pedestrians with disabilities and the elderly. MLIT has also developed [guidelines](#) for local governments to develop local datasets for the pedestrian movement support service. This site publicises about 50,000 data points, including approximately 7,000 data points on barrier-free facilities in passenger terminals such as train stations, and approximately 42,000 free wireless LAN spots. The data is downloadable, and the service can generate a barrier-free map for people who have difficulties with accessibility. Since the data release, many ideathons and hackathons have been conducted and applications have been developed for assisting pedestrians with disabilities.



Côte d'Ivoire | TechMouso gender data initiative

In Côte d'Ivoire, the gender data initiative [TechMouso](#) (TechWoman), brought together the tech and gender communities to develop solutions for local problems. It was the first gender data consultation workshop and initiative in the country. More than 60 representatives from government and civil society helped to identify community needs, with a focus on data gaps in health data and entrepreneurship data. Thereafter, a competitive solutions development process kicked off. From an initial field of over 50 teams, ten winning teams developed and presented apps designed to generate and use data to improve women's health, safety, education, and economic empowerment.

A common theme related to education data — at least two of the teams used such data to analyse high school dropout rates by sex, and examine the career orientation of high-school students. Government education data is abundant, but is currently not open and available to the public. Owing to TechMouso, the government is now working on publishing and releasing this data on the [Open Data Côte d'Ivoire](#) platform.

More broadly, TechMouso participants realised that [training, networking, and exposure](#) were key to delivering impact. They also found that local context and diversity matters for gender inclusion. Following these initial steps, the government's nascent open data initiative has consulted with civil society organisations and is willing to engage them in opening up data they need.

2. The data people need

This edition of the Barometer found that governments are not releasing the data needed to restore or build citizens' trust, such as detailed budgets or company ownership registries.

Data for Government Accountability

Data needed for citizens to hold governments to account is often missing or hard to find. It is crucial for governments to provide information about the use of public resources. This includes data on how taxes are spent, how government contracts are awarded, and how money is funnelled into political campaigns. This also means releasing data vital to fighting corruption, such as data on budget, spending, contracting, land ownership, company registries, legislation, and election results (see [methodology](#)).

For example, only one in 10 budget datasets are open. Unfortunately, open budget data for the USA was no longer available at the time of producing this report, showing how progress in this area may even be backsliding. Even in the only case where land ownership data is available (Canada), it is only available at the sub-national level.

Datasets	% of open datasets published by all governments	Total # of governments	Governments publishing these datasets as truly open data
Budget	10%	12	Australia, Brazil, Georgia, Germany, Jamaica, Mexico, Netherlands, Norway, Paraguay, Sweden, UK, Uruguay
Spending	3%	4	Canada, Greece, UK, Uruguay
Contracting	3%	3	Australia, France, Philippines
Land ownership	1%	1	Canada
Company registries	5%	6	Australia, Bulgaria, Canada, Kazakhstan, Latvia, Norway
Legislation	3%	3	New Zealand, Spain, UK
Election results	11%	13	Australia, Austria, Canada, Denmark, France, Ireland, Korea, Peru, Slovakia, Spain, Sweden, Turkey, UK

Table 7: Availability of open datasets for government accountability.



Philippines: Participatory budgeting via Check my Barangay

One of the key principles of the Open Data Philippines Task Force's [2014-2016 Action Plan](#) is data-driven governance. A great example of this is the participatory budgeting being undertaken by local governments through the [Check my Barangay platform](#), run by the Affiliated Network for Social Accountability in East Asia and the Pacific Foundation Inc. "Barangay" is the smallest administrative division in the Philippines (a village, district, or ward) and there are 42,029 of them across the country.

The project helps community members to monitor local government budgets and engage in planning for the first time ever at the local level using open data accessed from the [Full Disclosure Policy Portal](#). This includes face-to-face meetings to help local groups discuss their barangay's budget allocations, projects for the year, and priority areas of implementation. [Participants were very receptive](#) to the technologies (such as a data portal and SMS notifications) introduced during the sessions. There was a high degree of agreement among the participants that the sessions increased their knowledge and skills about website management and the use of mobile technologies to monitor the government's budgeting and planning. Working alongside barangay government and community representatives, the project helped support a culture of communication and feedback, building trust between citizens and the people who plan and deliver their public services.

Data for Social Policies

Open data has the potential to make key public services — such as health, education and environmental management — more effective and inclusive, which in turn helps to fight poverty and reduce inequality. In this section, we evaluate whether government open data is truly used to empower and include all citizens. Open data can improve service delivery directly by giving citizens more tools for choice and accountability — or indirectly, by helping policymakers identify and tackle system-wide social issues.

However, similar to data for accountability, less data is available and open in areas relevant to social policies than for innovation. On average, Barometer findings show declines in the availability of data on key public services. Worryingly, this includes a significant change for the worse in health and education data, for example.

Datasets	% of open datasets published by all governments	Total # of governments	Governments publishing these datasets as truly open data
National statistics	8%	9	Belgium, Canada, Denmark, Finland, France, Italy, Japan, Norway, UK
Health	7%	8	Denmark, Finland, France, Jamaica, Switzerland, Tajikistan, UK, USA
Education	8%	9	Argentina, Brazil, Denmark, France, Georgia, Jamaica, Malaysia, UK, USA
Environment	6%	7	Bulgaria, Denmark, France, Georgia, Russia, Sweden, UK

Table 8: Availability of open datasets for social policies.



Mexico: Improving education

The [Mejora tu Escuela](#) (Improve your School) education initiative is an online platform that provides information about school performance to citizens and aims particularly to support parents. It allows users to compare over 163,785 datasets to improve educational decision-making and to demand better education for their children. It has had a positive impact on parents' decision-making, and has also helped to [deliver greater accountability and reduce corruption in the educational system](#). Besides parents, other important stakeholders, including teachers, policymakers, and civil society organisations, use this data to analyse and assess current student performance to strengthen or even reform the school system. As Mexico has had [lower than average high-school graduation rates in OECD governments](#), improving its education standard is a must and a tool like Mejora tu Escuela can help do just that.

Data for Innovation

Open data has significant potential to foster innovation. It is used in applications by entrepreneurs, and can unlock significant value for enterprises. It can also help to increase the efficiency and productivity of current public services. For example, innovation and significant economic value can be created by using datasets such as map data, public transport timetables, and data on international trade or crime.

With innovation data the most abundant of the three clusters (Innovation, Social Policy, Accountability), we can reasonably assume that governments are prioritising these particular datasets. However, even in countries with strong open government data initiatives, the number of these datasets has declined since the last edition of the Barometer.

Datasets	% of published open datasets by all governments	Total # of governments	Governments publishing these datasets as truly open data
Map data	11%	13	Australia, Austria, Canada, Denmark, DR Congo, Germany, Iceland, Japan, Netherlands, Norway, Sweden, UK, USA
Public transport timetables	8%	9	Argentina, Canada, France, Germany, Italy, Norway, UK, USA, Uruguay.
International trade	10%	11	Australia, Austria, Canada, France, Jamaica, Netherlands, Norway, Rwanda, Sweden, UK, US
Crime	8%	9	Canada, Denmark, Finland, France, Georgia, Germany, Moldova, Russia, UK

Table 9: Availability of open datasets for innovation.



France: Government efficiency and open data with the help of public-private partnerships

A clear example of increased government efficiency thanks to open data is the creation of the [French National Address Database](#) (Base d'Adresses Nationale - BAN). This project is a [successful private-public partnership](#) between national actors, local authorities, and municipalities, with the technical assistance and collaboration of OpenStreetMap (and its French chapter), Etalab, and National Geographic. The database contains over 25 million geocoded addresses (with no personally identifiable data).

Users can access and download the addresses in BAN for free, and use its tools and geocoding services, all registered under an open licence and [entirely built using free and open source software](#). For example, the Local Address Counter (Guichet Adresse Mairie) tool helps municipalities to create, identify, and number their [local road networks](#). The platform also encourages users to provide feedback in order to improve the data. BAN contributes to improving a culture and practice of interaction with civil society organisations, but also between public entities.

3. Data people can easily use

Open data principles matter for data accessibility and usability. For open government data to be usable and valuable, it must be comprehensive, accurate, and of high quality. Governments should

also ensure that they have a response mechanism in place that allows users to provide feedback, and continue to make revisions to ensure data quality is improved as necessary.

Access to data

The current approach centered only on open data portals is not working. Data portals have left behind a ghost town of open data projects. Although the open data community has been discussing this issue for a long time, it has been unable to improve the situation. Many datasets that are the most complete and up-to-date are frequently found on other government ministry or agency websites and not on the official open data portals. This shows poor coordination between different government agencies and central open data catalogues.

Even though the practical solution for this issue is partially technical, we must keep in mind that **this is inherently a political and organisational issue**. This is not just about portals. Governments need to take data governance seriously and improve the way they create and use open data across all functions, departments, and agencies. Rather than focusing on creating portals, governments must first focus on the political and organisational reform needed to improve open data's impact and long-term sustainability.

We recommend that governments update their data management policies and enable a more automated process for data publishing to "[increase user friendliness and limit overheads for stakeholders](#)". This automated process could then be extended to populate a central portal, if user needs dictate this.



The issue of third-party providers and open data portals

Sometimes the government does not remain in control of its own data portal when third-party providers manage it; if external support for the data portal management ends, there is a high probability that the initiative will end too. For example, in sub-Saharan Africa, many governments (through their NSOs) have partnered with the African Development Bank (AfDB) to [create online data portals](#) for [statistical capacity-building](#). The AfDB also partners with data service providers (third-party providers) such as [Knoema](#), a data repository, to implement open data solutions in governments across the continent. These 'third-party' owned and managed open data portals should not be considered government open data portals because:

- the role of government in the management of the portal is often unclear;
- the origin and purpose of the platform is often unclear;
- **the platform and project is usually under the sole control of the 'third-party', which raises questions around ownership and sustainability — such as in the case of the [africadata.org](#) portals that have recently been discontinued;**
- the data appears to be compiled not only from government sources but also from other international sources, making it unclear which one comes from where.

Data Usability

Too often government data may be available online, but the available data is still of poor quality, making it hard to use. Good quality open data needs to be:

- **Available online** so as to reach the widest practical range of users and uses. Less than three quarters (71%) of existing data is nowadays available online in any form.
- **Machine-readable** so that large datasets can be analysed efficiently. More and more data is becoming available in a reusable format — up to 53% in the current edition — but almost half of the data available is still published in non machine-readable formats.
- **Available in bulk** so that it can be downloaded as one dataset and easily analysed by a machine.
- **Free of charge** so that anyone can access it no matter their budget. Ten percent of the data that is available can not be fully accessed for free. Particularly worrying is the case of land ownership data, only free of charge for about one-third of the data available.
- **Open-licensed** so that anyone has permission to use and reuse the data. Most data is currently not available under open licences (only 26% is). This is an area where there could easily be a quick win — if open licenses were applied across the board, at least 15% of datasets in the Barometer would be considered fully open (more than double the current measure of 7%).

Dataset	Machine readable	Bulk	Free	Open License	Updated	Sustainable	Discoverable
Maps	70%	33%	66%	29%	54%	51%	74%
Land	40%	14%	37%	14%	69%	69%	57%
Statistics	71%	25%	92%	26%	81%	68%	88%
Budget	45%	25%	100%	24%	95%	90%	87%
Spending	100%	60%	100%	60%	90%	70%	70%
Companies	32%	27%	72%	17%	72%	65%	73%
Legislation	14%	6%	96%	15%	86%	83%	79%
Transport	43%	26%	99%	29%	75%	56%	74%
Trade	64%	22%	99%	21%	79%	75%	77%
Health	58%	19%	99%	30%	50%	45%	64%
Education	60%	24%	99%	23%	63%	59%	70%
Crime	57%	20%	99%	29%	64%	57%	71%
Environment	68%	20%	100%	36%	51%	52%	57%
Elections	49%	26%	100%	19%	95%	78%	82%
Contracts	28%	12%	96%	16%	88%	69%	69%

Table 10: Quality on implementation for data available online of the 15 sectors analysed by the Barometer.

(Green and red cells are highest and lowest values per sector respectively)

Conclusions

If the promised benefits of the open data movement are to be realised, the current open data agenda pursued by governments needs to shift its focus back to the basics — and to people. **Governments must step up their efforts to ensure that open data is for everyone and that data being released is truly what people need and use.**

The findings from this edition of the Barometer show that, unfortunately, this is not happening in the majority of jurisdictions surveyed. Data is simply not open in practice. In too many cases, open data is seen as an extra, rather than a whole-of-government responsibility. Open data initiatives are not outlasting the leaders or administrations that started them, and often remain siloed within just one government department or agency. Backsliding in Barometer scores — even among the top performers — reflects this reality.

All of this results in unsustainable policies which are not adding up to better and more open data that is relevant for people, or which is used to make more equitable and effective policy decisions.

Based on the Barometer findings, the Web Foundation calls for the following actions by governments:

Recommendation 1

Government data must **be open by default**

Recommendation 2

Governments must **integrate open data across all agencies and departments**

Recommendation 3

Governments must **adopt the Open Data Charter to ensure open data practices are embedded beyond political mandates**

Recommendation 4

Governments must **consult citizens and intermediaries when prioritising which open data to publish first**

Recommendation 5

Governments must **invest in using open data to improve the lives of marginalised groups**

The potential benefits of open data to build trust and better, more equitable policies can more likely happen if these recommendations are implemented. Otherwise open data will continue to remain an aspiration rather than a reality, and overall country performance on the Barometer will continue to get a failing grade.

Methodology

The 4th edition of the Open Data Barometer is based upon three kinds of data:

- A peer-reviewed expert survey carried out between May and September 2016, 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 country, which touched on issues of data availability, format, licence, timeliness, and discoverability.
- A government self-assessment simplified survey carried out between May and July 2016 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, World Bank, United Nations e-Government Survey, and Freedom House.

This new edition of the Barometer seeks to repeat the analysis from previous editions, with some small modifications and methodological revisions that are focused on three main aspects:

- Adaptation of the questionnaire to the final version of the [Open Data Charter principles](#) that was initiated in the previous edition of the Barometer on the basis of early drafts of the Charter.
- Adaptation of the implementation checklist to the new criteria defined by the updated [open definition v2.1](#).
- Modifications to the definition of some previously existing datasets [D2, D7 and D8] — all of them part of the global anti-corruption open data infrastructure promoted by the [Anti Corruption Open Up Guide](#).

Overall, however, we have sought to maintain certain consistency with the questions used in previous editions one more time. Wider methodological revisions will continue to be explored in future editions as we keep advancing 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 data for all four editions of the Barometer](#) is available on the website.

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About the Open Data Barometer

Produced by the [World Wide Web Foundation](#) as a collaborative work of the [Open Data for Development](#) (OD4D) network and 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 countries and regions using an in-depth methodology that combines contextual data, technical assessments and secondary indicators.

Covering 115 jurisdictions in the present edition, the Barometer ranks governments on:

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

This is the fourth edition of the Barometer. After three successful editions, this new one marks another

step towards becoming a global policymaking tool with a participatory and inclusive process and a strong regional focus. This year's Barometer includes an assessment of governments against their performance in fulfilling the [Open Data Charter](#) principles in their final version.

The Barometer is a truly global and collaborative effort, with input from more than 100 researchers and government representatives. It takes over six months and more than 10,000 hours of research work to complete. During this process, we address more than 20,000 questions and respond to more than 5,000 comments and suggestions.

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

About the World Wide Web Foundation



The [World Wide Web Foundation](#) was established in 2009 by web inventor, Sir Tim Berners-Lee. Our mission? To advance the open web as a public good and a basic right.

Thanks to the web, for the first time in history we can glimpse a society where everyone, everywhere has equal access to knowledge, voice, and the ability to create. In this future, vital services such as health and education are delivered efficiently, access to knowledge unlocks economic value while access to information enhances transparency and strengthens democracy.

We seek to harness the potential of open data as a tool for tackling society's most pressing challenges, ensuring people are able to access, understand, and engage with the data directly affecting them. Our work on open data connects across these themes, working to support inclusive approaches to open data impact across the globe and covers:

- Co-leading the [Open Data Charter](#) since inception to promote the adoption of global principles for the release of data and co-chairing the measurement and accountability working group.

- Being a member of the [Open Data for Development \(OD4D\)](#) Network to scale effective and viable open data solutions for economic and social development.
- Harnessing the [Data Revolution](#) for inclusive growth and sustainable development through the formation of the [Global Partnership for Sustainable Development Data](#) together with more than 100 other organisations.
- Co-leading the development of the world's first register of beneficial company ownership data to shift norms around corporate transparency and make it more difficult for corrupt individuals to hide — [OpenOwnership](#).
- Building the [Open Contracting Data Standard](#) to make contracting information more useful and accessible, enhancing and promoting disclosure and participation in public contracting.
- Using a combination of research, incubation, training, and engagement in our [Open Data Labs](#) concept, where our goal is to accelerate progress and ensure that open data rapidly becomes a vital tool to tackle practical problems in developing and emerging economies.

About the OD4D Network

OD4D is a global network of leading organisations that are creating locally-driven and sustainable open data ecosystems around the world. The OD4D network builds knowledge and provides support to governments and policymakers in key issues such as policies, standards, innovation, and skills development. OD4D focuses on building up the supply of quality open data, and also on improving the use of that data by leaders in government, civil society, the media, and business, so that it furthers public interest and improves people's lives.

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