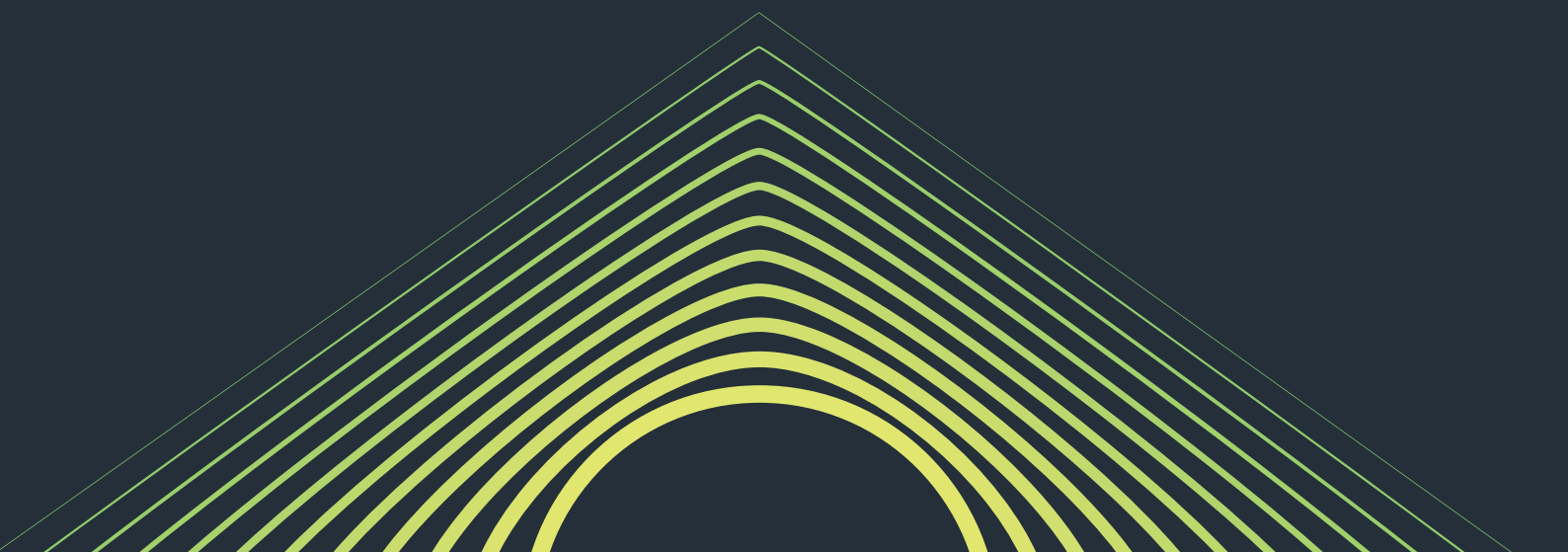
FGV DAPP
DEPARTMENT OF PUBLIC POLICY ANALYSIS

OPEN KNOWLEDGE BRASIL

OPEN DATA INDEX FOR BRAZIL



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APRIL | 2017

FGV

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Address
Praia de Botafogo 190, Rio de Janeiro
RJ – CEP 222509000
Caixa Postal 62.591 CEP 22257-970
Tel: (21) 3799-5498
www.fgv.br

Founding President
Luiz Simões Lopes

President
Carlos Ivan Simonsen Leal

Vice-Presidents
Sergio Franklin Quintella,
Francisco Oswaldo Neves Dornelles and
Marcos Cintra Cavalcante de Albuquerque

FGV DAPP

OPEN KNOWLEDGE BRASIL

Director
Marco Aurelio Ruediger

DAPP
(21) 3799-4300
www.dapp.fgv.br | dapp@fgv.br

Executive Director
Ariel Kogan

Team
Comunidade OKBr

TEAM

IMPLEMENTATION TEAM
Researchers
Amaro Grassi
Andressa Falconiery
Bárbara Barbosa
Janaina Fernandes
Wagner Oliveira

Graphic Project
Arielle Asensi
Humberto Ferreira
Luis Gomes
Rebeca Liberatori Braga

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ABOUT FGV/DAPP

The Getulio Vargas Foundation Department of Public Policy Analysis (FGV/DAPP) is an applied social research center concerned with innovation in public policies, producing advanced analyzes with an intensive use of social networks and interdisciplinary knowledge. Its mission is to improve Brazilian public administration and the public debate in a networked society through transparency and dialogue between the state and citizenship.

FGV/DAPP has developed a research agenda based on its own analysis methodology, improved since its creation in 2012, and which brings together traditional quantitative and qualitative methods and innovative resources for the processing and analysis of public databases and social networks. It also provides society with a set of data analysis and visualization tools that are easy to understand and access.

The public policy analysis are produced by a diversified interdisciplinary team with backgrounds in areas such as Sociology, Political Science, Anthropology, Linguistics, Economics, Public Administration, International Relations, Statistics, Mathematics, and Social Communication, allied to Information Technology and Design.

ABOUT OPEN KNOWLEDGE BRASIL

Open Knowledge Brasil (OKBr) is a non-profit and non-partisan Civil Society Organization (SCO) founded in 2013. OKBr represents Open Knowledge International in Brazil based on an agreement which also dates from 2013.

OKBr uses and develops civic tools, analyzes public policies, works with the journalism of data, and promotes free knowledge to make the relationship between government and society more transparent so that there is more effective and open political participation.

OKBr believes in a world where information is free and available to allow more conscious and intelligent decisions. A world where information and knowledge are within reach for everyone.

ABOUT THE FGV/DAPP AND OKBR PARTNERSHIP

One of the main concerns of FGV/DAPP is the promotion of Transparency, understood not only as the diffusion of public data, but also as the capacity to facilitate the understanding of the information coming from this data. Based on the integration of the use of technology and design, FGV/DAPP disseminates information in a simple and accessible manner about various themes, such as the use of public funds, the origin of donations for election campaigns, and the situation of public services (education, health, transport, security), amongst others.

Taking into account its leading role in the promotion of this agenda, in the second half of 2016 FGV/DAPP formed a partnership with the Open Knowledge Foundation in Brazil (OKBr) with the aim of contributing to the annual collection of information for the national Open Data Index and to the detailing and improvement of the index methodology applied at a subnational level (cities).

THE GLOBAL OPEN DATA INDEX

Data is considered open when anyone is free to access, modify, and share it, subject, at the most, to measures which preserve its origin or to publicize it[1]. The Open Knowledge Foundation developed the global Open Data Index (ODI) to compare countries in terms of their capacity to open data to individuals, the media, and civil society. The information which composes the index is obtained via a crowd-sourced platform, in other words, from the contributions of local agents linked to the OKFN network in each country, and afterwards revised by open data specialists in each country, producing as a final result a ranking of countries.

The aim of the index is to assess the state of open data policies in each country, taking into account all their characteristics: what data is released about certain issues, how it is divulged in relation to access, format, granularity, costs, and how fast it is updated. The index assesses various dimensions, such as public finances, socio-economic, legislative, and electoral data, environmental indicators and administrative and geographic information.

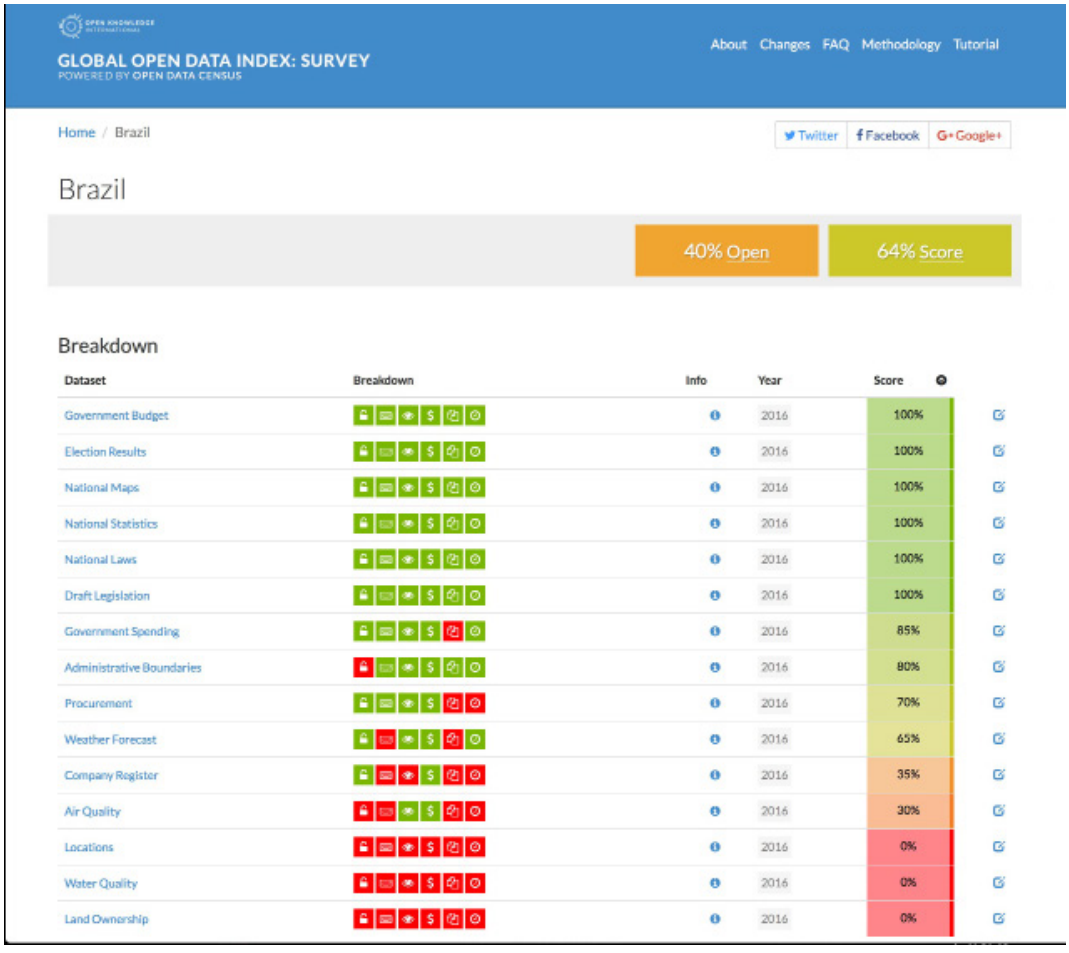
It thus offers a reference parameter to all countries about the capacity to provide open data, presenting this information in a clear, easy to understand and usable manner, something that is in harmony with FGV/DAPP's transparency mission. This index already exists for 2013, 2014, and 2015 and is currently being constructed for 2016, using methodology already improved by the experience accumulated throughout this period. FGV/DAPP, through its partnership with Open Knowledge do Brasil (OKBr), was the Brazilian organization responsible for collecting the information that is part of the Brazilian index this year.

1 For further information, see the "Open Definition" at: http://opendefinition.org/

RESULTS

The result of the assessment gave Brazil a score of **64%**. The country was in **8th** position in the ranking, one place ahead of the United States and the **first** among the **Latin American countries**. In total **15 dimensions** were analyzed in accordance with **nine criteria**[2]. The following table shows how each of the dimensions were analyzed. Of the datasets analyzed, six— or 40% — received the maximum score: government budget, election results, national maps, national statistics, national laws, and draft legislation.

FIGURE 1 – ASSESSMENT OF OPEN DATA DIMENSIONS IN BRAZIL[3]



2 If the database exists and is completely in agreement with the required characteristics (1). If it is easily found (2) and is available online (3) to anyone in a free format (4) and without need for identification (5), if it is updated (6), has good usability (7), if downloads are available in open formats (8), and if it possesses an open data license (9).

3 The problem assessment criteria are: Incomplete Dataset, Outdated, Unavailability of Open Format, Difficulty of Working with Data, Restricted Access, Difficulty of Locating Data, Download of Complete Database Unavailable, and Non-Transparent License.

The dimensions related to **Locations, Water Quality, and Land Ownership** received 0% because no data was found referring to them. Since in these three cases none of the other criteria could be assessed, the analyses in this report will consider 12 datasets rather than 15.

To analyze the state of open data infor Brazil for the base year of 2016, we adopted methodology to quantify the problems found in each dimension, and divided the problems found in two types: usability and process. Listed in the first category are problems related to the difficulty in using the data itself and the capacity to transform this into information. As process questions we identified: difficulties of accessing data and the omission/unsuitability of the license. The table below presents the summary of problems in each dimension, ordered from most to least urgent.

FIGURE 2: CLASSIFICATION OF PROBLEMS AS USABILITY AND PROCESS

USABILITY	PROCESS
Incomplete Dataset	Restriction of access
Outdates Dataset	Difficulty of locating data
Unavailability in open format	Download of complete database unavailable
Difficulty of working with data	Non-transparent license

In general, we found proportionally more problems of usability than of process. The frequency of usability problems is greatest in **Air Quality** (appears four times), **Weather Forecast**, and **Company Register** (three times each). Process problems are most frequent in the dimensions of **Air Quality** and **Company Register**, each mentioned three times.

The Figure 3 shows the frequency of the problems identified per index dimension. Among the 12 datasets assessed, three do not present any bottlenecks, either in relation to usability or their divulgation process: **National Statistics, National Maps**, and **Government Budget**. At the extreme opposite, the **Air Quality** dimension presents problems in almost all assessment criteria[3].

All the databases are provided by agencies at the federal level, and we have indicated in the final column which type of authority is responsible for the database assessed. The majority of the data providers are agencies from the Executive — eight of the 12 databases analyzed. Three databases are responsibility of agencies from the legislature, and only one is related to the judiciary.

FIGURE 3 - RANKING OF OPEN DATA DIMENSIONS IN BRAZIL

RANKING	INDEX DIMENSIONS	BOTTLENECKS FOUND	RESPONSIBLE AUTHORITY
1	National Statistics	0	Executive
	National Maps	0	Executive
	Government Budget	0	Executive
2	National Laws	1	Legislative
	Draft Laws	1	Legislative
	Election Results	1	Judiciary
3	Government Spending	2	Legislative
4	Procurement	3	Executive
5	Administrative Boundaries	4	Executive
	Weather Forecast	4	Executive
6	Company Register	5	Executive
7	Air Quality	7	Executive

The databases studied give us an example of **good practices** which can be used as references by other data providers. For example, this is the case of the **Government Budget** dimension in relation to the provision of an updated technical manual about the subject. The Federal Budget Secretariat annually **presents a manual with explanations and information** about the Federal budget. This manual helps individuals to deal with the theme by explaining the stages of the budget organization and process.

Another notable practice was found in the **Government Budget** dimension due to the wealth of the data provided, although it did not reach 100% in the index. The Federal Senate provides all the official classifications of public finances for certain expenditures. In this way, it presents much more information about government spending than is considered essential according to the open data index. This is positive because it offers individuals a greater capacity for analysis, thereby expanding the possibilities for the use of data.

From this point of view, these two good practices make the data more transparent because they strengthen individuals' power to act in two different ways: the manual instructs and informs, while the provision of information in more than one classification strengthens individuals' capacity for analysis.

The most common problem, identified in nine of the twelve databases analyzed, is their **poor usability**, or the difficulty in working with them. The second problem, identified in five of the databases, is the non-availability of a download option of the entire database. Figure 4 indicates the number of times each bottleneck was found.

FIGURE 4 – FREQUENCY OF PROBLEMS FOUND IN BRAZIL

BOTTLENECKS MAPPED	FREQUENCY OF IDENTIFICATION OF BOTTLENECKS
Difficulty of working with data	9
Download of complete database unavailable	5
Difficulty of locating data	3
Open format not available	3
Outdated Dataset	3
Non-transparent license	2
Incomplete Dataset	2
Restricted access	1

The three datasets not found for evaluation are considered the most critical, since they require more attention in a open data policy. They are: Locations, Water Quality and Land Ownership.

Besides, two problems are particularly critical when observed, precisely because they are essential aspects of transparency: **the non-existence of information** and the **existence of restrictions on access to it**. These items have to be considered as priorities for the improvement of the state of Brazilian open data. In the Brazilian case, these two problems are the least frequent on the list. The question of an incomplete dataset only appears twice, in **Weather Forecast** and **Air Quality**. Restriction of access appears just once, in **Company Register**. It is worth noting that these three dimensions have databases provided by organizations at the Federal executive level.

ABOUT THE DATABASES

This section presents comments about the datasets analyzed in order to give the Index more depth, explaining the particular questions of each dimension analyzed.

Government Budget (Score: 100%)

No problems were found in this dataset

In Brazil, there are various different sources of data for the **Government Budget** (Ministry of Finance, Ministry of Planning, the Senate, and the Chamber of Deputies), which are listed in the final section of this document. Used for the assessment was the open data from the **Integrated System of Budgeting and Planning** (SIOP) from the Federal Budget Secretariat (SOF), part of the Ministry of Planning, which has the attribution of coordinating the budget process and consolidating information about expected revenues and fiscal targets. The database received the maximum score and no bottlenecks were detected.

However, a fact that stood out throughout the process should be mentioned here. Although the data is available and accompanied by documentation (Technical Budget Manual), it is difficult with work with for two reasons: the efficient use of the database depends on a good understanding of the Government Budget, which is an arid and difficult theme; and the need to have an ability to manipulate data in the RDF eco-system, which reduces the universe of people capable of dealing with this database. Despite these aspects, those who want to work with this data, even though it has an entrance cost, have complete access and suitable documentation to learn to work with the database.

Election Results (Score: 100%)

Problems found - Usability
Difficulties of working with the data

Information about election results in Brazil is consolidated at a federal level by the Superior **Electoral Court (TSE)**. Although in some cases regional courts collect and make available this information, the TSE's collection of electoral data is a consolidated and reliable source of information. In this case the TSE data was assessed in relation to general elections (president, state governor, senator, federal deputy, and state deputy) for all of Brazil.

In relation to the index's methodology and the completion of the survey, all the pre-requirements were met. Nevertheless, one problem was found:, the difficulty of working with the data, since it is codified.Nevertheless, one problem was found, the difficulty of working with the data, since it is codified. The documentation facilitates the study, but time is necessary to become familiar with the nature of the information and to carry out any transformations necessary for the analysis. Moreover, it also has to be mentioned that on the website accessed there is no information about the license or terms of use, only that the data is covered by federal information access legislation[4], as stated by TSE technical staff. In other words, even though all the data has a public license, it is important that this be made available in the clearest form possible with the data.

National Maps (Score: 100%)

No problems were found in this dataset

The principal reference for cartographic data in Brazil is the **Brazilian Institute of Geography and Statistics (IBGE)**, which provides the data required by the index for this dimension. This database received the maximum score and did not have any problems. However, it is worth mentioning two aspects: the data in the shapefile format are not easily found on the site; and in relation to the license, only one mention of the public nature of the data was found in the mission of the institute, which suggests a need for a greater clarity about the open data license.

4 Available at http://www.planalto.gov.br/ccivil_03/_ato2011-2014/2011/lei/112527.htm. Accessed on 20 April 2017.

National Statistics (Score: 100%)

No problems were found in this dataset

The statistics solicited in the original index methodology – GDP, population, and unemployment – are provided at the federal level by the **Brazilian Institute of Geography and Statistics (IBGE)**. In this case the aggregated statistics for the country were assessed through national quarterly accounts, the continuous National Household Sample Survey (PNAD), and population estimates. Although it complies with most of the requirements of the methodology, the data was not easily found since it was only possible to obtain with different focuses and methodologies in the various parts of the IBGE site. In relation to the license, only one mention was found of the public nature of the data in the institute's mission, which suggests the need for greater clarity about the open data license.

National Laws (Score: 100%)

Problems found - Usability
Difficulties of working with the data

There exist various possible sources for information about the federal legislation in force in Brazil. The principal database used for the assessment was the Lexml project, part of the Interlegis initiative, which contains not only a page for consultations, but also access to its API, whose documentation appears on the **Federal Senate's** open data page. The Presidency of the Republic also has a consultation portal, but does not allow to download the complete database.

In the assessment process, although it received the maximum score, the database was diagnosed with a Usability problem, since its API is difficult to use and has little metadata, which makes the life of users who want to use the database difficult, even if they have advanced programming abilities. More suitable documentation and greater clarity with the metadata could facilitate the use of this database.

Draft Legislation (Score: 100%)

Problems found - Usability
Difficulties of working with the data

Due to the bicameral nature of the **Brazilian Congress**, this type of data is supplied separately by the Chamber of Deputies and the **Federal Senate**. Both databases received the maximum score in the assessment. Both present not only the search portals but also their APIs, which were found to be difficult to use. In the question of the open data license, the Senate presented a license compatible with the Open Definition, but the Chamber of Deputies presented only a FAQ mentioning the public nature of the data, without divulging a specific license. A download of the full database is also allowed in the .csv format in the case of the Chamber, but it is not clearly available in the case of the Senate, although it is possible to access the complete database through API.

Government Budget (Score: 83%)

Problems found - Usability
Difficulties of working with the data

Problems found - Process
Download of complete database not available

The information required in this dimension is generated by the National Treasury but made available with open access by three different Brazilian agencies: the Ministry of Transparency, Supervision and Controllership of the Union , the Office of the Comptroller General, the Federal Senate, and the Ministry of Planning. For the assessment, the **Federal Senate** database was used. As a positive point the source made available different information about expenditure, through various official classifications of public finances. Moreover, the application allows very flexible data searches. On the other hand, we noted that, as well as there being no access to the database apart from via API, in constructing a search of the database with many variables, it is possible that there will be many download problems, since it is a heavy database. For this reason, it is considered that there is no option to download the complete database in this dimension.

Administrative Boundaries (Score: 78%)

Problems found - Usability
Difficulties of working with the data

Problems found - Process
Difficulty in finding information
Non-Transparent License

The database analyzed in this dimension is provided by the **Brazilian Institute of Geography and Statistics (IBGE)**, an organization linked to the Ministry of Planning, Development, and Administration, and thus part of the Federal Executive power. As in the case of the **National Maps** dimension, with the same source as this dimension, what needs to be mentioned here is the difficulty of finding the data on the site and the lack of transparency in the specific database license (we considered the general publication declaration made by the institute).[5]

Weather Forecast (Score: 72%)

Problems found - Usability
Absence of information required by the methodology: average temperature
Difficulties of working with the data
Non-availability of data in open source

Problems found - Process
Download of complete database not available

For this dimension, two different databases were considered, one from the **National Institute of Spatial Research (INPE)** and the other from the **National Meteorological Institute (INMET)**. The methodological nature and the amplitude of the information found is different in the two databases. For example, information about wind speed is only available on the INPE database. Taking this into account, the consolidation of this information in a single portal could represent one possible improvement for this dimension.

Data usability is harmed by the non-availability of downloads, restricted to web navigation, which also impacts the question of format, which is not open. Moreover, it was not possible to find the average temperature in any database. In the process dimension, in addition to the database not being available in a consolidated form, the specific licenses were not found, but only terms and conditions of use and replication (INMET) and a footnote stating that users should always mention the data source (INPE).

5 There is a divergence in the assessment of the IBGE data license. In other dimensions, the license was considered transparent due to the institute's declaration. However, in the case of the Administrative Boundaries dimension it was evaluated that the license was not transparent because there was no specific declaration about the database. The results contained in this report comply with the official assessment in its current version (24/04/2017). In a future revision, it is possible that this point will be altered to guarantee consistency and internal cohesion in relation to the IBGE data license.

Procurement (Score: 67%)

Problems found - Usability
Difficulties of working with the data
Outdated data

Problems found - Process
Download of complete database not available

Information about procurement is consolidated and provided by the Ministry of Transparency, Supervision and Controllership of the Union. All the data listed in the methodology is available. However, it cannot be downloaded together in a single database; to consolidate it different databases have to be downloaded and the data manipulated in another program. It is worth noting that API access exists, but that it has the same desegregation problem. Therefore, the non-availability of the complete database, for download or consultation, also creates a usability problem in this dimension. Moreover, the data was not updated when the site was assessed, with the database available for download being updated until September 2016 and the data via API until 2014.

Company Register (Score: 39%)

Problems found - Usability
Non-availability of data in open source
Outdated data
Difficulties of working with the data

Problems found - Process
Download of complete database not available
Difficulty in finding information
Restriction of Access

Information about Company Registers is collected and made available by IBGE, the Ministry of Planning, Development, and Administration, the Ministry of Transparency and Inspection, and the Office of the Comptroller General of the Union, and by state boards of trade, but the only organization which has the complete data which the required granularity — and which can thus be used for the index assessment — is the **Federal Revenue Service** (a secretariat linked the Ministry of Finance), which catalogues this information for the purposes of taxation.

However, this database has a series of problems. To access information about each company individually it is necessary to also possess the single company identifier (CNPJ). In other words, it is not possible to find information only with the name. It is also

necessary to complete a captcha to access the information (in other words, there is a restriction of access), which is only made available on a web page (without an available download). Moreover, the updating date of the site is not known. No specific license was found, only a mention that it was information from the public domain.

Air Quality (Score: 33%)

Problems found - Usability
Absence of information required by the methodologies: nitrous oxides
Non-availability of data in open source
Outdated data
Difficulties of working with the data

Problems found - Process
Download of complete database not available
Difficulty in finding information
Lack of clarity about the public data usage license

Various sources exist for Air Quality data in Brazil, however, none of these meet the criteria of the open data index. The two principal sources from the national level used were the **National Institute of Spatial Research (INPE)** and the **Ministry of the Environment (MMA)**, as they were the only ones which offered information about all of Brazil. This data is of better quality at the subnational level, but, there is no effective consolidation of this information for the entire country.

Amongst the usability problems was the absence of information about nitrous oxides in the air, the non-availability of download data in an open format (the data is provided in PDF or in a map plotted on the web), the absence of updated data (in the case of INPE, although the data is provided in real time, it is only plotted and is not visible), and the consequent difficulty in obtaining information and analyses from the data supplied. In the process dimension, in addition to the difficulty in locating reasonable information and the non-availability of downloads of the entire database, is also important the absence of direct references to data license or to the public nature of the information.

Locations (Score: 0%)

This dataset was not found.

According to the Universal Postal Union, the international post service organization, the Brazilian governmental organization responsible for postal codes in Brazil is the Ministry of Communications, with the **Brazilian Posts and Telegraphs Company** (the Post Office) being the designated operator. The Post Office provides the information demanded by the Index in an online search service, but does not make available the database for download. IBGE has useful data about locations, but this is not compatible with the definition of the open data index. In this case, it is necessary to assess, in accordance with methodological criteria, a form of making a national database available about the subject in an open format.

Water Quality (Score: 0%)

This dataset was not found.

Although there exist a number of sources which collect information about water quality in Brazil (National Water Agency, Oswaldo Cruz Foundation, Ministry of Health) — the submission considered the database of the National Public Health Information System (SNIS) from the **Ministry of Cities** —, during the revision of the index it was considered that Brazil did not have a database which qualified for the criteria in this dimension. In this case, it is necessary to assess, in accordance with the methodological criteria, a form of making available a national database about this issue in an open format.

Land ownership (Score: 0%)

This dataset was not found.

The Land Ownership data required by the index methodology is not made available by governmental bodies in Brazil. Property registration is carried out in notary offices and the consolidated data is not publicly available. The closest thing to a database found was the certification of rural registration administered by the **National Institute of Colonization and Agrarian Reform (INCRA)**. However, the database is not compatible with the assessment criteria.

CONCLUSION

Brazil had a good performance in the index in comparison with other countries. However, the score of 64% indicates that there is much space for improvement. Only 40% of the Index's dimensions received the total score and three of them did not publicly exist. Most of the problems identified are related to usability (completeness, updating, and format) rather than process (means of access and data usage license).

The most recurrent problem is the difficulty of working with data, and in second place the non-availability of the complete database for download. This indicates that the bodies responsible for the provision of information do not understand that the facilitation of the process for the editing and manipulation of data is also their responsibility and an important part of transparency.

These results can help in the opening of data at the national level, directing attention to priority dimensions and the most common problems in accordance with the open data definition. In other words, this document contains some directives for an open data policy for the country.

Furthermore, this initiative can have a series of benefits for public administration, both internally and externally. Internally, because the data opening process creates a mechanism of internal demand for results from different units, which contributes to greater effectiveness in public administration. In addition, the opening of data allows individuals to contribute in various ways, whether with analysis, social control, the creation of applications, or the replication of information, amongst others, which makes administration more efficient by congregating efforts through social participation. On the other hand, there are external benefits: the administration comes to be seen as more accountable to its citizens. In addition to gains in terms of image, the possibility of becoming a national and international reference in open data positively contributes to the advocacy of the question of transparency in other countries.

FGV/DAPP and OKBr have therefore made some general recommendations for action to improve the performance of the country. First, we have identified the need to synchronize the form of the presentation of the open data in all dimensions, in order to provide parameters for the quality of the data provision service for different bodies. For this, it is important to determine action strategies for each unit in accordance with a general orientation manual which can be generated with raw material from this report. We additionally recommend the creation of innovative forms of data visualization. This action should contribute significantly to improve the usability of databases with a national scope, as well as reinforcing Brazil's leadership in relation to the advance of transparency policy.

SOURCES

Listed here are the sources used (including the links accessed) for the assessment of the index's dimensions. The agencies which provided the information and the type of information (authority and federative unit) are mentioned.

It is important to highlight that the assessment was carried out for the state of open data in 2016. The sources were consulted in the period of the research, 1 - 30 November 2016. The revision process was carried out between January and February 2017.

Government Budget

Federal Budget Secretariat – Ministry of Planning, Development, and Administration
Part of the Federal Executive

Principal link used for the assessment:
Integrated Planning and Budget System (SIOP)
https://www1.siop.planejamento.gov.br/QvAJAXZfc/opendoc.htm?document=IAS%2FExecucao_Orcamentaria.qvw&host=QVS%40pqlk04&anonymous=true

Alternative Links:
Federal Budget Secretariat (SOF)
http://www.orcamentofederal.gov.br/clientes/portalsof/portalsof/orcamentos-anuais/orcamento-2016/orcamentos_anuais_view?anoOrc=2016

Ministry of Planning, Development, and Administration (MP)
http://www.planejamento.gov.br/assuntos/planeja/orcamento-federal/orcamentos-anuais

SIGA Brazil System - Federal Senate
https://www12.senado.leg.br/orcamento/sigabrasil

Annual Budget Law - Chamber of Deputies
http://www2.camara.leg.br/atividade-legislativa/orcamentobrasil/loa

Federal Government Open Data Portal - Secretariat of Information Technology, Ministry of Planning, Development, and Administration (MP)
http://dados.gov.br/dataset/orcamento-federal

Election results

TSE - Superior Electoral Court
Órgão do Poder Judiciário Federal

Repository of Electoral Data
http://www.tse.jus.br/eleicoes/estatisticas/repositorio-de-dados-eleitorais

National Maps

IBGE - Brazilian Institute of Geography and Statistics
Linked to the Ministry of Planning, Development, and Administration, part of the Federal Executive

Geosciences Downloads Portal
Complete database
http://downloads.ibge.gov.br/downloads_geociencias.htm

Map Portal - Search Tool
http://portaldemapas.ibge.gov.br/portal.php#mapa1106

National Statistics

IBGE - Brazilian Institute of Geography and Statistics
Linked to the Ministry of Planning, Development, and Administration, part of the Federal Executive

Gross Domestic Product - National Quarterly Accounts
http://www.ibge.gov.br/home/estatistica/indicadores/pib/defaultcnt.shtm

Quarterly unemployment rates based on the continuous National Household Sample Survey (PNAD)
http://www.ibge.gov.br/home/estatistica/indicadores/trabalhoerendimento/pnad_continua_mensal/default.shtm

Population Estimates
http://www.ibge.gov.br/home/estatistica/populacao/estimativa2016/default.shtm

SIDRA Portal - IBGE Automatic Recovery System
https://sidra.ibge.gov.br/home/pms/brasil

National Laws

Federal Senate
Part of the Federal legislature

Principal links used for the assessment:
Projeto Lexml, parte de iniciativa Interlegis
http://projeto.lexml.gov.br/

Lexml project, part of the Interlegis initiative
http://dadosabertos.senado.gov.br/dataset/api-search-and-retrieve-via-url-sru

http://legis.senado.leg.br/dadosabertos/docs/resource_LegislacaoService.html#resource_LegislacaoService_listaNormasXml_GET

Federal Senate Open Data Portal
http://dadosabertos.senado.gov.br/group/legislacao2

Alternative links:
Federal Senate Open Data Portal - Search
http://www4.planalto.gov.br/legislacao

https://legislacao.planalto.gov.br/legisla/legislacao.nsf/fraWeb?OpenFrameSet&Frame=frmWeb2&Src=/legisla/legislacao.nsf%2FFrmConsultaWeb1%3FOpenForm%26AutoFramed

Draft Legislation

Chamber of Deputies and Federal Senate
Part of the Federal legislature

Chamber of Deputies Open Data Portal
http://www2.camara.leg.br/transparencia/dados-abertos/dados-abertos-legislativo

Federal Senate Open Data Portal
http://dadosabertos.senado.gov.br/

Chamber of Deputies Search Portal
http://www.camara.leg.br/buscaProposicoesWeb/pesquisaSimplificada

Federal Senate Search Portal
http://www25.senado.leg.br/web/atividade

Government Spending

Federal Senate
Part of the Federal legislature

Principal link used for the assessment:
SIGA Brazil system - Federal Senate
https://www12.senado.leg.br/orcamento/sigabrasil

Alternative links:
Integrated Planning and Budget System (SIOP)
https://www1.siop.planejamento.gov.br/QvAJAXZfc/opendoc.htm?document=IAS%2FExecucao_Orcamen-

taria.qvw&host=QVS%40pqlk04&anonymous=true

Transparency Portal – Ministry of Transparency and Inspection and the Office of the Comptroller General of the Union
http://transparencia.gov.br/

Administrative Boundaries

IBGE - Brazilian Institute of Geography and Statistics
Linked to the Ministry of Planning, Development, and Administration, part of the Federal Executive

Geosciences Downloads Portal
Complete database
http://downloads.ibge.gov.br/downloads_geociencias.htm

Weather Forecast

INPE – National Institute of Spatial Research
Linked to the Ministry of Science, Technology, Innovations, and Communication, part of the Federal Executive

INMET – National Institute of Meteorology
Linked to the Ministry of Agriculture and Supply, part of the Federal Executive

CPTEC Portal – INPE Center of Weather Forecasting and Climate Studies
http://tempo.cptec.inpe.br/

INMET Portal
http://www.inmet.gov.br/portal/

Procurement

Ministry of Planning, Development, and Administration (MP)
Part of the Federal Executive

Principal links used for the assessment:
Procurement API - Open data portal of the Federal Government, Secretariat of Information Technology, Ministry of Planning, Development, and Administration (MP)
http://dados.gov.br/dataset/compras-publicas-do-governo-federal

API Documentation
http://compras.dados.gov.br/docs/home.html

Alternative links:

Transparency Portal – Ministry of Transparency and Inspection and the Office of the Comptroller General of the Union
http://transparencia.gov.br/

Downloads Section of the Transparency Portal – Ministry of Transparency and Inspection and the Office of the Comptroller General of the Unio
http://transparencia.gov.br/downloads/

Company Register

Secretariat of the Federal Revenue Service of Brazil – Ministry of Finance
Part of the Federal Executive

Search tool for registration information of companies using CNPJ - Federal Revenue Service
http://www.receita.fazenda.gov.br/PessoaJuridica/CNPJ/cnpjreva/Cnpjreva_Solicitacao2.asp

Air Quality

INPE – National Institute of Spatial Research
Linked to the Ministry of Science, Technology, Innovations, and Communication, part of the Federal Executive

Ministry of the Environment (MMA)
Part of the Federal Executive

Principal link used for the assessment:
Map with information in real time about Air Quality the emission of pollutants from the CPTEC Portal – INPE Center of Weather Forecasting and Climate Studies
http://meioambiente.cptec.inpe.br/index.php?lang=pt

Air Quality monitoring report per monitoring station throughout Brazil – Ministry of the Environment (MMA)
http://www.mma.gov.br/images/arquivo/80060/Diagnostico_Rede_de_Monitoramento_da_Qualidade_do_Ar.pdf

Alternative links:
Data for downloading about the emission of pollutants in the Amazonian region - INPE
http://inpe-em.ccst.inpe.br/conteudo_pt/downloads.html

Statistical series of pollutant emissions per metropolitan region - IBGE
http://seriesestatisticas.ibge.gov.br/series.aspx?vcodigo=IU5&t=concentracao-poluentes-ar-ar-eas-urbanas-1

Locations

Dataset not found

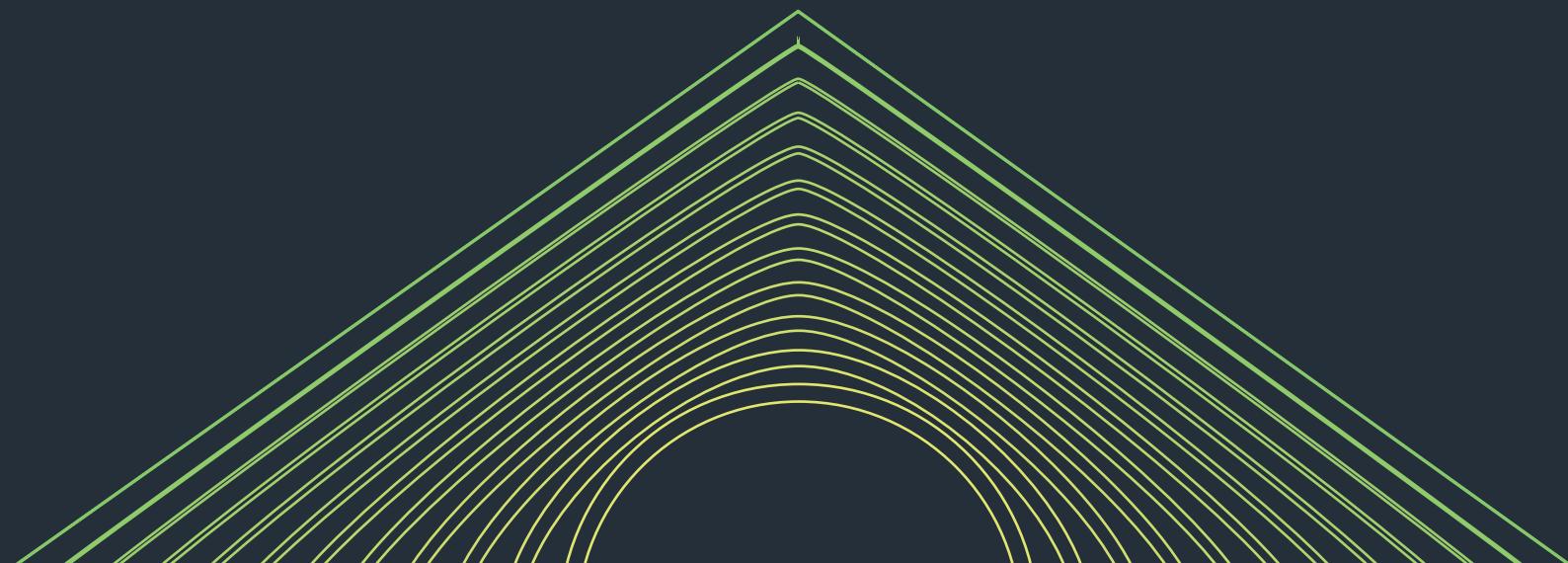
Water Quality

Dataset not found

Land Ownership

Dataset not found

FGV DAPP
DEPARTMENT OF PUBLIC POLICY ANALYSIS

OPEN KNOWLEDGE BRASIL

Innovation for Public Policies