

DO TRANSPARENCY AND OPEN DATA WALK TOGETHER? AN ANALYSIS OF INITIATIVES IN FIVE BRAZILIAN CAPITALS

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ABSTRACT *In the last few years, Brazilian municipal governments have launched their open data web portals. These initiatives have been taking place as part of the implementation of the Transparency Act, which sets forth deadlines and punishments concerning the adoption and performance of steps that focus on government transparency, such as the presence of transparency portals. Accordingly, this paper aims to check whether municipalities that keep portals with higher a Digital Transparency Index (DTI) will also prove to have the strongest open data initiatives. In order to achieve this goal we assess the official portals and open data initiatives in five Brazilian capitals by using the methodologies proposed by Paula Amorim (2012), and the prerequisites pointed out by the Open Knowledge Foundation (OKF, 2011), and Tim Berners-Lee (2010). The results indicate that there is no direct relationship between the Digital Transparency Index and the strength of open data actions in each municipality. The discussion of the results points to the absence of a concise public policy on digital democracy that is able to promote transparency and government data simultaneously.*

KEY WORDS

OPEN GOVERNMENT, OPEN GOVERNMENT DATA, E-TRANSPARENCY, E-DEMOCRACY, E-PARTICIPATION, BRAZIL

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INTRODUCTION

It has become more and more common to associate initiatives for enhancing public transparency with programs of government data disclosure, even on account of a legal obligation in some countries (World Bank, 1992). After thirty years of its re-democratisation, Brazil finds itself plunged into such a context as it experiences the consolidation of its democratic institutions and values. As a reflection of this, in the last three decades civil society, along with organisations, institutions, and governments, have complied less and less with secrecy relative to public business, aiming to consolidate democratic values (Bentham, 1843; Fung et al., 2007; Baume, 2013).

Although a number of studies have approached the topics of transparency and open data separately, a review of the literature shows an absence of studies that seek to establish connections between initiatives pushing for transparency and open data in Brazil. It is our belief that studying the intersection of these topics is valid in the Brazilian context for several reasons.

It is well-known that Brazil has been actively trying to become a key player in world politics and endeavouring to guarantee a seat in the United Nations Security Council. Thus, in the last twelve years, Brazil has sought to become an international conflict mediator and an important player in the world's economic issues (particularly by its participation in BRICS), while also maintaining an active presence in the world context by holding both the last FIFA World Cup (2014) and Summer Olympic Games (2016).

In line with this developments, Brazil was one of the first countries to sign the Open Government Partnership agreement in 2011, and it has promulgated several statutes and executive decrees in order to increase the availability of government data in order to promote transparency, which includes (but is not limited to): 1) the regulation of the Transparency Act, so as to make the Union, the states, the Federal District and the municipalities' budgets and financial executions available in real time (2009); 2) the regulation of the Access to Information Act, which compelled different government spheres to supply public administration data, implementing the guarantee of access to information set forth in the Federal Constitution (2011), and 3) the creation of the Open Data National Infrastructure (2012).

Furthermore, the Brazilian Access to Information Act (Brazil, Law nº 12.527, 2011) states in its guidelines the active publication of open government data by public agencies, which indicates that Brazilian public management encourages the combination of transparency actions with open data.

This paper intends to assess the use of digital tools by the five biggest municipal governments in Brazil to promote public transparency, as well as their open data actions, and ultimately answer the question: are municipal governments whose websites show a higher degree of transparency also the ones with more solid initiatives in data openness?

We use The Digital Transparency Index (DTI) proposed by Paula Amorim (2012), which assesses aspects such as information usability, accessibility, quality and diversity, in order to assess the transparency of the examined web portals. The method for the assessment of open data websites is as follows: 1) the tool developed by the Open Knowledge Foundation (OKF), which points out the basic prerequisites of an open data program, and 2) the Tim Berners-Lee's¹ (2010) five-star system, which ascertains the quality of formats, are used. Therefore, beyond the assessment by local governments themselves, one of the main purposes of this paper is to test the proposed methodology, which will be presented in detail.

We examine the five biggest Brazilian capital cities that had open data initiatives in 2015: São Paulo (SP), Rio de Janeiro (RJ), Curitiba (PR), Recife (PE), and Porto Alegre (RS), which together produce a GDP of R\$ 900 billion, corresponding to 20 percent of the wealth produced in the country, and have 25 million residents.

THEORETICAL GROUNDWORK

Open government data and transparency are similar in that they both deal with one of the citizens' basic rights in a democratic society: the access to information about the public administration. This idea was advocated by Harold Cross (1953:13), to whom "public companies are public business" and without access to information "citizens in a democracy have only changed their kings" (Cross, 1953: 13).

Despite this intersection, the literature on these topics runs separately. Studies of transparency in liberal democracies date back to at least the 18th century (Betham, 1843), and increase in the second half of the 20th century, gaining renewed impulse in the 1990's, with the increase in the use of digital technologies. Studies of open government data began only in the 21st century, with the expectation of making the state more transparent, augmenting the participation of civil society in politics, and creating a new economic field, enabled by the processing and analysis of government databases (Capgemini, 2013).

In the following sections, we give an outline of the current state of the theoretical discussions on these topics, showing the ideas and opinions that orient this work.

ON TRANSPARENCY

In a detailed historical survey, Christopher Hood (2006) makes reference to the term transparency from the 15th century, with its meaning being associated with *enlightenment*. The idea of transparency associated with public management for controlling the abuse of power does not emerge in literature until the French Revolution (1789). After that period, it is highlighted in the essay *On Political Tactics* (*Of Publicity* chapter) by Jeremy Bentham.

¹ British physicist, creator of the World Wide Web (WWW, or the Internet), founder of the World Wide Consortium (W3C), the Web technical development forum, and co-founder of the Open Data Institute, London. The purpose of his work is to maintain the privacy, freedom and openness of the web.

Bentham investigates notions that are the precursors of transparency: “a government that is conducted according to steady and documented rules; community life based on faithful and forthright communication; and a means of making the State and society accessible” (Amorim, 2012: 59).

A transparent government is that which makes public information available, except for security limits, and acts in order to guarantee that citizens have the right to know what the public administration does, or has done previously (Chevallier, 1988), and, in another view, what it will do (Piotrowski and Borry, 2010). Alon Peled, in turn, describes transparency as “openness to public scrutiny as defined by rights and abilities of organisations and individuals to access government information and information about the government” (Peled, 2013: 188). In any sense, transparency emerges as an agreement with solid and clear rules, with information and procedures that are available to the civil sphere and the market, and widely and previously known by the public, thus favouring isonomic relationships between the different social entities and governments.

Joseph Stiglitz (1999) put forward a new reason for the openness used in this work by advocating that if it is the population who bears the expense of information gathering by the government, the data belong to them. Therefore, citizens and institutions will have their capacity of democratically assessing and making public management members liable for their actions (accountability) increased (Piotrowski and Ryzen, 2007), which refers us to the discussion about open data.

ON OPEN DATA

The openness of government data may be described as the necessity that governments disclose “authoritative, high quality, complete, and timely data on the Web in a downloadable, non-proprietary, and license-free format” (Peled, 2013: 188). The idea meets the demands for information that were mentioned above, under the argument that the citizen shall be granted the right to access data that are of their property, but which are in the custody of governments (Margetts, 2011).

Open data constitute a methodology for the disclosure of government data in reusable formats, aiming at an increase in transparency as well as greater citizen political participation and wider societal collaboration (Open Knowledge Foundation, 2011: 4). In that respect, Geoffrey Bowker (2005) states that the value of such data is in its processing, so that it enables interpretation from different perspectives, favouring the democratic debate.

In an effort to help systematise open data actions around the world, the Open Knowledge Foundation (OKF), through its working group “Open Government Data”, established eight prerequisites that enable data to be considered open. These are: 1) They should be unprocessed; 2) They should be standardised and accessible (requiring

no adaptations by the user); 3) They should be structured; 4) They should be open to all (requiring no registration); 5) Their format should be non-proprietary; 6) They should have no copyright restrictions; 7) They should be current; 8) They should be heterogeneous, which means they should deal with different topics.

We admit that the term “open government data” is ambiguous in its use, for it may point to quite different directions that are not necessarily related to transparency, but which may be more strongly associated with innovation and/or economic gain, according to Harlan Yu and David Robinson (2012). Nevertheless, this ambiguity also admits that open data initiatives may have as their reason and ultimate goal the empowerment of citizens by boosting transparency in public management, favouring accountability, encouraging participation, or simply offering a wider set of information in order to enhance the formation process of society’s opinion (Hansson, 2014; Zuiderwijk and Janssen, 2014).

METHODOLOGY

Our purpose is to check whether the Brazilian municipal governments under analysis maintain websites that promote transparency and government data openness together. Thus, we purpose the first hypothesis:

H1: Municipal governments’ websites with higher degrees of transparency will also be the ones with stronger open data initiatives.

Five Brazilian capitals were chosen for this analysis – Curitiba (PR), Recife (PE), São Paulo (SP), Rio de Janeiro (RJ), and Porto Alegre (RS) (Table 1) – along with their respective official municipal portals and data openness program websites. The choice of the empirical corpus was based on two aspects: 1) the proposal to assess government spheres that have a direct relationship with the population, as is the case with municipal governments; 2) the need to assess municipalities that have both official portals and structured open data programs. Moreover, it must be remembered that the total GDP of the chosen cities equals R\$ 900 billion per year (about US\$ 300 billions), which is 20% of the wealth produced in the country, thus increasing the requirement for their transparency and openness.

Table 1 shows the addresses of the portals analysed during the period in which this study was conducted. The method of determining the DTI and the different prerequisites of open data is presented in detail below.

Table 1. List of municipalities and their respective portals

City (State) / Official Portal / Open Data Portal
Curitiba (Paraná) / www.curitiba.pr.gov.br / www.curitiba.pr.gov.br/dadosabertos
Recife (Pernambuco) / www2.recife.pe.gov.br / dados.recife.pe.gov.br
São Paulo (São Paulo) / www2.saopaulo.sp.gov.br / www.prefeitura.sp.gov.br/cidade/secretarias/dese_nvolvimento_urbano/dados_abertos
Rio de Janeiro (Rio de Janeiro) / www.rio.rj.gov.br / data.rio.rj.gov.br
Porto Alegre (Rio Grande do Sul) / www2.portoalegre.rs.gov.br / www.datapoa.com.br

Source: Authors, 2016

The assessment of the portals, carried out between March 10 and 16, 2015, adopted the methodology proposed by Amorim (2012) so as to determine the DTI of each Brazilian capital through their portals. Browsing on each website took from one hour and twenty minutes to three hours and fifteen minutes, depending on their architecture, size and complexity. Data on the date and duration of the browsing activity, along with the analysis of each prerequisite proposed in the DTI and their respective assessment were registered in a worksheet tailored to this purpose (Figure 1) and supplied by the author of the methodology. Besides marking the numerical value corresponding to the analysis, detailed notes on the different items were made in order to support the description of each site and the discussion of the observation and results. As a complement to the browsing activity, some simulations of the use of services and applications available on the portals were made, so as to check their actual availability.

City/State

RESULT:	Advanced	Date:	24/11/15	
3,226	Transparency	Lasting:	de 14:15 a 17h15	
	Dimension I		4,00 TA	
1.	GENERAL INFORMATION			
	Category of analysis			
1.1	City			
	Indicators		Data	
1.1.1	Human Development Index (HDI)		0,000	
1.1.2	Gross Domestic Product (GDP)		0	
1.1.3	Population		0	
	Category of analysis		4,00 TA	
1.2	Internet			
	Indicators	Evaluation	Weight	Score
1.2.1	Broadband Access	s/c	-	0
1.2.2	Electronic address of the portal	4	2	8
1.2.3	Existence of transparency portal	4	4	16
1.2.4	Visibility of transparency portal	4	4	16

Dimension II				3,07 TS
2.	TECHNICAL SERVICES			
	Category of analysis			2,40 TS
2.1	Usability			
	Indicators	Evaluation	Weight	Score
2.1.1	Search engines	4	3	12
2.1.2	Site map	0	3	0
2.1.3	System's recognition and orientation	3	2	6
2.1.4	Interface	3	2	6
	Category of analysis			2,80 TS
2.2	Acessibilidade			
	Indicators	Evaluation	Weight	Score
2.2.1	Languages	0	1,5	0
2.2.2	Disabled access	4	2,5	10
2.2.3	Multiplicity of access	2	2	4
2.2.4	Portal's flexibility and efficiency	3	2	6
2.2.5	Source code and system developer	4	2	8
	Category of analysis			4,00 TA
2.3	Interoperability			
	Indicators	Evaluation	Weight	Score
2.3.1	Link to supporting bodies	4	3,5	14
2.3.2	Link to regulatory bodies	4	2,5	10
2.3.3	Link to transparencia.gov	4	2,5	10
2.3.4	Link to organized civil society bodies	4	1,5	6
Dimension III				2,83 TS
3.	SPECIFIC INFORMATION			
	Category of analysis			2,90 TS
3.1	Context Information			
	Indicators	Evaluation	Weight	Score
3.1.1	List of authorities	4	2	8
3.1.2	Dissemination of information	0	2	0
3.1.3	Municipal councils	4	3	12
3.1.4	Ombudsman	3	3	9
	Category of analysis			2,75 TS
3.2	Institucional Information			
	Indicators	Evaluation	Weight	Score
3.2.1	City history	4	0,5	2
3.2.2	Instructions for using the portal	4	1	4
3.2.3	Municipal legislation	2	1,5	3
3.2.4	Municipal operation	1	1,5	1,5
3.2.5	Means of participation	4	2	8
3.2.6	Municipal programs e projects	3	2	6
3.2.7	Urban Development Master Plan (UDMP)	2	1,5	3

Category of analysis				3,50 TS
3.3	Informações financeiro-orçamentárias			
Indicators		Evaluation	Weight	Score
3.3.1	Budgetary guidelines	4	1,5	6
3.3.2	Fiscal responsibility	2	1,5	3
3.3.3	Expenses and income in real time	4	2,5	10
3.3.4	Openness of financial data	3	2	6
3.3.5	Outline of the Budget Guidelines Law (BGL)	4	2,5	10
Category of analysis				2,80 TS
3.4	News information			
Indicators		Evaluation	Weight	Score
3.4.1	News	4	0,5	2
3.4.2	Statements	0	0,5	0
3.4.3	Payroll	4	1	4
3.4.4	Public tenders	4	1	4
3.4.5	Government decisions	4	1	4
3.4.6	Openness of administrative data	4	1	4
3.4.7	Administrative actions	1	2	2
3.4.8	Spaces for political participation	4	1	4
3.4.9	Monitoring of policies	2	2	4
Category of analysis				2,60 TS
3.5	Communication with the public			
Indicators		Evaluation	Weight	Score
3.5.1	Means of contact	4	1,5	6
3.5.2	Social networks	4	1	4
3.5.3	E-mail	4	2	8
3.5.4	Public agenda	0	1,5	0
3.5.5	Government schedule	4	2	8
3.5.6	Maintenance of dialog	0	2	0
Category of analysis				2,40 TS
3.6	Responsivity			
Indicators		Evaluation	Weight	Score
3.6.1	Proactivity	4	1	4
3.6.2	Online assistance	0	1,5	0
3.6.3	Replies from the authorities	0	1,5	0
3.6.4	Questions and answers	4	1,5	6
3.6.5	Prior debate	0	1	0
3.6.6	Assessment of government services	4	1	4
3.6.7	User support	4	1	4
3.6.8	Monitoring of requests	4	1,5	6

▲ Figure 1.
DTI worksheet

DIGITAL TRANSPARENCY INDEX (DTI) OF MUNICIPAL GOVERNMENT PORTALS

We use the methodology proposed by Amorim (2012) to assess the portals, so as to determine the Digital Transparency Index (DTI) of each of them. This technique is based on a compilation of different methods of measuring digital transparency, and it was satisfactorily applied to research examining the municipal portals of the 27 Brazilian capitals (Amorim, 2012).

Our analysis is divided into four sections: city identification, general information, technical information and services, and specific information and services, as detailed in Table 2.

Table 2. Dimensions that constitute the Digital Transparency Index

DIMENSION 1: general information
Category of analysis: city
Human Development Index (HDI)
Gross Domestic Product (GDP)
Population
Category of analysis: Internet
Electronic address of the portal
Existence of transparency portal
Visibility of transparency portal
DIMENSION 2: technical services
Category of analysis: usability
Search engines
Site map
System's recognition and orientation
Interface
Category of analysis: accessibility
Languages
Disabled access
Multiplicity of access
Portal's flexibility and efficiency
Source code and system developer
Category of analysis: interoperability
Link to supporting bodies
Link to regulatory bodies
Link to transparencia.gov
Link to organized civil society bodies



DIMENSION 3: specific information

Category of analysis: **contextual information**

List of authorities

Dissemination of information

Municipal councils

Ombudsman

Category of analysis: **institutional information**

City history

Instructions for using the portal

Municipal legislation

Municipal operation

Means of participation

Municipal programs e projects

Urban Development Master Plan (UDMP)

Category of analysis: **budgetary information**

Budgetary guidelines

Fiscal responsibility

Expenses and income in real time

Openness of financial data

Outline of the Budget Guidelines Law (BGL)

Category of analysis: **administrative information**

News

Statements

Payroll

Public tenders

Government decisions

Openness of administrative data

Administrative actions

Spaces for political participation

Monitoring of policies

Category of analysis: **communication with the public**

Means of contact

Social networks

E-mail

Public agenda

Government schedule

Maintenance of dialog



Category of analysis: **responsivity**

Proactivity

Online assistance

Replies from the authorities

Questions and answers

Prior debate

Assessment of government services

User support

Monitoring of requests

Source: Adapted from Amorim, 2012

Here, some aspects are taken into account, such as the existence and use of mechanisms that enable citizens to send and follow their requirements online (e.g. if a citizen requires some information, he or she receives a protocol number to follow up the process); information format and contents; applications that enable citizens in a neighbourhood or city to choose, vote, give opinions, and make proposals online regarding certain projects, and also that permit any social groups to follow the expedients of information about public business, such as different public hearings, whether deliberative or not.

The process of analysing portals, so as to determine the DTI, confers to each indicator two (found or absent), three (very good, regular, inexistent), or five (very good, good, regular, weak, inexistent) grades. In order to enable the treatment of data, these grades follow the codification below:

Table 3. Codification used in the process of analysing the DTI dimensions

Two concepts	Grades
Located	0
Not located	4
Three concepts	Grades
Absent	0
Regular	2
Very good	4
Five concepts	Grades
Absent	0
Weak	1
Regular	2
Good	3
Very good	4

Source: adapted from Amorim, 2012

To determine the final index with the appropriate amount of forethought, each indicator was given a specific weight for the different grades and categories under analysis.² By the end of the calculations, each municipality, considering its official tool to be in contact with population, could be given one of the following ratings: 4 to 3.2 - *AT* – advanced transparency; 3.1 to 2.4 - *ST* – significant transparency; 2.3 to 1.6 - *MT* – moderate transparency; 1.5 to 0.8 - *WT* – weak transparency; Below 0.7 - *IT* – inexistent transparency. The score presented in the table above was taken into account when conferring the global grade.

THE QUALITY OF OPEN DATA ACTIONS

As to the assessment of the open data quality, it should fill the eight prerequisites proposed by OKF: 1) complete, 2) primary, 3) timely, 4) accessible, 5) machine processable, 6) non-discriminatory, 7) non-proprietary, and 8) license-free.³ The so-called Open Data Portals of the municipalities under analysis were browsed in light of the table of eight prerequisites. During this process, a binary qualification of those aspects was employed: 1 when the prerequisite was minimally fulfilled and 0 when it was not. Thus, the maximum score possible was 8, which represented a fully satisfactory database, and the minimum was 0, which represented a database that does not minimally fulfil the criteria to be called an open database.

The next stage proceeded to an assessment based on the “Five-Star System by Berners-Lee” – which has already been used for academic purposes by Alejandro Barros (2013) – a system that classifies in five levels the openness that can be found in open data websites. It was introduced by Tim Berners-Lee in May 2010, at the ExpoGov 2.0, an event that gathered important academic and market names interested in discussing the new possibilities of electronic government.

The proposal was to redesign the Harold Maslow’s hierarchy of needs (1943), but with its focus on government data openness and connection. The five stars correspond to the following requirements, in order: to make license-free data available on the Web; to offer data that can be processed by computers and earlier means; to use non-proprietary formats (.csv, not .xls, for instance) and earlier ones; to use URIs in order to help connect data with other websites, databases and earlier means; and to supply additional context by linking data to data from other sources and earlier ones. According to the table below, any database that fulfils the OKF criteria will be ascribed at least a 3-star level in the Berners-Lee system.

² The detailed transparency index formula can be found in Amorim (2012).

³ In this paper, websites were considered heterogeneous whenever they held open data of at least three distinct government spheres.

Table 4. Five-Star System

Rate	Definition
1 star	Available on the web (whatever format) but with an open license
2 stars	Available as machine-readable structured data (e.g. XLS instead of image)
3 stars	All the above plus, non-proprietary format (e.g. CSV instead XLS)
4 stars	All the above plus, use URI's to favour data referencing
5 stars	All the above, plus link the data to other data sets to provide context

Source: Adapted from Berners-Lee, 2010

RESULTS

The data obtained and consolidated in Tables 5 and 6 below indicate the absence of a clear relationship between the DTI and the scores in the Open Data aspects analysed on the portals of the observed municipalities, which does not support the main hypothesis of this paper. In other words, municipalities whose official websites show a higher degree of transparency are not necessarily those with better open data initiatives.

The table below shows that São Paulo, the municipality with the highest registered DTI, obtained the lowest index in the fulfilling of open data requirements. In fact, it fulfilled only three out of the eight OKF prerequisites, and obtained only two out of the five stars in the Berners-Lee scale, which generally indicates the mere presence or availability of some datasets.

Table 5. Results on DTI and open data prerequisites

Capital	Digital Transparency Index	Open Data requirements	Five Stars System	
Curitiba	3.115 (77.9%)	5 (62.5%)	2	-40%
Porto Alegre	2.702 (67.5%)	6 (75%)	2	-40%
Rio de Janeiro	2.891 (72.3%)	7 (87.5%)	5	-100%
Recife	2.654 (66.3%)	8 (100%)	5	-100%
São Paulo	3.190 (79.7%)	3 (37.5%)	2	-40%

Source: Authors, 2016

In a similarly incongruous situation is the municipality of Curitiba, which was in next to last place in the classification regarding open data quality, although it had the second highest DTI. As in São Paulo, the databases on the Curitiba Open Data portal are not systematically updated, and many of them were offered in propriety formats. On the other hand, the city obtained the maximum grade in some DTI criteria, such as General Information. This is also the reason why this paper shows an index that is superior in 0.2 to that obtained by Amorim (2012). It means the city has improved its portal in the transparency prerequisite, but it has not launched a very strong Open Data initiative.

Reversely, the city of Recife registered the worst DTI, while it fulfilled all of the defining open data characteristics, with a maximum grade in all of the analysed prerequisites. Just like Rio de Janeiro and Porto Alegre, Recife's municipal government uses the CKAN platform, whose specialty is the Open Government Data Portals. The databases are continuously updated and offered in non-propriety formats, which also happens in Rio de Janeiro. On the other hand, in Porto Alegre, most of the datasets are offered in formats that can be read only by licensed programs.

Moreover, concerning Recife's case, the visibility given to applications created according to available data is noteworthy. There is a section called Hacker Cidadão 2.0 for that purpose. Rio de Janeiro's municipal government, in turn, has apps developed by citizens hosted in a specific website, Rio Apps. This choice for separate websites also repeats itself in the DTI assessment. For instance, there is the Rio de Janeiro Transparency Portal, but it does not have a link on the municipal government's homepage. However, that website shows a link to the Mobility Transparency Portal, a website that gives operational information on public transportation in the city. Such a granulated browsing, without well-established links, makes it difficult to find information. Nonetheless, in the specific information and services dimension, there has been significant improvement in the access to government decisions and administrative data, in the availability of participation spaces, dialogue with the executive power, and means for following public policies. Therefore, in our scale, Rio de Janeiro has Significant Transparency.

The tables below show not only that there is no relationship between the DTI of official portals and the quality of Open Data Portals, but also that, in fact, there is the reverse relationship: the higher the DTI, the lower the quality of the open data initiative.

Table 6. Municipalities ranking

Ranking by DTI		Ranking by Open Data quality	
1.	São Paulo	1.	Recife
2.	Curitiba	2.	Rio de Janeiro
3.	Rio de Janeiro	3.	Porto Alegre
4.	Porto Alegre	4.	Curitiba
5.	Recife	5.	São Paulo

Source: Authors, 2016

DISCUSSION

Our data confirm that good open data initiatives do not seem to derive from a wide and well-constructed policy of digital democracy, at least not in the context of the bigger Brazilian capitals. In all of the cases, the collected data indicate a lack of integration in the management of the programs, and even a deficient assimilation of the notions of

transparency and open data, as it becomes evident in the example of São Paulo, where only three out of the eight prerequisites for the latter are fulfilled. This situation raises doubts about the sustainability and evolution of such actions over time.

On this point, Alissa Black and Rachel Burstein (2013) emphasise the necessity of a mentality change in the governmental sphere, identifying the failure in perceiving publicity as a public policy to be among the main hindrances to transparency and open data. This understanding is supported by Evans and Campos (2013) who point to the lack or low quality of training and qualification of officials and managers as a barrier to the full achievement of the goals of transparency and open data availability.

Above all, one can notice that elected public agents usually fail to understand that such initiatives are not only capable of enhancing the results of a government/ management, but they can also consolidate themselves into a state policy that is of service to the public interest, encouraging the democratic development of a whole community in the long run, as advocated by Anneke Zuiderwijk and Marijn Janssen (2013). The absence of a relevant evolution in the DTIs when comparing the calculations in this paper (made in 2015) and those made by Amorim (2012) might be a reflection of these obstacles. The comparison shows steadiness in Recife, Curitiba and Rio de Janeiro (variations of 2%, -4%, and 4%, respectively), and significant changes in the other municipalities studied. São Paulo exhibited a 19% increase in its index. Curitiba, in turn, registered a 14% decrease in the same period. This means that six years after the promulgation of the Transparency Act in Brazil no process for the enhancement of this democratic value can be noticed on municipal portals.

It is still not possible to apply the same reasoning to open data, for they are as yet very recent initiatives that were launched in 2013 or 2014. However, the low volume of databases made available, in general, and specifically the fact that they are not updated constantly might show that some municipalities have been following a world tendency (of making databases available online) without having clearly defined the institutional goal and motivation of this movement.

Although the corpus was limited, our study indicates that this irregular performance occurs regardless of the matrices of the municipal mayors' party's political spectrum (from right centre to left centre), and whether it is the mayor's first or second term. For example, in 2015, São Paulo had as its mayor a left-centre politician in his first term, and so did Recife. Nonetheless, these cities occupy alternately the first and last places in the Transparency and Open Data assessments. In other words, there is no clear relationship between the politician's time in the office or their ideological orientation and a good or bad performance in the measurements in this study.

FINAL CONSIDERATIONS

The aim of this paper was to verify whether cities with higher DTIs also had the best open data initiatives. The main limitation to the results obtained is the low number of cases, which impedes the study's ability to generalise. The option of using a small group of municipalities was motivated by the possibility of assessing methodologies that determine DTI and open data quality in their capacity of leading to clear and reliable results. It is our goal to increase the volume of portals to be analysed and carry out a statistical analysis of the collected data (something that proved to be barely useful with such a limited number of cases). Thus, the creation of a single index would be ideal, and it will call for the establishment of weights for each of the three groups of indicators analysed so as to have a scale of comparison that is more similar to the DTI.

That said, after gathering and assessing data from all of the five cases under analysis, no direct relationship between the Digital Transparency Index and the offering and quality of open data of each municipality was observed. These data indicate that transparency initiatives and data openness initiatives are not directly associated as expected. Particularly in view of the limited number of open data databases and the fact that most of the data do not follow the recommendations by Angela Evans and Adriana Campos (2013) and OKF (2011), it is our belief that open data policies are not as yet attuned to those aiming at government transparency as a whole.

It is the opinion of the authors of this paper that the cause of this lack of synchronisation is the absence of a state policy that is focused on the promotion of digital democracy. Transparency and open data actions are incoherently taken by separate teams that do not keep in contact with each other and receive financial resources and political support in a dissimilar way. This perception has crystallised itself after a discussion of the research results with members of different municipal governments. Therefore, the absence of a state policy for the systematic implementation of digital democracy projects would be responsible for the inconsistencies indicated in this paper.

However, future research could carry out in-depth interviews with members of the government teams that are responsible for the Official and Open Data Portals in order to better understand the reasons for such a disharmony. Peled (2013) is one of the authors who shows the importance of the existence of a specific policy for the creation and liberation of open government data databases in order to encourage greater state transparency, as well as facilitate the participation of citizens and civil entities that are willing to process such data, which in turn might be of service in guiding still other public policies.

Furthermore, our research also indicated that the transparency index of municipalities, except for São Paulo, did not reveal a significant improvement after the publication of the Transparency Act, but even decreased in certain places, as was the case with Porto Alegre. Such a result has to be carefully analysed.

On the one hand, it tends to indicate stagnation in transparency, which may imply that those governments are not giving priority to the promotion and improvement of this value, but “simply” following rules. On the other hand, according to our study, even the city with the lowest score may be seen as having shown significant transparency according to the criterion by Amorim (2012), which might be one explanation for the “stagnation”. Whence follows the importance that future studies watch over those indexes in order to check whether there will be progress or more severe decreases in the Digital Transparency Index.

Therefore, in its present condition, this paper achieves the goal of preliminarily investigating the relationship between transparency in municipal portals and open data initiatives in the Brazilian scenario,⁴ offering investigative groundwork and improvement for future research.

References

- >Amorim, Paula K. D. F. (2012) *Democracia e Internet : a transparência de gestão nos portais eletrônicos das capitais brasileiras* [Democracy and the Internet: Management Transparency to the Homepages of the Brazilian Capital]. Salvador: Universidade Federal da Bahia.
- >Barros, Alejandro (2012) Datos Abiertos: ¿qué son y cuál es su utilidad? [Open Data: What are They and What is Its Use?], pp. 259-279 in Hofmann, Andrés, Ramírez-alujas, Alvaro and Perezniето, José Antonio Bojórques (eds) *La Promessa del Gobierno Abierto* [The Promise of the Open Government]. Mexico City: Instituto de Acceso a la Información Pública y Protección de Datos Personales del Distrito Federal.
- >Baume, Sandrine (2013) Does Transparency Engender the Confidence of the Governed? A Contribution to Political Thought. *3rd Global Conference on Transparency Research*. Lausanne: 1–15.
- >Bentham, Jeremy (1843) *The Works of Jeremy Bentham, published under the Superintendence of his Executor*. Edinburgh: William Tate. <http://oll.libertyfund.org/title/1923/116124> (14.11.2014).
- >Berners-Lee, Tim (2010) *Gov 2.0 Expo 2010: "Open, Linked Data for a Global Community"*. Video presentation. 10'16". <https://www.youtube.com/watch?v=ga1aSJXCFe0> (15.11.2014).
- >Black, Alissa and Burstein, Rachel (2013) Local Scale and Local Data, pp.173-182 in Goldstein, Brett and Dyson, Laruen (eds) *Beyond Transparency - Open Data and the Future of Civic Innovation*. San Francisco: Code for America Press. <http://beyondtransparency.org/pdf/BeyondTransparency.pdf> (14.11.2014).
- >Bowker, Geoffrey (2013) Data Flakes: An Afterword to Raw Data“ is an Oxymoron”, pp. 167-171 in Gitelman, Lisa (ed.) *“Raw data” is an Oxymoron*. Cambridge: MIT Press.
- >Brazil, Law nº 12527 (2011) Regulates access to information provided in subsection XXXIII of art. 5, item II of paragraph 3 of art. 37 and in § 2 of art. 216 of the Federal Constitution; amends Law No. 8,112 of 11 December 1990, repealing Law No. 1,111, of December 5, May 2005, and provisions of Law No. 8,159, of 8 January 1991, and other measures. http://www.planalto.gov.br/ccivil_03/_ato2011-2014/2011/lei/l12527.htm (17.11.2014).
- >Capgemini Consulting (2013) The Open Data Economy Unlocking Economic Value by Opening Government and Public Data. <http://www.capgemini.com/resources/the-open-data-economy-unlocking-economic-value-by-opening-government-and-public-data/> http://www.capgemini.com/resource-file-access/resource/pdf/the_open_data_economy_unlocking_economic_value_by_opening_government_and_pu (02.10.2014).
- >Chevallier, Jacques (1988) Le Mythe de la Transparence Administrative [The Myth of Administrative Transparency]. *Information et Transparence Administratives* 73: 239–275.

⁴ In 2016, after this research was carried out, Brazil went through a fast-paced and troubled impeachment process, which is considered a parliamentary coup d'état by many experts. In its first months, the new government has reversed a considerable number of public policies approved by the then suspended president. Transparency policies have not been affected yet, but now it becomes even more important to constantly assess the transparency and open data situation in Brazilian context.

- >Cross, Harold (1953) *The people's Right to Know: Legal Access to Public Records and Proceedings*. Morningside Heights, NY: Columbia University Press.
- >Evans, Ángela and Campos, Adriana (2013) Open Government Initiatives: Challenges of Citizen Participation. *Journal of Policy Analysis and Management* 32 (1): 172–185. DOI: 10.1002/pam.21651.
- >Fung, Archon, Graham, Mary and Weil, David (2007) *Full Disclosure*. Cambridge: Cambridge University Press. DOI: 10.1017/CBO9780511510533.
- >Hansson, Karin, Belkacem, Kheira and Ekenberg, Love (2015) Open Government and Democracy: A Research Review. *Social Science Computer Review* 33 (5): 540–555. DOI: 10.1177/0894439314560847.
- >Hood, Christopher (2006) Transparency in Historical Perspective, pp. 3–23 in Hood, Christopher and Heald, David (eds) *Transparency: the Key to Better Governance?*. New York: Oxford University Press. DOI: 10.5871/bacad/9780197263839.001.0001.
- >Margetts, Helen (2011) The Internet and Transparency. *The Political Quarterly* 82 (4): 518–521. DOI: 10.1111/j.1467-923X.2011.02253.x.
- >Maslow, Harold Abraham (1943) A Theory of Human Motivation. *Psychological Review* 50 (4): 370–396. DOI: 10.1037/h0054346.
- >Open Knowledge Foundation (2011) *Beyond Access: Open Government Data and the Right to (Re)use Public Information*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2586400 (02.10.2014).
- >Peled, Alon (2013) Re-Designing Open Data 2.0. *JeDEM - eJournal of eDemocracy and Open Government* 5 (2): 187–199.
- >Piotrowski, Suzanne and Borry, Erin (2010) An Analytic Framework for Open Meetings and Transparency. *Public Administration & Management* 15 (1): 138–176.
- >Piotrowski, Suzanne and Van Ryzin, Gregg (2007) Citizen Attitudes Toward Transparency in Local Government. *The American Review of Public Administration* 37 (3): 306–323. DOI: 10.1177/0275074006296777.
- >Stiglitz, Joseph (1999) On Liberty, the Right to Know, and Public Discourse: The Role of Transparency in Public Life, pp. 1–31 in Gibney, Matthew (ed.) *Oxford Amnesty lectures*. Oxford: Oxford Press.
- >The World Bank (1992) Information and Transparency, pp. 39–46 in *Governance and Development*. Washington, D.C.: World Bank Publications. <http://documents.worldbank.org/curated/en/604951468739447676/pdf/multi-page.pdf> (15.11.2016). DOI: 10.1596/0-8213-2094-7.
- >Yu, Harlan and Robinson, David (2012) The New Ambiguity of "Open Government." *SSRN Electronic Journal* 59 (178): 178–208. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2012489 (02.10.2015). DOI: 10.2139/ssrn.2012489.
- >Zuiderwijk, Anneke and Janssen, Marijn (2014) Open Data Policies, Their Implementation and Impact: A Framework for Comparison. *Government Information Quarterly* 31 (1): 17–29. DOI: 10.1016/j.giq.2013.04.003.

IDU LI TRANSPARENTNOST I OTVORENI PODACI ZAJEDNO? ANALIZA INICIJATIVA U PET BRAZILSKIH GRADOVA

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SAŽETAK U posljednjih nekoliko godina brazilske gradske vlasti pokrenule su portale s otvorenim podacima. Njihove inicijative pojavljuju se u trenutku kada se počinje primjenjivati Zakon o transparentnosti, koji propisuje rokove za usvajanje i primjenu mjera usmjerenih na povećanje transparentnosti vlasti, kao što su „portali transparentnosti“, ali propisuje i sankcije za neprihvatanje i neprovođenje tih mjera. U skladu s tim u ovom se radu istražuje hoće li gradovi koji imaju portale s višim indeksom digitalne transparentnosti (engl. Digital Transparency Index, DTI) imati i najkvalitetnije inicijative za otvaranje podataka. Kako bi se ostvarili ti ciljevi, službeni portali i inicijative za otvaranje podataka vrednuju se uz pomoć metode koju predlaže Paula Amorim (2012) i uz uvjete koje ističu Open Knowledge Foundation (OKF, 2011) i Tim Berners-Lee (2010). Rezultati ukazuju na to da ne postoji izravna veza između indeksa digitalne transparentnosti i kvalitete inicijativa za otvaranje podataka u pet istraživanih gradova. Rasprava o rezultatima ukazuje na nepostojanje precizne javne politike o digitalnoj demokraciji koja bi u isto vrijeme promicala ne samo vladine podatke nego i transparentnost podataka.

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