

\* Original Article

## **E-Government and social networks: information, participation and interaction**

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### **Abstract:**

The new access-to-information law is an important step toward government transparency and control by the population by reversing the current situation and making transparency the rule and secrecy an exception. However, the consolidation of these intentions will only occur with the effective expansion of channels of participation and collaboration based on a flow of relationships that extend from the interior to the exterior of the governmental apparatus and vice versa. Social networks offer a path for this flow, repositioning the discussion of e-government, open data and open-source software. At this initial moment of implementation, it is important to note how complex organisations like Fiocruz behave in the face of this challenge.

**Keywords:** Access to information, transparency, e-Government, free software and social networks

### **Introduction**

The growth in Internet use through virtual communities, social networks and interactive tools, which are characteristic of Web 2.0, points to an increase in societal participation, with cultural changes regarding information leading governments to greater transparency and changes in their public policies. This shift may be the most visible side of a comprehensive process of reorganisation of the state and radicalisation of democracy and of a mode in which social and political forces seek to build new forms of regulation that are closer to social practices, more flexible and geared toward collaboration (instead of competition) and are therefore able to address a dynamic and complex society.

The access-to-information law (Law no. 12,527, published on November 18, 2011) gives the government the opportunity to open their doors to citizens via the disclosure of information that was previously confidential or accessible exclusively to public service officials or civil servants as privileged users. This law facilitates the participation of the population in governmental actions, based on the electronic Citizens' Information Service (Serviço de Informações ao Cidadão – e-SIC)[**1**], and also is designed to accelerate and promote the creation of numerous applications to access government data.

In this scenario, discussions related to electronic government regain focus because the availability of information must relate to different uses, interests and publics. It is understood that there will be an impact on intra- and intergovernmental management processes that will have to begin to operate primarily through a network of computers and mobile devices so that broad access is guaranteed to the population.

The problem, however, is not restricted to operational difficulties. With regard to access and transparency, the matter is treated as the "dissemination of information". The consolidation of this process, however, will be slowed if there is a new step that acts as a barrier to the interaction between government and society, further establishing the principles of social participation that are inscribed in the Federal Constitution[**2**].

According to the constitution, it is understood that, officially, the state apparatus has to create mechanisms to facilitate the integration and participation of citizens in public life, which tends to conflict with centralised and hierarchised structures, cultures and practices. This centralisation is a result of the

representative system, in which the interests of the people are expressed indirectly through representatives and mediators.

According to W3C Brasil (2009), the needs, demands and challenges that governments face to gather, manage and deliver information and services have slowed the implementation of e-government. Some problems are unique, such as the policies that control – sometimes in detail – the treatment of information, who has access to information and whether information may or may not be disclosed, as is the case with Law 12,527.

When addressing topics such as e-government, access to information, open data and open-source software, we note a shift to place society at the centre of discussions. The aim of the present study is to articulate these concepts and propose a network architecture that enables and enhances the transparency and social control of public policies, in particular, in the area of health.

## **Law of access to information**

Decree 7,724, published in the Official Gazette (Diário Oficial da União - DOU) of May 17, 2012, regulates Law 12,527, specifically, the access to information referred to in subsection XXXIII of the art. 5, item II of § 3 of art. 37 and in § 2 of art. 216 of the Federal Constitution.

The access-to-information law is a major change in terms of public transparency by establishing that access is the rule and confidentiality is the exception and by stressing the importance of electronic government, which should be able to respond in a timely manner to the legal prerogatives. Thus, any citizen can request access to public information, that is, information that is not classified as confidential.

According to the primer published by the Comptroller General of the Union (Brasil, 2011), an agency tasked to monitor the implementation of the law in the Federal Executive Branch, in a culture of accessibility of information, public agents are aware that the information belongs to the citizen and that it is up to the state to provide information according to the demands of society.

In a culture of accessible information, the flow of information contributes to decision-making, the sound management of public policies and the inclusive governance. The information available to the public, which previously required a process that combined the production operations, processing, use, evaluation and archiving of documents, now becomes a window of opportunity to accelerate the implementation of Government 2.0.

We understand Government 2.0 to be a result of government interactions in Web 2.0, where relations between citizens, government and state institutions influence management processes. However, for decisions to happen in the network and to expand transparency for the public, public organisations need to manage information processes in a more bold and flexible manner, thus meeting demands with greater agility, as provided for in the law. It is at this point that collaborative technologies will help, in particular, regarding the standards for disclosing government data.

In public policy, the idea that communication is a tool for transmitting ready and finished information still predominates, without considering the different realities and interests of the population and thereby strengthening the passive role of people, which, in the case of health, disregards the principles of the Unified Health System (Sistema Único de Saúde – SUS). According to this model, public participation would be limited to keeping the public informed, far from the real social control described and desired by the Constitution. This type of attitude leads to an activity that does not transcend the electoral strategy, which is very common in the history of health in Brazil, reproducing its logic in an environment that, by nature, reacts to the actions of centralisation from external dynamics.

An environment that opens much broader possibilities and promotes debate, discussion, coordination and synchronisation of actions, with the participation of all of those involved, needs to be implemented. Currently, despite allowing the use of comments in their networks, the Department of Health does not encourage participation or promote debate.

It is not enough that a citizen knows that he can participate in social control. There must be instruments of interaction encouraged by public administration. When one realises that there are suitable instruments for public control that are being used by public institutions, then it is clear that the gulf between the use and availability of such instruments that needs to be analysed.

Taking as an example the Moraes' (2002) provocation, "Why do newspapers not have a column with health indicators, as they do with economic indicators?", we can ask the same question regarding the use of virtual social networks: why not use social networks to create, inform and discuss health indicators? Why not promote debate in these environments? Why try to control words in a space that is ontologically dialogic and interactive?

While there is a dangerous consensus in thinking that only technicians can decide on health information and its technologies (devaluing the lack of specialised knowledge on the part of the population), there is also a view that excellence in communication occurs when a received message is understood as planned by the issuer. This view does not take into account that the message only contributes, causes, expresses and stimulates an action by users that is not really determined by the message itself but results from interaction (synchronisation).

## **Open government data, open formats and free software**

The regulation of access to information and open government data go hand-in-hand. According to the Open Knowledge Foundation[3], data are open when anyone can freely use, reuse and redistribute them, subject to a maximum requirement of authorship credit when shared.

The movement toward open government data became prominent in 2009, when the United States, United Kingdom, Canada and New Zealand announced the promotion of initiatives for open access to their government's public information. In Brazil, the provision of information is part of the Federal Government's actions, carried out in partnership with the Open Government Partnership[4].

Some initiatives promoting this "open innovation" in public administration are already underway. Recently, the city of São Paulo, in partnership with the Open Knowledge Foundation and the W3C Brazil, held the first marathon of programmers to develop applications that improve access to information, called the Hackathon[5].

The winning proposal was a social network for citizens to follow the councilmen of the city of São Paulo[6], and the second-place proposal was the Parliamentary Radar ("Radar Parlamentar"), an application that determines similarities between political parties based on the mathematical analysis of voting data for bills in the legislative house[7]. All of the solutions have a free licensing scheme and are available on the Internet.

The e-Democracy Portal of the House of Representatives (Portal 'e-Democracia' da Câmara dos Deputados) represents an important innovation in policies regarding transparency in management, open data, access to information and social participation in public policies. The portal, which allows full interaction with users, demonstrates an undeniable breakthrough and effort by a secular system that still holds on to old customs to inexorably embrace, encourage and promote steps toward opening access to government data in a world connected through social networks in virtual environments.

This push for open government data is consolidated when accompanied by open formats and open-source software. According to the Law 5978, several suppliers of computer programs, on multiple platforms, can implement the 'odf' open format fully and independently without any burden relating to intellectual property of the technology.

The 'odf' open format is a technological alternative to 'pdf', 'doc', 'xls' or 'ppt' files, which are proprietary extensions that make public transparency difficult. The government should avoid using new proprietary formats to maintain access for citizens because private formats will force the users to use the licensed programs or exclude them from accessing the information to which they are entitled.

Free software, in turn, is an opportunity to promote knowledge and technological development, in which the copyright owner model gives way to open-license systems that alter the relationship between producers and consumers of services[8].

## **Electronic Government**

According to the annual report on e-governance produced by the United Nations[9], Brazil occupies the 59th position in the ranking (United Nations, 2012). Brazil is currently behind Chile (39th), Colombia (43th), Uruguay (50th) and Argentina (56th). This study examines the institutional framework for an e-

government and considers the presence of federal coordination to help overcome internal barriers associated with the demands of society, taking into consideration the tools used to solve problems of social equity, with channels of communication considered decentralised, and digital insertion, with measures to increase the use of online and mobile services.

Brazil is also becoming increasingly integrated with the Internet. According to research conducted in 2010 by the Centre of Studies on Information and Communication Technologies (Centro de Estudos sobre as Tecnologias da Informação e da Comunicação - CETIC.br), an entity linked to the Brazilian Internet Management Committee (Comitê Gestor da Internet no Brasil - CGI.br), there has been an increase in the sale of network equipment, and access to the network has grown throughout the Brazilian territory. Between the years 2009 and 2010, the percentage of households with computers reached 35% of the population. The purchase of notebook computers in homes that already have computers increased by 60%. The growth of equipment sales has been followed by growing Internet access. The annual average expansion of network usage in households located in cities was 19% between 2005 and 2010.

However, social inequality is also present in Brazilian digital life: among the poorest 10%, just 0.6% have Internet access; among the richest 10%, that number is 56.3%. Only 13.3% of the black population uses the Internet, which is less than half of that of the white population (28.3%). The distribution of Internet access also demonstrates large inequalities because the southern (25.6%) and southeast regions (26.6%) contrast with the northern (12%) and northeast regions (11.9%) on this issue[10].

In the area of health, access to the Internet and new technologies is considered a strategy that will encourage a participatory and conducive space for this principle of the SUS. The implementation of the National Agenda for Health Research Priorities (Agenda Nacional de Prioridades de Pesquisa em Saúde), for example, is a political process that seeks to extend the participation of actors with different languages and experiences. At the same time, the National Policy for Science, Technology and Innovation in Health (Política Nacional de Ciência, Tecnologia e Inovação em Saúde), formulated within the SUS, establishes the competences of the health system, including attention to scientific and technological development and its accessibility to the population.

However, for electronic processing[11] to actually occur, the documents require scanning, editing, receiving, sending, taxonomy, classification and file storage. To accomplish this task, rather than simply improving and updating management programmes, we need to construct an electronic government that synchronises people, processes, systems, data and information.

We understand synchronisation to be an action that articulates, through processes, the various entities that establish relationships. A synchronisation-based communication goes beyond the process of the transmission of messages, the informational and communicational model that is most common to governments and hierarchical organisations. A participation-based electronic government requires a structure that is able to be social and establish interactions rather than just a message-based communication commonly classified as "dissemination of information".

## **Social networks and electronic government**

In 2011, there was significant growth in the popularity of social networks in Brazil and worldwide, according to data from comScore[12]. In its annual report on the main digital trends in the country, Brazil was 7<sup>th</sup> worldwide in growth in the number of Facebook users. The magazine 'Meio e Mensagem'[13] reported that Brazil leads affiliation to social networks, with 87.6% of internet users using some type of networking site.

In the field of health, there are already numerous initiatives that involve the use of social networks regarding significant issues in the sector. For example, Google, one of the most influential technology companies worldwide, created the Dengue[14] trends system based on the terms and frequency of searches performed in their browser. Through this system, it is possible to obtain an estimate of the current activity of dengue in Brazil and globally, in real time, displayed on a map and in a chart.

This system and other initiatives indicate the use of virtual communities in the popularisation of science and the promotion of health, as stated by Santos:

*Virtual communities and interactive spaces of the Internet can be privileged places for non-formal education and the promotion of health. This is because they*

*establish a system capable of incorporating different time-spaces, practices and cultures; a set of various elements that "communicate" not by sending messages, but by the synchronisation promoted by devices built from local peculiarities, which are incorporated to a global network. These communities can build and consolidate different cultures, allowing their survival in the same system. Survival does not occur not by exclusion or by isolation, but by their permanent redefinition in a more general synchronisation process with other cultures and with the whole system (SANTOS, 2006, p. 47).*

Social networks are forms of relationships, both mediated by computerised systems and non-digital, that allow the sharing of information among people with common interests and goals, as in a dynamic class at a university or an informal chat among patients in a waiting room. Allowing the exchange of information and the opportunity for communication, social networks create a collective network with possibilities of interaction. This interaction is the key point of social relationships, whether virtual or not.

Virtual social networks have features that allow interaction with heterogeneous environments in which communication is not established solely through message transmission. It is not necessary to communicate or disclose because the act of communication is not something that occurs subsequently, it is part of the production of knowledge. The important thing is the ability to discover and establish relationships that are always new and varied (SANTOS, 2006, p. 46).

In this sense, Cordeiro (2012) systematises the experience of the National Supplementary Health Agency (Agência Nacional de Saúde Suplementar - ANS) on the adoption of an internal social network, noting that an open e-government architecture must restructure all of the processes of an institution, with immediate impact on governance, information and communication.

According to the author, if we think of e-government with social features, the interface becomes interactive. Thus, distributed networks, formed by the tripod of communities, services and profiles, replace the centralised perspective of portals.

According to Cipriani (2010), a social government interacts with citizens through networking, capturing ideas, developing collaborative and participatory policies, responding to the feedbacks of the population in real time [15] and refining these policies permanently with more transparency.

Also according to Cipriani (2010), a social media strategy articulated to open electronic government should contemplate the dimensions of communication, culture and people, governance, projects and risks. Finally, regarding technology, the author stresses the importance of aligning social media to the strategic planning of governments through the formation of internal, external or hybrid communities.

The purpose of internal communities is to increase the productivity of the system's own servers, generating operational efficiencies through collaboration, and to stimulate innovation in work processes. External communities develop relationships with citizens, governments and businesses, creating spontaneous environments among all of the actors. Hybrid environments have internal and external interfaces to the organisation.

In these distributed networks, the services (webservices) are components that integrate new applications to legacy systems, developed in different platforms using Extensible Markup Language, known as XML. The service is one of the three pillars structuring open electronic government and along with the pillars of the profile and thematic communities constitutes government 2.0. It is through the services that we provide for the opening of government data, as in the example of the Municipality of São Paulo.

## **Final considerations**

The new access-to-information law takes an important step toward government transparency and control by the population by reversing past trends and making transparency the rule and secrecy the exception. However, the consolidation of those intentions will only occur with the effective expansion of channels of participation and collaboration, creating a flow of relationships that extends from the interior to the exterior of the governmental apparatus and vice versa.

The access-to-information law should provide advances in consolidating democracy. This advance is an achievement resulting, for example, from the efforts of numerous non-governmental organisations,

including some such as Transparency Brazil (Transparência Brasil) and Open Accounts (Contas Abertas) [16], which represent the desire for more transparent government policies.

These organisations have criticised the representation of Brazil in the Open Government Partnership (OGP) initiative [17], originally from the US Government, which has the Brazilian Government as a partner. There is also criticism about the fact that the implementation of the access-to-information law is dependent on the OGP. In Mexico, an agency was created for this implementation. However, is this the solution? Would this agency not over-centralise the solutions and development?

Another negative effect is related to the law of Budgetary Guidelines (Lei de Diretrizes Orçamentárias - LDO) of 2013, which could restrict the access of citizens and non-profit entities to 15 computerised systems of the government, such as the Integrated System of Financial Administration (Sistema Integrado de Administração Financeira - Siafi).

Several issues such as these, related to cultural change in governments, still need to be discussed. Specialised and closed systems, for example, will require the development of a new architecture in open technological standards. This development is no small task, as it requires redesigning the information technology solutions of most public organisations.

Another important point is the disclosure of data and public accounts [18], which should be encouraged and guaranteed by governments. Additionally, social networks, central in the discussion of e-government, open data and open-source software, need to be prepared to access and process the data of information systems, enabling services that will contribute to the democratisation of public administration.

The web 2.0 collaborative platform enables these actions that have been impossible in our society until now, like the relationship of "many to many" at a distance, virtual communities, mailing lists and registration of citizen participation.

Although it may sound commonplace, ensuring access to information and services that must reach citizens is a task of the state, to be combined with stimulating citizen presence in debates and public consultations. The development of interactive solutions and protection of personal data, supported by free software, is essential for the implementation of an electronic government that ensures transparency in interactions with the public.

However, citizen participation will only effectively occur with the expansion of Internet access, making the worldwide network of computers a space for the radicalisation of democracy and popular organisation, with its countless possibilities of production and exchange of information synchronised between citizens, government and public policy and public management.

SUS seems to be one of the first spaces to be transformed by the process of transparency, and e-government has the utmost need to develop a health index accurately representing the Brazilian population and to discuss educational public actions with the population to achieve adherence and effective participation in combating the various diseases that afflict the country.

In an institution like Fiocruz, consisting of several institutes and research centres, the goal is to create a meta-network pervaded by multiple networks with internal and external processes. This meta-network would synchronise participants through the interactive architecture of Web 2.0 (Martins *et al.*, 2012). This logic is being developed in various networks that Next, from Ict/Fiocruz, has been implementing, as is the case of the Internet and health network ('Rede Internet e Saúde'), the Health and culture network ('Rede Saúde e Cultura'), and the network being designed for the Health Network in Brazil Without Misery ('Rede Saúde no Brasil Sem Miséria'), which is joined with the current Brazil without Misery Plan ('Plano Brasil sem Miséria') of the current federal government, governed by President Dilma Rousseff.

## Notas

[1] The electronic Citizens' Information Service (Sistema Eletrônico do Serviço de Informações ao Cidadão - e-SIC) is managed by the Office of the Comptroller General (Controladoria-Geral da União - CGU). All public agencies must now have an SIC, which is used for the maintenance and dissemination of information.

[2] The goal of popular participation is established in specific citations in the Magna Carta. Article 37 deals directly with the issue of Social Control, ensuring the rights of the citizen to information in relation to public administration. Article 194 outlines the democratic and decentralised character of the administration through quadripartite management, with the participation of employers, workers, retirees and the government in the collegiate bodies (BRASIL, 1998, online).

[3] [http://opendatahandbook.org/pt\\_BR/introduction/index.html/](http://opendatahandbook.org/pt_BR/introduction/index.html/). Accessed on June 23, 2012.

[4] <http://www.opengovpartnership.org/>. Accessed on June 23, 2012.

[5] <http://desafiodadosabertos.org/>. Accessed on June 23, 2012.

[6] <http://www.vereadores.org/>. Accessed on June 23, 2012.

[7] <http://radarparlamentar.polignu.org/analises/cmsp/>. Accessed on June 23, 2012.

[8] In open-source systems, the source code is freely shared and can be viewed and modified by anyone who wants to see how it works or build an improved version of it. This openness allows independence from proprietary solutions for processing public information and ensures continuity, regardless of the health and interests of companies. Exposing a project to many hands and eyes, the theory says, results in safer products.

[9] Report presented in February 2012 with research in 193 countries.

<http://unpan1.un.org/intradoc/groups/public/documents/un/unpan048065.pdf>

[10] <http://metropoleweb.wordpress.com/2011/12/05/estatisticas-dados-e-projecoes-atuais-sobre-a-internet-no-brasil/>

[11] Technically, e-government is a framework of technological standards that are based on certified templates for quality standards, in which access to databases and systems occur through a service-oriented architecture (webservices). In this architecture, the standards include single access to services (Single Sign On – SSO), permissions, digital signature, logical and physical architecture for applications, systems integration, application security, process mapping, mapping of workflows and adoption of electronic processes.

[12] [http://www.comscore.com/por/Press\\_Events/Press\\_Releases/2012/3/Brazil\\_s\\_Social\\_Networking\\_Activity\\_Accelerates\\_in\\_the\\_Past\\_Year](http://www.comscore.com/por/Press_Events/Press_Releases/2012/3/Brazil_s_Social_Networking_Activity_Accelerates_in_the_Past_Year)

[13] <http://www.meioemensagem.com.br/home/midia/noticias/2012/02/29/Brasil-e-o-1o--pais-em-adesao-a-redes-sociais.html>

[14] <http://www.google.org/denguetrends/br/>

[15] The Ombudsman of Ceará provides services through social networks.  
<http://www.guiadeouvidorias.com.br/conteudo/ouvidoria-do-ceara-atendendo-pelas-redes-sociais/>. Accessed on June 23, 2012.

[16] <http://www.transparencia.org.br/>, <http://www.contasabertas.com.br/WebSite/> e <http://www.contasabertas.com.br/WebSite/Noticias/DetalheNoticias.aspx?Id=929>

[17] An *Open Government Partnership* (OGP) "or partnership for open government is an international, non-governmental initiative that aims to ensure the commitments of Governments in the areas of promotion of transparency, combating corruption, social participation and to foster the development of new technologies, in order to make Governments more open, effective and responsible."  
<http://www.cgu.gov.br/PrevencaodaCorrupcao/AreasAtuacao/CompromissosInternacionais/outros-compromissos-open-government-partnership.asp>

[18] The dados.gov.br portal is a central point of access for citizens to access public data from the government: <http://dados.gov.br/>.