

Strategies, Policies and Evaluations of Brazilian Electronic Government

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Abstract: The goal of this paper is to analyze the strategic direction of the Brazilian e-Government Program from 2008 to 2014 associated with the Brazilian ranking on the United Nations e-Government Survey. Federal government strategic plans from 2008 to 2014 were analyzed based on three categories: e-services, e-administration (interoperability, integration; standardization; structuring systems) and e-democracy (open data and transparency; e-participation). Semi-structured interviews were conducted with fifteen government executives responsible for the planning and coordination of public policies in this sector. The research demonstrates that the Brazilian e-Government Program acquired a more important role in the Brazilian political arena after the protests of June 2013. The “*Gabinete Digital*” was created and reported directly to the Presidency of the Republic. It has successfully launched many e-government initiatives that were being developed but were not considered as a priority. Another research finding was the emphasis on increasing the supply of e-services. This was explicitly observed in government strategic planning starting in 2011. As a result, Brazil moved up 33 positions on the online index of the UN Survey from 2010 to 2012. The last presidential term was more focused on promoting interaction between government and society – through an increase of transparency, the use of open data by the states and municipalities, and providing access to public information. Brazil rose seven positions on the e-participation index between 2012 and 2014. Despite numerous initiatives, Brazil's e-government index ranking in the UN Survey is advancing very slowly and still didn't reach the 45th global position it had in 2008, mainly because of low scores on the telecommunication infrastructure and the human capital indexes. These findings can also be verified in the evaluations of e-government initiatives presented. Our objective was to verify the convergence, effective follow up and achievement of the targets stipulated in the e-government strategic plans.

Keywords: strategic planning, electronic government (e-government), digital governance, social participation, public policy evaluation

1. Introduction

The reform of the Brazilian State apparatus, the modernization of public administration and the need for greater government efficiency all contributed significantly to the adoption of Information and Communication Technologies (ICT) by the Brazilian Federal Government. Performance, efficiency, effectiveness, transparency, control mechanisms, quality of public resource expenditure and accountability are all issues related to the process of modernization of public management and e-government. Public policies associated with these issues now must include e-government programs (Diniz et al, 2009).

Access to benefits arising from ICT tends to be seen as a right for all citizens and digital inclusion is now perceived as a precondition for the improvement of contemporary democracy, as well as serving as a government guideline document for the so-called Information Society (Silva, 2006). However, the availability of technology itself does not fulfill sufficiently the demands to improve democracy. It is important to consider other variables such as education; the presence or absence of civic culture; laws and public policies that encourage citizens to participate in political decision making processes (Silva, 2006).

The objective of this study is to analyze the strategic directions of the Brazilian Electronic Government Program during the most recent terms of government (2007-2010 and 2011-2014), using Brazil's position in the “United Nations E-Government Survey” global ranking on the e-Government Development Index (EGDI) to verify a possible alignment of national strategic guidelines with those suggested by the international organization. In order to achieve this goal, both the UN's Online Service Index (OSI) and its e-participation index were analyzed. Several official documents that constituted strategic plans were also studied. The analysis of the perception of government managers - specifically from the Secretariat of Logistics and Information Technology (SLTI) of the Ministry of Planning, Budget and Management and SERPRO (Federal Data

Processing Service) - was fundamental to understand the strategies adopted by the Brazilian government to promote e-government.

This paper is divided into five chapters: an introduction; a literature review; research methodology; research results; and finally conclusions suggesting possible improvements of public policies regarding e-government in Brazil.

2. Literature review

This section consists of three parts. First, we introduce the UN methodology and the UNESCO categorization of e-governance. For this research, we categorized the e-government elements under the three UNESCO fields. In the second part, we describe the Brazilian e-government Program evolution and the federal organizational structure and its responsibilities. The final section analyzes e-government strategic planning in both the Federal Public Administration and Serpro.

2.1 Digital governance according to the United Nations

Since 2003, the UN has evaluated e-government in 193 countries using a weighted average of three dimensions of e-government: an online services index - OSI, a telecommunication infrastructure index - TII and a human capital index - HCI. The OSI index, in turn, also uses an e-participation index in its composition. The overall ranking is known as the E-Government Development Index – EGDI (United Nations, 2012).

Several researchers use these indexes to evaluate their e-government programs. According to research developed by Celso *et al* (2012), all the countries of BRIC (Brazil, Russia, India and China) have been at an increasing rate from 2003 suffering a decline in EGDI index in 2010 due to the economic crisis of 2008, with the exception of Russia. Despite suffering a slight drop in 2008, Russia is the only country that increased its index in 2010 and also exceeded Brazil. China, despite having an authoritarian government, obtained the group's leadership in the e-participation index in 2010, reaching the 32nd position in the global ranking and Brazil the 42nd position. However, analysing the 2012 Survey we could observe that the ranking in e-participation was reversed, with Russia surprisingly going up from the 86th position to the 19th and therefore leading the group. Brazil assumed the 31st position and China dropped to 66th, losing 34 positions.

Alshomrani (2012) used the EGDI index and its three sub-indexes (OSI, TII and HCI) in order to compare the e-government development between Saudi Arabia and USA, using gap analysis and trends to recommend policies to improve e-government in Saudi Arabia.

UNESCO categorizes e-Governance in three fields: e-Services - improvement in the delivery of public services to citizens; e-Administration - improvement of internal government processes; and e-Democracy - processes to encourage active citizen participation in political decision making (UNESCO, 2005).

Significant attention is given to e-services in almost all countries interested in developing public policies for social development. E-services projects have had great visibility in Brazil in the late 1990s and early 2000s. Municipal, state and federal governments have been investing efforts since the second half of the 90s to use the World Wide Web as a public service and an information channel for citizens and organizations (Prado *et al*, 2011).

Establishing the integration and sharing of information requires the use of interoperability standards, such as e-PING in Brazil and e-GIF (Government Interoperability Framework) in the United Kingdom (MP/SLTI, 2010). The construction of accessible portals that meet the World Wide Web Consortium standards (W3C) requires, by its turn, the necessary development of patterns of accessibility. The elements of interoperability, integration, structuring systems and standardization – which according to UNESCO's classification would compose the category of e-administration – enable governments to increase the supply of public services.

E-democracy, on the other hand, relates to government initiatives that encourage citizen participation in democratic processes and government decision-making. In participatory democracy, there is a greater integration between the public and the civil spheres, having as a foundation the idea that the direct participation of the population in political processes is beneficial to the improvement of society. Parliaments of several countries have participatory experiences for promoting debate, discussion and creating law proposals.

In Brazil there are several initiatives fostering participatory democracy. Created in 2009, the initiative called *e-Democracia* was developed by the Chamber of Deputies of the National Congress of Brazil to engage citizens in the process of elaborating law proposals (Freitas, 2015). The Brazilian Senate developed the portal *e-Cidadania*, a similar initiative to promote an online institutional space for political participation and direct collaboration of citizens in the parliamentary decision-making process (Brasil, 2015b).

The tools developed have the basic purpose of expanding access to information and the opportunities for citizens to participate in political processes. Digital democracy has been significantly stimulated in Brazil and plays a key role in the outcomes of digital governance strategies. Their intent is to democratize not only the use of the tools, but also access to the information conveyed.

The conceptual division of e-governance applied here was also used by Prado et al (2011) and Cunha et al (2011) to facilitate data analysis. However, the boundary between these concepts is not always clear. When government improves its internal processes, modernizing its structuring systems with a concern for interoperability and integration between systems, we obtain cost savings and increased supply of electronic services.

2.2 E-government in the federal public administration

Electronic Government in Brazil officially started in the year 2000 through a Presidential Decree. The Executive Committee for Electronic Government (CEGE) was created to formulate policies, establish guidelines, coordinate and articulate the actions for e-government implementation (Chahin et al, 2004). The basic principle is to make all government information and public services available on the Internet and to assure and expand digital and social inclusion.

In 2003 eight technical committees of CEGE were established under the Ministry of Planning: Free Software Implementation; Digital Inclusion; Systems Integration; Legacy Systems and Software Licenses; Management of Sites and Online Services; Network Infrastructure; Government to Government; and Knowledge Management and Strategic Information (Brasil, 2013).

The Information Technology Resource Administration System (SISP) was created by decree in October 2011 to coordinate the IT resources of the agencies of the Federal Public Administration. One of its purposes is to define the strategic policy of IT management for the Federal Executive Branch (EGTI, 2011).

The SLTI secretariat has – among its main activities – the role of coordinating SISP and planning, coordinating and standardizing the activities of the Electronic Government Program (MP/ SLTI, 2013). Standardization is vital for the provision of e-government services geared to the needs of citizens. In this regard, since 2003, efforts have been made to consolidate the “Electronic Government Interoperability Standards” (e-PING) in e-gov projects and to establish the Brazilian interoperability framework (MP/SLTI, 2010).

The standard of accessibility, described in the “Electronic Government Accessibility Model” (e-MAG) launched in 2005 aims at promoting universal access to e-government services through technical recommendations for building portal websites. In 2007, the e-MAG was institutionalized and its compliance became mandatory on sites and portals of the Federal Public Administration. Finally, in 2010, the “Web Standards in Electronic Government” (e-PWG) was created, which consists of recommendations of good practices grouped in four technical booklets: usability; coding; web writing; design and content architecture developed under the Digital Identity of the Federal Government (Brasil, 2013).

The Open Government Partnership (OGP) – of which Brazil is co-leader – is recognized as an effort of several partner countries to make governments more transparent, effective and reliable through the establishment of Open Government goals included in the agendas of each country. The Government Open Data aims at publishing government data in reusable formats and increasing transparency and greater political participation of citizens, as well as generating several applications collaboratively. The National Infrastructure Open Data (INDA) was built based on a participatory process and its purpose is to coordinate the open data policies (Brasil, 2013).

Besides SLTI, we can highlight the “Management Modernization Special Advisory Body” (ASEGE) that coordinates the priority projects *agenda* and the “Secretariat of Public Management” (SEGE) that formulates policies for public and people management (MP, 2014). SEGE and SERPRO have launched recently two new structuring systems for the federal government: the People Management System for the Federal Government (SIGEPE) and the new Organizational Information System (SIORG) (SERPRO, 2014).

The “Secretariat of Planning and Strategic Investments” (SPIE) is responsible for the Multi-annual Plan (PPA) that articulates and integrates the main public policies (not only of IT) in order to achieve the government goals.

Apart from the Ministry of Planning, the “General Secretariat of the Republic Presidency” – SGPR (2014a) is responsible for policies developed to stimulate and increase social participation. The “Inter-council Forum” – a joint initiative of SGPR and MP – received the United Nations Public Service Award (UNPSA) as one of the best innovative practices of social participation in the world. This initiative encourages society to provide feedback and to monitor the implementation of the Multi-annual Plans (PPA). According to SGPR, in the last Plan, 629 contributions were presented by civil society, of which 77% have been fully incorporated (SGPR, 2014b).

The “Secretariat for Social Communication” - SECOM (2014) of the Presidency is responsible for government communication – which includes the management of the Brazilian Portal (www.brasil.gov.br) and the “Digital Identity of the Federal Government” project – a set of guidelines and standards to be applied to portals as well as to social networks, applications and other digital environments.

In 2014, the Office of the Comptroller General - CGU (2014) launched the Transparency Portal which is intended to allow citizens to track how public money is being used. Another mechanism which allows for greater popular participation and social control of government actions since 2011 is the Access to Information Law (LAI), which granted society access to all information produced by the government not classified as confidential.

The Federal Data Processing Service – SERPRO – is the largest public information technology service provider in Brazil. It was established in 1964 under the Ministry of Finance. Its market is indeed the public finances, primarily, the Ministry of Finance, but also works with the Ministry of Planning, Budget and Management, the Civil Office of the Presidency, Ministry of Justice, among others (SERPRO, 2014). The IT agency is responsible for the development of the majority of the structuring systems of the government, understood here as systems that are used by various agencies of the Federal Public Administration and that represent the foundation of government systems. The organizations responsible for e-Government strategies are presented in Figure 1.

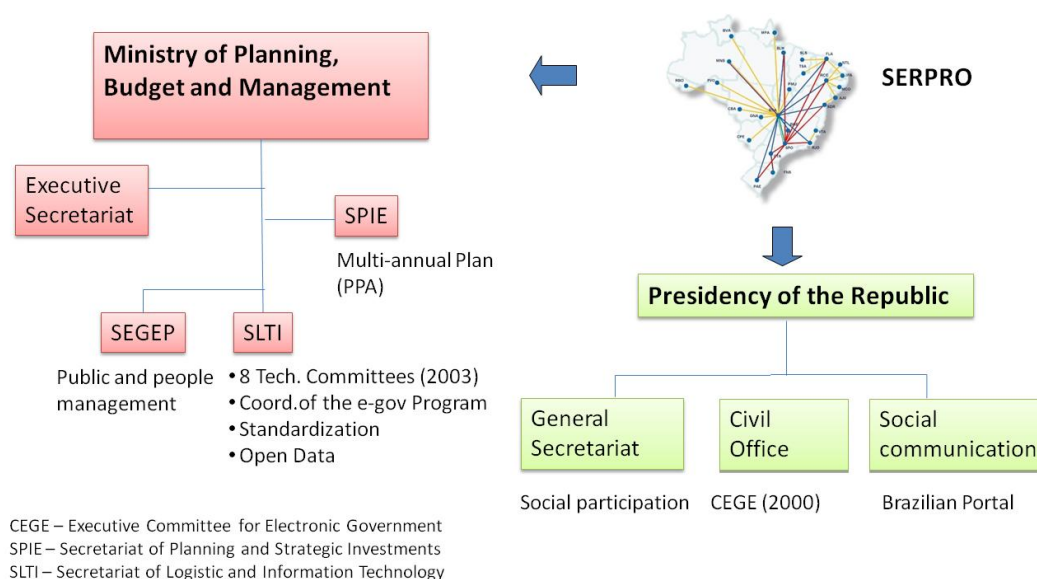


Figure 1: e-Government in the Federal Public Administration

2.3 Strategic planning of the federal public administration and SERPRO

The Multi-annual Plan (PPA) integrates the public Programs that should be implemented by each of the ministries of Brazil to achieve the long term strategic objectives of the government. In the 2008-2011 plan, a specific thematic program related to e-government was defined under the responsibility of the Ministry of Planning (MP). It was aimed at "coordinating, standardizing and streamlining information and computing resources, ensuring the agencies and entities of the Federal Public Administration had adequate support in ICT" (MP/SPIE, 2007).

In the 2012-2015 PPA – also called "*More Brazil Plan*" – this topic was addressed in another thematic program. These programs were organized under strategic objectives which, in turn, were detailed under goals and initiatives. The alignment of strategic plans to PPA's actions is seen as crucial for government agencies to achieve common objectives (MP/SPIE, 2011).

The MP/SLTI Strategic Planning 2011-2015 is aligned with PPA and the General Information Technology Strategy (EGTI). Their strategic objectives are direct and specifically linked to e-government strategies (MP/SLTI, 2013).

The General Information Technology Strategy (EGTI) is a tool of the Information Technology Resource Administration System (SISP) which defines guidelines to promote the continuous improvement of management and IT governance. Under SISP five versions of EGTI were published in the period of 2008 to 2014 (EGTI, 2008-2014).

During the analyzed period, Serpro produced three long-term strategic plans: 2008-2011, 2013-2016 and 2014-2022. The 2008-2011 plan defined direction in the following dimensions: customer and government; society; technology; people; management and organization.

For 2013-2016, seven strategic objectives were defined, established by the board of directors and superintendents. However, in the course of this plan, Serpro developed in 2014 an eight-year strategic plan instead of the usual four-year one. For the 2014-2022 plan, Serpro adopted a new model and only one strategic objective: the institution of the *center for solution and information for the Brazilian government*, with a broader scope, divided into three dimensions (Government and Society, Economy, and Technology) and six strategic guidelines (SERPRO, 2014).

3. Methodology

This research analyzed the strategic directions of the Brazilian e-Government Program from 2008 to 2014. This period corresponds to the second term of President Lula (2007-2010) and the first of President Dilma's government (2011-2014). The methodological procedures of this research can be grouped into four phases. In the first phase a research was done based on document analysis from the 2008, 2010, 2012 and 2014 United Nations e-Government Surveys (United Nations, 2008-2012). In the second phase, in order to analyze the government strategic planning (mainly from the Ministry of Planning and Serpro), a document research was elaborated to identify strategic objectives, goals, indicators and actions. In the third phase, comparative spreadsheets were elaborated and analyzed to evaluate the guidelines of thirteen (13) selected strategic plans. In the fourth phase, semi-structured face-to-face interviews were conducted with fifteen (15) government strategic executives, nine (9) from Serpro (director, superintendents and strategic coordinators) and six (6) from the Ministry of Planning (executive secretaries, directors and ex-directors from SLTI) in order to evaluate the political context and strategic directions of the federal government from their perspectives. Eleven hours of interviews were done in Brasília, on May 2014.

After analyzing the content of all the interviews, a categorization process led us to the eight categories (Bardin, 2011) which were most often cited: strategic alignment; e-Government Program and IT governance; electronic services; interoperability and integration; standardization; structuring systems; open data and transparency; and social participation. They were identified as key topics by the interviewees. Subtopics were also frequently mentioned – associated to the main eight categories – and were also categorized. This scheme was elaborated in order to deepen the analysis related to the theme of the research.

The qualitative analysis results allowed us to understand the motivations and political context that were not explicit in the documents, besides identifying the influence of the United Nations Report on the government strategic guidelines.

From the results obtained in the previous phases, we were able to reflect on the challenges to be overcome by the government to offer more services in the 'connected' level, where they are no longer centered on the government but become citizen-centric services, increasing interoperability between various government agencies.

Finally, we analyzed the most significant evaluations regarding electronic government strategies since its beginning in 2000 (Silva, 2015). The organizations responsible for these evaluations were the Ministry of Planning, the Federal Court of Accounts of Brazil (TCU) and the Regional Center for Studies on the Development of the Information and Society (Cetic.br).

4. Research Results

The research results comprise six sections. First, the UN Report Analysis. Second, the Brazilian e-government program evolution and the IT Governance. The next sections named the three e-governance categories: e-Services, e-Administration and e-Democracy. The final section presents an analysis of the evaluations carried on so far and how are they related to strategic planning.

4.1 United Nations e-government survey analysis

In the first phase of the research, the following elements were analyzed: the evolution of the e-participation index and online service index (OSI) and its influence on the composition of the e-government development index (EGDI) in Brazil, from the collection of secondary data extracted, primarily, from the e-Government Surveys published by the United Nations. We can observe from Table 1 that in 2008 Brazil was ranked 45th in the global ranking; in 2010, the country had its worst performance, dropping to the 61st position. In 2012, it moved to the 59th position, and in 2014 went up two more positions, reaching the 57th position.

Table 1: EGDI Index, its components and the Brazilian position on the world ranking

	2008	2010	2012	2014
e-Government Development Index (EGDI)	0,567 9	0,500 6	0,616 7	0,600 8
EGDI ranking	45 ^a	61 ^a	59 ^a	57 ^a
Online Service Index (OSI)	0,602 0	0,368 3	0,673 2	0,598 4
OSI ranking	30 ^a	55 ^a	22 ^a	----
e-Participation Index	0,454 5	0,285 7	0,500 0	0,705 9
e-Participation ranking	23 ^a	42 ^a	31 ^a	24 ^a
Telecommunication Infrastructure Index (TII)	0,218 1	0,253 8	0,356 8	0,466 8
TII ranking	----	70 ^a	77 ^a	----
Human Capital Index (HCI)	0,882 5	0,883 7	0,820 3	0,737 2
HCI ranking	----	83 ^a	78 ^a	----

Source: Extracted from the United Nations e-Government Survey 2008-2014 (United Nations, 2008-2014)

In the OSI index, Brazil occupied the 30th position in 2008, moving to the 55th in 2010. The country obtained a significant improvement in 2012, reaching the 22nd position. The e-participation index, in turn, presented the same behavior. In this index, Brazil reached the 23rd position in 2008, falling to 42nd position in 2010 and going up 11 positions, reaching the 31st place in the world ranking in 2012. In 2014, Brazil improved by 7 additional positions to 24th.

These results can be observed as an expression of the significant incentives and new initiatives fostered by the Brazilian government to improve online services and to consolidate a participatory democracy environment. Recent findings also show that not only e-government public policies has been stimulated and developed but also that the implemented initiatives have been evaluated by several organizations such as the Federal Court of Accounts of Brazil (TCU).

In the other two indexes that make up the EGD, we can see from Table 1 that in the telecommunication infrastructure index (TII), Brazil occupied the 70th position in 2010 and dropped to the 77th position in 2012, while in the human capital index (HCI) Brazil went from 83rd to 78th position. Although Brazil has had a very good performance in the OSI index for 2012, in the EGD index it went up by only two positions, from the 61st to the 59th. In the 2014 Survey, a new "wireless broadband subscription indicator" was included which made the Brazilian TII index increase from 0.3568 to 0.4668. On the other hand, two new components to the HCI index were introduced: "expected years of schooling" and "average years of schooling" that made the Brazilian HCI index descend from 0.8203 to 0.7372. Within these changes, the global EGD index arose only two positions in this last report, and the OSI index has not kept up with the growth observed in 2012, although the e-participation index has improved considerably.

This demonstrates that Brazil needs to continue investing in online services, but also needs to invest much more in telecommunications infrastructure and human capital in order to leverage e-government. As seen in these two indexes, Brazil's performance in the world falls far short of what is desired. The need to invest in human capital was pointed out in the ICT evaluation research conducted by the Regional Center for Studies on the Development of the Information and Society in 2010 (Cetic.br, 2010).

According to the managers interviewed, the UN report is not used in the preparation of their Strategic Planning. Most respondents said that they were unaware of its content. According to them, the pressure on Brazil's position in the world ranking is not institutional, but an academic, political and social one. Some interviewees from the Ministry of Planning said that the UN methodology does not take into account the reality and uniqueness of a continental country as Brazil, even though that statement had not been accompanied by any clear or explicit example to corroborate it. Besides that, one executive stated that "Brazil has a good chance of improving the index in 2014 due to the e-gov initiatives released in September 2013, under the *Digital Office* coordination".

4.2 Electronic Government Program and IT governance

The "Brazilian Electronic Government Program" has undergone some changes over time as illustrated in Figure 2. In the 2008 PPA, the government demonstrated its importance through the creation of the Electronic Government Program. In addition, the government created in 2012 the Improvement of Public Management Program, in order to implement and make available to society the "Brazilian Digital Agenda for Electronic Government"; SLTI also proposed as a strategic initiative an "Electronic Government Agenda" in 2011.

In 2008, in the document which defines the General Strategies for Information Technology (EGTI), SLTI was committed to establishing mechanisms that would reinforce actions of the National Electronic Government Plan, which had also been proposed by the Federal Court of Accounts of Brazil (TCU, 2006). However, according to the MP respondents, the e-governance model, coordinated by CEGE and chaired by the Civil Office of the Presidency, was not sustainable because it was too centralized in high executives and there was little coordination among its members. Among the eight technical committees, the only one still active is the Free Software Committee. As the agencies tend to act vertically, a cross-agency e-government Program is very difficult to be implemented.

In 2010, IT in the federal government became strategic by attending the citizen directly and as a result of this guideline, actions were designed for the participation of IT in strategic planning of the Federal Government. In

the following EGTI and in the 2011 SLTI document we see a greater concern from the Ministry of Planning in improving IT governance and strengthening the alignment between IT planning, the organization's strategies, strengthening SISP and the e-gov policy. According to one interviewee from the MP, "when you know what the agencies need, it is possible to implement a public policy correctly, linked and monitored with the goals and strategies of the Strategic Planning of the Ministry of Planning along with the EGTI".

The majority of the executives interviewed pointed that the Digital Office ("Gabinete Digital") of the Republic Presidency created after the popular demonstrations in June 2013, represented an important qualitative leap for the implementation of various e-government initiatives, like the Brazilian main portal, the services directory ("Guia de Serviços"), the government digital identity, open data and the environment of e-participation. Unfortunately, it lost its political importance only five months later, with the departure of the coordinator to the Civil Office of the Presidency and the transfer of the entire structure to SECOM.

In Serpro's 2014 strategic plan, the objective of establishing a *center for solution and information for the Brazilian government* was a challenging goal to be achieved.

According to some interviewees, in order for e-government initiatives to play a more strategic role in the Federal Public Administration it would be necessary to institutionalize a Digital Government Program with the power to make policies regarding the provision of e-services. Other suggestions include a greater investment in the Program and in training of managers, and improved governance and communication with the main ministries as well as developing cross-agency initiatives.

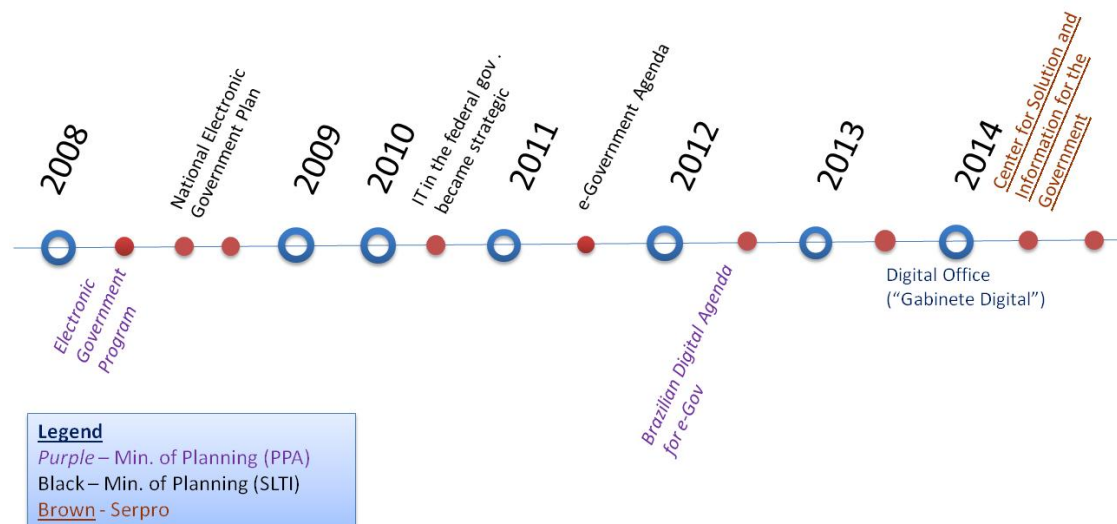


Figure 2: e-Government Program and IT Governance

4.3 e-Services

A significant concern for improving and expanding the supply of e-services to society was observed in three government strategic plans starting in 2011, as shown in Figure 3. In EGTI (2011), the objective was to "improve continuously the *delivery of electronic services* to society". In the subsequent EGTI new elements were added. Thus in 2013 the EGTI's goal turned into "improving continuously the delivery of electronic services and the *transparency of information* to society". In the EGTIC (2014) the intention becomes slightly different, turning into "improving the delivery of public services, the transparency of information and *social participation* through the effective use of ICT". This strategic goal is aligned with the broader concept of e-government found in the literature and guidelines stipulated by the UN, not restricted to the provision of electronic services to citizens but also encouraging digital democracy by increasing transparency, democratic participation and accountability of governments.

According to interviewees from the MP, the decrease on the online services index (OSI) in 2010, mentioned previously, did not directly influence the inclusion of this strategic objective in the 2011 EGTI plan. However,

the government's concern for improving the delivery of e-services led to a great increase in the Brazilian ranking of the OSI index in 2012.

This explicit concern for offering more e-services was observed in Serpro's 2014 strategic plan in its two strategic requirements: "provide mobile services for government and society with a focus on being the center of information" and to be "first entry point for government information and services (federal, state and municipal) for government, citizens and businesses". These guidelines directly meet the tendencies for e-gov published by the UN.

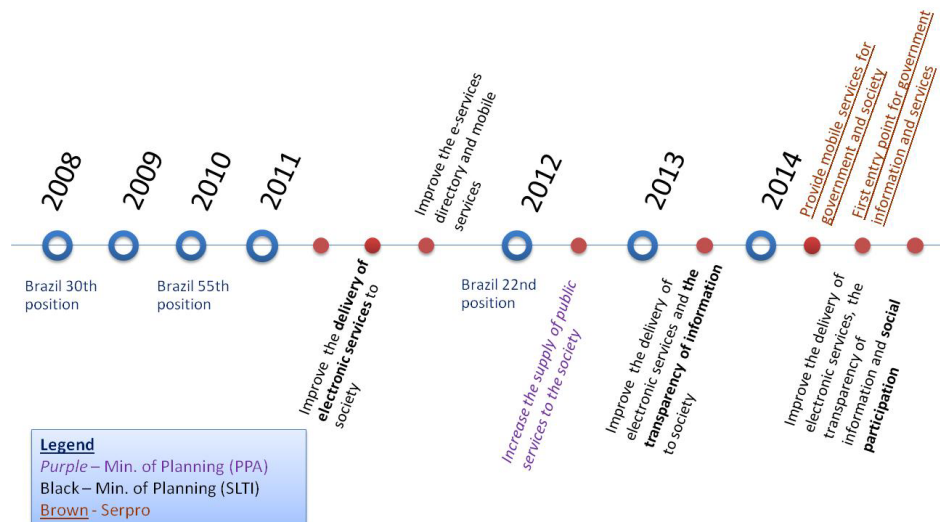


Figure 3: e-Services

Aligned with the strategic objective to be the *Center for Solution and Information for the Government*, Serpro launched in June, 2015 the project CIS - Center of Information Serpro - that will offer information for the Brazilian government and society. The first implemented solution of CIS is the "data as a service" product called *Quartzo* - an infrastructure that allows online access to data using a standard interface (JDBC, ODBC or Web Service) in a secure and auditable way. Quartzo offers a virtual database using a data platform, showing the metadata presentation from this database in a catalogue. This service can be used by government agencies and by third party clients that need to access data in an intense way without interfering with the original databases. The Ministry of Planning was the first agency to use this service (CIS, 2015).

A recent initiative that meets the e-services guidelines of the strategic plans found in the literature is the Program "*Bem Mais Simples*" (Much More Simple) launched on February, 2015 with the objective of simplifying the day by day needs of citizens and enterprises. The Program has five guidelines: centralize public services in one place; eliminate formalities that have become obsolete with new technology; keep citizen data for queries on a single platform; unify the registration and identification of citizens; and restore confidence in the word of the Brazilian citizen. This Program is intended to reduce bureaucracy in public administration. Its first implementation was the simplification of the process of closing enterprises, interoperating data from the federal level (Federal Revenue) with state level (Board of Trade). Using a digital certificate, more than 90% of the requests made in the Portal *Empresa Simples* (Simple Enterprise) can be fully done by the Internet, with security and lower operational cost (SERPRO, 2015).

Another trend is the creation of a unique citizen digital authentication where the citizen will be able to access many services from a single entry. This concept is hard to implement because there are many agencies involved, but this is being pursued by the Brazilian government.

4.4 e-Administration (interoperability and integration; standardization; structuring systems)

Since the 2008 EGTI the Ministry of Planning has addressed the need to integrate government information systems and to promote the use of standard e-PING for interoperability (EGTI, 2008). The 2011 SLTI document listed the strategic initiative of "strengthening the interoperability of structuring systems of the federal government" as shown in Figure 4 (MP/SLTI, 2013).

According to one interviewee from Serpro there is a constant concern at the Ministry of Planning with the interoperability of structuring systems, but it is not very effective. For a more agile and transparent integration it would be necessary to have a *government service integration platform*. This concern is shared by one respondent from MP who said that "we are getting to a level where information already exists but it is not organized... what we need is to integrate services, generating an environment where people should use the logic of *Portal Brasil*, which is the integration itself".

Although Serpro has had a strong participation on the development of e-PING, the adoption of e-PING and e-MAG standards were not explicitly written in the strategic plans of this period and many systems and portals developed didn't follow what were intended to be mandatory standards.

Only in the last Serpro's plan, the concern for improving the structuring systems by modernizing its architecture to facilitate the interoperability could be explicitly observed. The majority of the MP interviewees agreed that this guideline is a high priority and that the structuring systems should have a cross-agency collaboration.

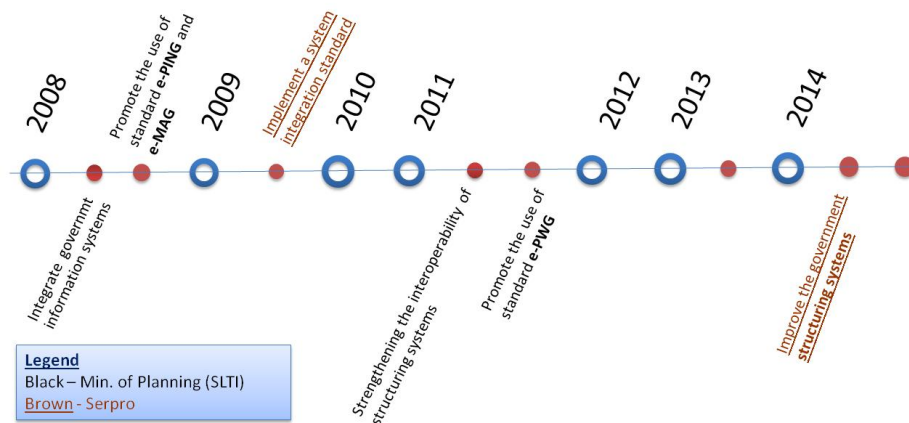


Figure 4: e-Administration

4.5 e-Democracy (open data and transparency; e-participation)

The issue of open data could be seen in the government *agenda* in 2011, in several plans, with the strategic objectives of "implementing the National Infrastructure of Open Data (INDA)" and "encouraging states and municipalities to participate in the INDA" (MP/SLTI, 2013). The EGTIC (2014) adds the need to "map out active transparency opportunities by opening up data from the Federal Public Administration" as illustrated in Figure. 5.

According to interviewees from the Ministry of Planning, there is a very intense collaboration with the "General Comptroller's Office" (CGU), because much of the Transparency Portal data are extracted from the structuring information systems provided by the MP. The Ministry also has a very strong presence when it comes to the Open Government Partnership; there is a commitment to encourage states and municipalities to promote the use of open data. However, it was mentioned that it hasn't been easy to meet the OGP goals, because of the difficulty in opening the data in some structuring systems.

Serpro presented two strategic requirements related to open data in its 2014 strategic plan (see Fig.5). One respondent from Serpro reports that "from the moment that the Internal Revenue System opens data for the taxpayer, it increases the level of responsibility of the agency, but, in return, it is more transparent and friendlier to taxpayers in general".

The theme "Social Participation" could be observed on the agenda since the 2012 PPA with the strategic objective of "increasing dialogue, transparency and social participation in Public Administration, in order to promote greater interaction between state and society". The goals concerning the creation of new forms,

languages and instruments of social participation, as well as the creation of a proposal for a National Social Participation System were set out. This guideline can also be observed in the 2014 EGTIC with the strategic action to "encourage the use of *participa.br* virtual environment for e-participation".

From the beginning, President Dilma's government has shown interest in encouraging greater citizen participation. The MP interviews reinforced the view that the e-participation theme was already in vogue, but gained political importance from the 2013 popular demonstrations, speeding up the launch of the virtual environment *participa.br*. There is a great partnership between the MP and the General Secretariat in this initiative. The objective is to gather suggestions from civil society organizations and individuals for innovative processes of collaboratively formulating public policies.

On July, 2015 the Presidency of Republic launched the e-participation platform *Dialoga Brasil* based on the *participa.br* environment, with the objective of enhancing the political participation by encouraging citizens to propose specific actions related to subjects like health, education, security and culture. The most popular suggestions can contribute to the formulation of public policies (Brasil, 2015a).

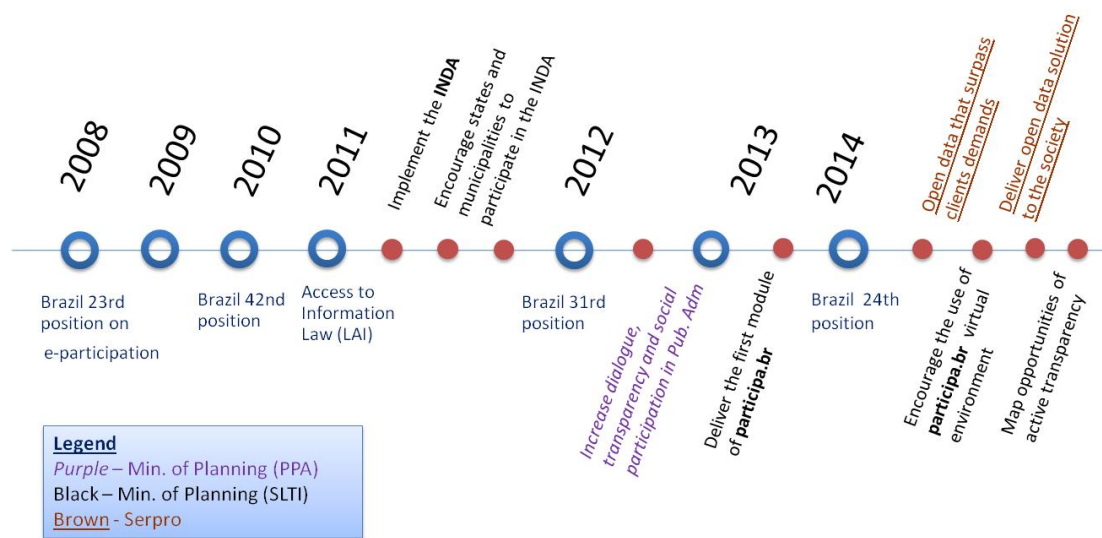


Figure 5: e-Democracy

4.6 After Planning: the Evaluation of Electronic Government Public Policies and Programs

Four main evaluations were developed since the beginning of the e-Government Program in 2000. The main goals were to identify the accomplishment of the expected results established in public policies, actions and programs in the area of electronic government and digital governance. One evaluation was conducted in 2002 – two years after the launch of the first e-government program. The Executive Committee of Electronic Government – CEGE (2002) evaluated the program's development with some positive analysis of its outcomes. In 2006, the Federal Court of Accounts of Brazil – TCU - developed a more general evaluation of the program. The most prominent organization nowadays responsible for evaluations regarding ICT use is the Regional Center for Studies on the Development of the Information and Society (Cetic.br) that implements the policies of the Brazilian Internet Steering Committee (CGI.br). In 2010 and 2013 the organization developed evaluations with the objective of analyzing specific results of e-government actions.

The TCU (2006) evaluation aimed at verifying the effective achievement of the expected goals of the Brazilian e-government Program. The document emphasized the multi-sector and multi-stakeholder characteristics of the Program. Main attention was given to e-services and how citizens were using them. TCU proposed explicit and clear changes. The most significant ones were: (1) revise the institutional model; (2) define a single portal for access to e-services; (3) finish building indicators for the evaluation of e-services; (4) publicize the existing tools; (5) define a step-by-step schedule to implement the National Plan for the Development of the Electronic Government; (6) formalize the results of the discussions of working groups and technical committees; (7) provide content in the e-Government Portal; (8) provide the federal government with information to identify priority services under a citizen-centric perspective; (9) guide the organizations to establish evaluations to identify citizens' acceptance of the services after they have been implemented.

It was also observed by the Federal Court that there was very little data regarding the stage of e-governance in the country and a lack of information about its historic evolution, hampering decision making processes that could be based on already accumulated experiences. Most of the public e-services implemented are not designed based on research or evaluations. The citizens' perspective is generally not considered.

This same result was obtained in the Cetic.br (2010) evaluation: 80% of the participants stated that the government should ask citizens which e-services they want to be offered. The results also indicate that e-services should be more accessible and offer a wider range of possibilities. Improvement of the quality of the portals; the need to improve information security; and the system infrastructure were also significantly mentioned in the results.

The participants stated that the main difficulty implementing e-government strategies in the country is the lack of public disclosure and information dissemination about the existing actions and programs. Some other difficulties were pointed out, such as the absence of agreements regarding priorities and collaborative actions among the organizations responsible for the program. Digital exclusion, the lack of infrastructure and the need of institutional and human capacity building were also mentioned as urgent matters to be addressed in a more emphatic way in strategic plans (Cetic.br, 2010).

The main goal of the Cetic.br (2013) was to build an effective tool to evaluate the adoption of ICT in public organizations; the offer of public e-services; the diffusion of access to information; and the expansion of initiatives of digital participation. It is interesting to mention that the MP interviewees said that Cetic research and the TCU evaluation were used as a source for the development of their strategic plans.

The results show a vast majority of public institutions – federal and state organizations – using ICT for several purposes: management of human resources; management of property; government procurement and contracts; systems to support decision making; and geographic monitoring, among others.

The main recommendations of the 2013 evaluation were to amplify the initiatives in order to provide more public e-services and to elaborate and adopt strategies to reduce digital exclusion. The need to strategically plan public policies directly related to the demands of the population and the organizations was also emphasized. Thus, the government executives must take into account this scenario when formulating strategic planning and public policies.

The evaluation of public policies is fundamental to improve the public administration. It is an essential step after planning and implementing actions, programs and policies. Evaluation and monitoring mechanisms are a feasible way to verify the effectiveness of what has been done. However, evaluations are not frequently incorporated in the Brazilian federal administrative strategies and when they are applied, there are no significant observable impacts on the process of reformulating actions, programs, public policies or developing new ones.

5. Conclusion

The evolution of Brazil in the UN e-Government Survey can be observed through the e-government development index (EGDI) and online services index (OSI). In 2010, both the OSI and the EGDI indexes had a sharp drop, but in 2012 Brazil's position in the global ranking with respect to the OSI index arose 33 positions while the EGDI moved only 2 positions. In the e-participation index, Brazil dropped 19 places in 2010, but rose eleven ranks in 2012 and seven more positions in 2014. By the 2014 Report, Brazil had not yet recovered its 45th place in EGDI achieved in 2008.

Research has shown that the UN E-Government Survey is little used by the Brazilian federal government as a reference for the development of e-government public policies. However, the concern to increase the supply of electronic public services – observed in government strategic planning since 2011 – resulted in a great improvement in the Brazilian e-services world ranking. Nevertheless, the global EGDI index has advanced very slowly, mainly because the telecommunications infrastructure and human capital indexes that compose EGDI score very low.

We observed a major concern with the adoption of interoperability standards. Although they are theoretically mandatory many systems do not follow the recommended standards. The same happens with the standard for the construction of e-government portals.

Government strategies in the 2011-2013 period have shown significant concern with the promotion of greater interaction between government and society, stimulating mechanisms that generate more public transparency by encouraging the use of open data by states and municipalities and providing access to information produced by the government. The expansion of social participation had already been a government strategic direction since 2012, but gained political strength from the influence of social movements. It was found in this study that IT and e-government public policies are closely related. It can be concluded that the Ministry of Planning is responsible for the direction of IT policies and Serpro for giving support to the government in such policies. From the survey results it was observed that the government needs to act more across-the-board, with cross-agency collaboration.

Currently, innovation plays a central role within governmental strategies. Despite the existence of some innovative solutions in government, a culture of innovation has not yet been institutionalized in the agencies of the Brazilian federal government. It is not enough to develop mobile applications, but innovating through the modernization of the government structuring systems – facilitating interoperability and openness of its data – seems to be the most significant strategic action required.

We can also observe that there were no regular and systematic evaluation processes regarding e-government strategies and programs in the first ten years of its implementation. Nevertheless, as it can be verified in reports of the Regional Center for Studies on the Development of the Information and Society (Cetic.br), evaluations are becoming more frequently applied. From this scenario we can conclude that there is a possibility of building a stable electronic government state policy in the future.

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