Electronic Government in Brazil - Measuring E-Gov Appropriation by Citizens and Enterprises

Alexandre Barbosa  
*Brazilian Network Information Center, alexandre@nic.br*

Juliano Cappi  
*Brazilian Network Information Center, juliano@nic.br*

Winston Oyadomari  
*Brazilian Network Information Center, winston@nic.br*

Ingrid Winkler  
*Universidade Federal da Bahia, iwinkler@ufba.br*

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Electronic Government in Brazil -
Measuring E-Gov Appropriation by Citizens and Enterprises

Alexandre Barbosa, Juliano Cappi Winston Oyadomari
Brazilian Network Information Center – NIC.br
alexandre@nic.br, juliano@nic.br, winston@nic.br

Ingrid Winkler
Universidade Federal da Bahia – UFBA
iwinkler@ufba.br

Abstract
The use of information and communication technologies, particularly those related to the consolidation of the Internet as a social and business networking medium, has led governments to move forward in enabling the e-government. The aim of this effort has not only been to transform the future of governmental public service delivery, but also to promote democratic participation. The literature shows that depending on how the e-government is implemented and advertised to society, its applications have economic, social and political impacts. E-government implementation may foster active democratic participation, but depending on how it is implemented it may also prevent citizens and enterprises from using it for social and economic development. Based on the theoretical concepts defining the e-government and supported by an empirical approach, this article discusses the results of a nationwide survey conducted by CGI.br/NIC.br aimed at assessing the use of the e-government by Brazilian citizens and enterprises.

Keywords

1. Introduction
With a population of 191 million inhabitants, Brazil is a powerful rising economy and continues to pursue economic growth and social development. It is today South America’s leading economic power and a regional leader. Despite having made major efforts to improve socioeconomic conditions and to lift citizens out of poverty, income distribution is still highly unequal and Internet access penetration rate in households is still very low. As a result, the government is implementing the National Broadband Plan to universalize broadband Internet access in five years. This brings challenges and opportunities for e-government development in Brazil.
The development of e-government in several countries over the past years, is one of the most prominent consequences of the quick and massive use of Information and Communication Technologies (ICTs) by governments among United Nation members (UNDP 2004).
From a historical perspective, the challenge of promoting economically and socially sustainable development in a highly complex environment has led governments around the world to rethink their public management models, political administrative structures and governance mechanisms (Heeks 2002). Reform and modernization of the state have become top priorities on the political agenda of governments, including issues such as efficiency, transparency, quality of services, accountability and democratic participation. In this context, the e-government appears as a result of advances in the intensive use of ICTs in the public sector, which was mainly driven by the need to enhance performance and efficacy in public administration (Osbourne 1997) in its early stages. Nowadays, there are other motivations driving the implementation of e-government, such as providing mechanisms for citizen active democratic participation, social mobilization and engagement (Cunha and Pozzebon 2009).

E-government is a broad term used by different authors mainly to refer to the many aspects related to the use of technology in the public sector to enhance the performance and effectiveness of public administration and services (Osbourne 1997). Although other terms have also been used to refer to e-government, there is a convergent understanding that digital channels are enabling governmental agencies to interconnect and to interact with citizens and enterprises to deliver electronic public services and to potentially promote democratic participation. It is speculated that the increasing use of technology by citizens and enterprises, the preference for online transactions in virtual environments due to the convenience of such environments, and the universalization of the Internet are factors promoting the e-government (Holmes 2002; O’Looney 2002).

Following the worldwide trend of many governments, which have adopted ICTs as tools for modernizing the public administration, the Brazilian government has invested resources to expand e-government. Nevertheless, in order for public managers to be able to strategically plan the delivery of e-government services that will cater to the needs of the citizens and enterprises, there must be structured information on the e-government use. Aiming at producing indicators on the use of the e-government, the Brazilian Internet Steering Committee (CGI.br) conducted, in 2010, the ICT Electronic Government Survey. Its contributions are expected to provide key information, enabling governmental institutions to plan e-government services for the Brazilian population and to map their use and barriers.

According to Fountain (2001), in spite of governments acknowledging that the use of technology has increased the efficiency of their internal processes, the use of ICTs has not yet managed to promote significant institutional transformations in governmental and social levels. This evidences the relevance of conducting a survey aimed at measuring the use of the e-government through indicators capable of assessing political and social impacts.

This paper presents the main results of the 2010 ICT Electronic Government Survey which focuses on the use of the e-government in Brazil. Its conceptual framework explores the dimensions of e-Services and e-Democracy, as well as, the relationships categories G2B (government and businesses) and G2C (government and citizens). We argue that in spite of the positive scenario verified when assessing the use of e-services by citizens, results show a preference for face-to-face services over the use of technology as a means of accessing public services. As opposed to what happens among citizens, the Internet prevails among enterprises as the preferred communication channel. When assessing the e-Democracy dimension, the use of the technology as a means of active democratic participation, social mobilization and engagement in Brazil is still in its very early stage.
2. An overview of e-Government key concepts

Even though the taxonomy of the e-government can be laid out in many ways, there is a tendency to view it as set of applications and technologies, used to provide electronic public services and to implement democracy and electronic governance mechanisms. In this survey three key theoretical concepts were adopted; namely e-government dimensions, citizen-centered e-government and types of relationship between government and society. Despite e-government being frequently associated with the use of ICTs and the Internet for public service delivery, the theoretical concepts supporting it go beyond Internet service delivery. Broader concepts have recently arised involving other technological solutions to enhance public administration processes, to increase efficiency, to improve governance, to design and monitor public policies, to integrate governments and to promote electronic democracy, which is mainly related to increasing transparency, accountability, democratic participation and engagement.

2.1 Dimensions of the e-Government

Different conceptual views, or theoretical approaches to e-government found in the literature can be organized in three dimensions: e-Services; e-Administration; and e-Democracy. Table 1 summarizes each of these dimensions according to a few authors.

<table>
<thead>
<tr>
<th>Electronic Government Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>e-Services</strong></td>
</tr>
<tr>
<td>Involve improving the services provided to citizens, mainly through electronic solutions and digital access and delivery channels, such as service portals on governmental websites.</td>
</tr>
<tr>
<td><strong>e Administration</strong></td>
</tr>
<tr>
<td>Involves improving governmental processes and the internal functions of the public sector through the use of ICTs.</td>
</tr>
<tr>
<td><strong>e Democracy</strong></td>
</tr>
<tr>
<td>Involves using ICTs to increase opportunities for citizen participation in democratic and decision-making processes</td>
</tr>
</tbody>
</table>

Table 1: e-government dimensions. Source: Prepared by the authors.

It is actually difficult to establish the boundaries between these three dimensions, as a single electronic solution can feature in one, two or all dimensions. The division of e-government in three dimensions is, therefore, conceptual and aims to simplify theoretical approaches to questions related to it.

2.2 Citizen-centered e-Government

Another relevant concept explored by Heeks (2002) and Holmes (2002), is the concept of citizen-centered e-government. This concept requires e-government programs to place citizens and their needs at the centre of the dynamics of internal and external governmental processes; it relates to the use of ICTs to promote integrated public services between governmental agencies, and, thus, eliminate the need for citizens to know the complex internal structure of the government and governmental agencies for public service access and delivery.
2.3 Types of relationship between government and society
The e-government can also be organized according to the type relationship between government and society (G2B, G2C, G2E and G2G). For a further discussion on types of relationship categories between government and different segments of society see Barbosa et al. (2005); Heeks (2002), Holmes (2002).

3. e-Government in Brazil
The history of the e-government in Brazil is directly linked to the automation process and development of IT services offered by state data processing companies since the early 1960s. The most noticeable aspects in the e-government in Brazil are the ones related to the e-government policy launched in 2000. The great advance in Brazilian e-government policy was the proposal of directives and norms related to the new electronic means of government/society interaction and the creation of an organizational structure to politically coordinate the Brazilian e-government program (Brasil 2002). This structure made it possible to institutionalize some important initiatives, such as promoting the effective universalization of access to information technologies and services, which aimed to facilitate the development of the project. Another relevant factor was the creation of the Electronic Government Executive Committee in 2003, and the institutional and political support given to the e-government program by the Planning, Budget and Management Ministry. This institutional arrangement secured the technical-administrative support needed for the Committee to function.

The relationship between government and citizens has been affected by the ever-growing use of ICTs by both enterprises and citizens in Brazil; especially by the preference for on-line transaction services in virtual environments, associated with the convenience of such environments, and by the Internet becoming universal (Barbosa 2008).

4. Methodological approach
In order to foment discussions about the use of the e-government in Brazil, the following research questions were postulated: 1) is there a gap between the services offered electronically by the Government and what the population perceives as important? 2) what are the barriers preventing the use of e-government services in Brazil? 3) are citizens aware of the e-services offered by the Government? 4) are e-services rendered appropriately? (quality, accessibility, usability); and 5) does the e-government foster active democratic participation, social mobilization and engagement?

Since a very structured methodology, such as quantitative sampling survey, may be unable to capture details of citizens’ and enterprises’ day to day lives regarding e-government use, the methodology employed in this study is comprised of a combined qualitative and quantitative approach. The methodology adopted for this survey also defines the data collection instruments and data analysis. The data collection method employed was based upon two methodological approaches included employing the focus group technique with citizens and in-depth interviews with enterprises, for the qualitative approach; and the sampling survey technique, as well as, the use of structured questionnaires, for the quantitative approach (see Figure 1).
In the qualitative dimension of this study, aspects that emerged from interviewees’ speeches were captured through an interpretative process, through which data collected were interpreted and coded from a subjective perspective. Interpreting collected data also requires creating a code to attribute meaning to these speeches; in other words, it means providing the researcher’s construction from what the social actors being studied have built. The collection of field data took place in between April and September 2010, with enterprises and individuals throughout the Brazilian national territory.

4.1 Qualitative approach – Focus groups with citizens

This phase focused on users and non-users of e-government services. It gathered, through 10 focus groups, approximately 80 Brazilian citizens aged between 16 and 60 years old, from social classes AB, C and DE, with different levels of education and from the five regions of the country, to capture users’ and non-users’ views on the services provided by the e-government program (see Table 2). Users were the citizens who had used any e-government services in the last 12 months.

<table>
<thead>
<tr>
<th>City/Region</th>
<th>Social Class</th>
<th>Age</th>
<th>Education</th>
<th>e-Gov User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recife (Northeast)</td>
<td>AB</td>
<td>21-35</td>
<td>Primary and Secondary</td>
<td>Yes</td>
</tr>
<tr>
<td>Recife (Northeast)</td>
<td>DE</td>
<td>21-35</td>
<td>Primary and Secondary</td>
<td>No</td>
</tr>
<tr>
<td>Porto Alegre (South)</td>
<td>AB</td>
<td>36-60</td>
<td>Higher Education</td>
<td>No</td>
</tr>
<tr>
<td>Porto Alegre (South)</td>
<td>C</td>
<td>16-20</td>
<td>Primary and Secondary</td>
<td>Yes</td>
</tr>
<tr>
<td>Belem (North)</td>
<td>C</td>
<td>16-20</td>
<td>Primary and Secondary</td>
<td>No</td>
</tr>
<tr>
<td>Belem (North)</td>
<td>DE</td>
<td>36-60</td>
<td>Primary and Secondary</td>
<td>No</td>
</tr>
<tr>
<td>Sao Paulo (Southeast)</td>
<td>AB</td>
<td>36-60</td>
<td>Higher Education</td>
<td>Yes</td>
</tr>
<tr>
<td>Sao Paulo (Southeast)</td>
<td>C</td>
<td>21-35</td>
<td>Higher Education</td>
<td>No</td>
</tr>
<tr>
<td>Brasilia (Center-West)</td>
<td>C</td>
<td>21-35</td>
<td>Higher Education</td>
<td>Yes</td>
</tr>
<tr>
<td>Brasilia (Center-West)</td>
<td>AB</td>
<td>36-60</td>
<td>Higher Education</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 2: Profile of the focus groups with citizens

4.2 Qualitative approach – In-depth interview with enterprises

This phase focused on enterprises that use e-government services: it gathered 12 micro enterprises, SMEs, and LEs. In-depth interviews were carried out with professionals from the administrative, financial, and accounting areas, in order to capture the views of enterprises, on e-government services; as well as, their use requirements and potential drawbacks (see Table 3).
Interviews were either in person, and lasted, on average, from 60 to 70 minutes. Through the in-depth interview technique, detailed information was obtained, enabling broad understanding of the use and application of e-government services by enterprises.

<table>
<thead>
<tr>
<th>Enterprise Size</th>
<th>City/Region</th>
<th>Economic Segment</th>
<th>Responding Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro</td>
<td>São Paulo (Southeast)</td>
<td>Manufacturing</td>
<td>Financial</td>
</tr>
<tr>
<td>Small and Medium</td>
<td>São Paulo (Southeast)</td>
<td>Civil Construction</td>
<td>Financial</td>
</tr>
<tr>
<td>Large</td>
<td>São Paulo (Southeast)</td>
<td>Commercial</td>
<td>Admin./ Financial</td>
</tr>
<tr>
<td>Micro</td>
<td>São Paulo (Southeast)</td>
<td>Service</td>
<td>Owner</td>
</tr>
<tr>
<td>Small and Medium</td>
<td>Recife (Northeast)</td>
<td>Manufacturing</td>
<td>Owner</td>
</tr>
<tr>
<td>Large</td>
<td>Recife (Northeast)</td>
<td>Civil Construction</td>
<td>Accounting</td>
</tr>
<tr>
<td>Micro</td>
<td>Recife (Northeast)</td>
<td>Commercial</td>
<td>Owner</td>
</tr>
<tr>
<td>Small and Medium</td>
<td>Recife (Northeast)</td>
<td>Agriculture</td>
<td>Financial</td>
</tr>
<tr>
<td>Large</td>
<td>Porto Alegre (South)</td>
<td>Manufacturing</td>
<td>Financial</td>
</tr>
<tr>
<td>Micro</td>
<td>Porto Alegre (South)</td>
<td>Civil Construction</td>
<td>Owner</td>
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<td>Small and Medium</td>
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<td>Commercial</td>
<td>Administrative</td>
</tr>
<tr>
<td>Small and Medium</td>
<td>Porto Alegre (South)</td>
<td>Service</td>
<td>Financial</td>
</tr>
</tbody>
</table>

Table 3: Profile of the in-depth interviews with enterprises

4.3 Quantitative approach – Sampling survey
For this phase, a randomly selected sample of citizens and enterprises was determined. The sampling plan was designed to allow maximum error margin of 2% among citizens and 4% among enterprises nationwide. A total of 3,000 personal interviews were carried out with citizens aged 16, and older and 647 interviews were carried out with formally established enterprises.

5. Analysis of results

5.1 Use of e-government services in Brazil
According to the survey results, most access to public services is physical, with a preference for face-to-face services by 60% of the individuals. Nevertheless, when citizens use technology as a means of accessing public services, 35% mentioned the Internet as the main one. Among enterprises, in opposition to what happens among citizens, the Internet prevails as a communication channel for public services - 79% of the enterprises had used at least one service in the past 12 months as shown in Figure 2.
The growth potential of e-government in Brazil is promising: more than half of the population (56%) would rather choose the Internet to access governmental services the next time the need arises. Other 60% of the respondents declared willingness to suggest this kind of use to their contact networks.

The increase in the use of the Internet by the Brazilian population, from 30.5 million users in 2005 to 58.5 million in 2009 in urban areas, evidences the trend for citizens to increasingly use virtual environments. Nevertheless, many barriers for such adoption and its effective use still exist and need to be understood by the government; likewise, it is necessary to observe whether the services offered by e-government programs effectively cater to the demands of society. The development of an effective e-government in Brazil plays a fundamental role in the processes of digital and social inclusion of citizens, and in the response to the demands of society, including democratic participation.

5.2 Means of access to public government services
According to the results of the survey, 81% of the people aged 16 or older accessed at least one government service in the past 12 months, whether physically or electronically. Regarding the government services surveyed, face-to-face access was the most mentioned - 60% of the citizens accessed services in person, whereas, only 35% mentioned the Internet as the main means of access to services. E-government users also used physical governmental agencies to obtain services: 47% reported the use of face-to-face services in the past 12 months.

Among Internet users, the use of the e-government is much higher - 73% had used services through the Internet in the last 12 months, against 49% who had accessed services face-to-face. More frequent Internet users presented higher probability of having used on-line government services; this further evidences the importance of the government designing additional public policies that contribute towards effective appropriation of this tool, promoting digital inclusion.

Among enterprises, 85% used some of the services surveyed; the Internet prevails as the preferred access channel: 79% used at least one service in the past 12 months.

5.3 Positive scenario for the use of public services on the Internet
More than half of the population, 56% of respondents, claimed that they would choose the Internet as a means of accessing government services the next time the need arises. The number of citizens willing to use the e-government on the Internet is higher than the 35% who used some
on-line service. This indicates a suppressed demand for the use of this important service. The percentage is higher among e-government users, 93% said that they would choose the Internet the next time, indicating that those who currently use it will continue to do so in the future. The tendency to use is much lower among non-users of the e-government, since only 37% would choose the Internet as a means of access to public services. This indicator suggests that those who still do not use the e-government through the Internet will continue to choose other channels, especially face-to-face interaction.

5.4 Limiting factors for the effective use of the e-Government
For e-government users, the most mentioned barrier to the use of services is “[I am] worried about data protection and security” (39%) as shown in Figure 3. Data is insufficient to conclude that these individuals have experienced security problems, such as the inappropriate use of personal information, password theft, etc. Nevertheless, it is evident that there is general lack of knowledge regarding Internet security issues, resulting in suspicion and fear regarding its use. Even among non-users there is the notion of a dangerous virtual environment that requires caution - 30% agree with the statement “[I am] worried about data protection and security”. Thus, the government must not only provide safe interfaces, but also ensure that citizens are aware of the safety procedures currently employed by governmental websites and applications, to prevent inappropriate use of the Internet, to avoid potential security issues. The government’s lack of credibility corroborates this insecurity, as citizens may be suspicious of how their personal data is to be handled.

The Internet, in opposition to personal interaction, is impersonal and eliminates the possibility of recognizing the public employee providing a service. In the event of problems, participants fear not being able to get help from the same person to follow through with their request without any further problems. Technical questions were also raised. There have been references to the

![Figure 3: Factors limiting the use of electronic government services among user citizens, most cited alternatives (%)](image-url)
technology used, associated with excessive traffic, difficult access, unavailability of services, slow connection speeds, and transmission downtime.

The issue of the quality of services offered online appears the main remarks: 29% stated that “The necessary services are difficult to find”; 28% said “[it’s] difficult to get a response to requests”; 23% informed “The necessary services are on the Internet, but it’s impossible to complete the transaction”; 21% questioned “On the Internet, there is no confirmation that requests have arrived and are being processed”; lastly, 21% stated that “Using the Internet to contact the government is very complicated”. When citizens were asked about what the government should take into account when designing websites, noteworthy answers were related to the quality of services - “clear language, without unknown acronyms or words that I don’t know” (62%) and “how easy it is to use and to find exactly what I am looking for” (56%). For those users that are acquainted with the advantages of the Internet, as compared to face-to-face services, it is fundamental to ensure the effectiveness of its use; this means being able to deal with all of their requests electronically, so that the e-government may be consolidated as a means of access to all nature and complexity services.

Among the enterprises surveyed, the biggest challenges are related to the quality of services and information security - 48% declared that “The services an enterprise needs are hard to find”, 31% agree that “On the Internet, there is no confirmation that the request made is into the system and that it is going to be processed”, and a further 31% stated that the use is discouraged “Because of concerns regarding enterprise data protection and security”. That is reflected by the fact that approximately a quarter (26%) agree that “Using the Internet to contact the government is very complicated”.

5.5 Barriers preventing use of the e-Government

Among non-users, the most mentioned barrier was that “[I] prefer interacting face-to-face with a person” (48%). Other barriers featured similar rates, such as “I don’t know how to use the computer well” (48%), “I don’t have a computer” (43%) and “I don’t have Internet access at home” (36%) as shown in Figure 4.

The close relationship between the preference for face-to-face services and barriers related to computer and Internet connection ownership and skills to use such tools reveals that there is a significant relationship between skill and the use of the e-government. Most likely, the preference for in person services is in itself as a solution to such limitations and, possibly, there is lack of confidence from citizens in being able to resolve issues regarding their relationship with the government.
Lacking the skills required may be embarrassing, as the user may lack interactive familiarity with the means; this is frequently perceived by the older public, which states preference for face-to-face access to services, claiming lack of interest, time and patience to invest in learning about the Internet. Many mentioned the fundamental role played by younger individuals in their families regarding helping them getting around electronic–digital issues. Difficulties regarding browsing, understanding, and interacting with websites and links are also mentioned. Many of the focus groups participants described the complexity of use which generates dependency on the help of others. The lack of information and poor user skills may contribute to such complaints; however, it is noteworthy that citizens’ description reveal that the language of public service websites is still complex and difficult to grasp for most people. E-government services must consider focusing on citizens in their arrangement of graphical interfaces, organization of life events, as well as, parameters of accessibility and user-friendliness.

5.6 Challenges for the advancement of e-government in Brazil

Low awareness of e-government services is a barrier preventing its effective use, therefore it can be established that this is also an obstacle to the assessment of citizen demand. Nonetheless, it is noteworthy that the availability of services offered may also be a limiting factor to the effective use of e-government in Brazil.

In focus groups, when questioned about the kind of service they would like to have at their disposal, participants were surprised to find out that most of them are already available. In the quantitative stage, this was expressed by a low number of respondents who answered the question affirmatively. Only 13% of the respondents declared awareness of government services not yet offered on-line. Moreover, a third of the respondents could not answer which government
services should be made available on the Internet (33%, being 21% among users and 42% among non-users). A further 54% said that there was no other service that should be offered on the Internet. During the discussions with focus groups, the reading of the list of services offered surprised even the most frequent e-government users, who considered the portfolio to be vast and useful, larger than previously thought.

Satisfaction, recommendation and tendency to use indexes revealed citizens’ positive attitude towards the electronic offer of public services. Initially, it would be reasonable to suppose that the e-government widely caters to the needs and desires of citizens and that they are generally pleased with the quality of such services; however, there is evidence that contradicts this hypothesis, such as the limiting factors to the use of the e-government and barriers for non-users.

The data analysis depicts the use of e-government as being quite superficial, primarily based on the search for information, the use of reduced services and low frequency of use. Moreover, in person access to government services still prevails. Finally, how is it possible that high levels of satisfaction, recommendation and willingness to use are not converted into effective appropriation of this tool, so that the relationship between government and citizens can reach the same level as its relationship with enterprises? This must be assessed considering two contextual elements of Brazilian society - citizens’ understanding of citizenship and state-society communication.

Most participants in focus groups mentioned the need for the government to provide the services demanded by the society it represents, anchored in the desires and aspirations of the population. However, it is interesting that the government-citizen relationship has become a one-way road, that is, most participants do not show any pro-activity and do not perceive themselves as agents of the process, which may lead to a passive posture of abstinence from the full exercise of their citizenship. Participation constitutes one of the elements of citizenship.

Subjects’ concerns were centered on their own necessities, both regarding the financial aspect, as well as, their professional qualification, within an increasingly demanding job market. Citizens themselves are aware of their passive posture.

A passive citizen is perceived as uninterested in the issues concerning public life - 35% of non-users agree with the statement: “I was never interested or informed about it”, when questioned about the reasons for not using public on-line services. Hence, one of the aims of the quantitative stage was to investigate aspects related to participation, engagement and influence perceived by citizens in matters of public administration. Only 12% of the respondents claimed taking part in associations, building assemblies, public hearings or unions. Only 18% of the citizens claimed to be engaged in the solution to problems of their community.

Thus, most citizens, when waiving participation and involvement in matters of public order, end up resigning their role in the social context, reducing their relationship with the government to a minimal exchange of rights and obligations.

This analysis facilitates the understanding of the contradiction existing between the favorable scenario of the e-government, namely high willingness to use and to recommend it, and the incipient actual use that characterizes the e-government in Brazil, much below its potential. Additionally, lack of interest in public services and the consequent lack of knowledge about them may lead to low expectations regarding what the government offers, which may explain the high levels of satisfaction observed in the survey.
6. Final Considerations
There are several potential actions regarding public policies for the use of the e-government in Brazil, which will consolidate and rip the benefits of it being used to its full potential. These must be based on the fundamental premise of a citizen-centered e-government, citizens are the bearers of rights.
E-government applications must be simple, intuitive, aiming at favoring those with little Internet familiarity. This may be achieved by means of a widely disseminated application parameter that has been evolving year after year, which are applications geared toward social networks, especially relationship websites. The latter enable widely inclusive use for the less favored echelons of the population, for people with lower levels of education, and also for individuals at both ends of the age spectrum.
There is an action similar to the one mentioned above which refers to the quality of e-government services. The questions related to information security, performance of applications (applications that work well), system infrastructure, clear language, portal objectivity and the establishment of auxiliary support channels - such as telephone hotlines - are opportunities for improvement that will qualify the offer of services, preparing e-government to face the challenge of inclusion and modernization. Complementarily, another possibility would be the utilization of digital certificates, smart cards, or other mechanism that would ensure greater security during the execution of the services and the navigation of the government website.
Another important action is making the services which citizens believe to be absent in the e-government portfolio available. Among the 13% who claimed knowledge of services that should be made available on-line, most converged to the area of public health. Regarding open and unprompted responses, 34% mentioned some service related to this area. Including discussions about the possibility of scheduling appointments and inspections, listings of health unit addresses, availability of medical services and the likes, besides complaints related to public services. Other services mentioned were documents issuance, such as birth certificates, ID and voter's registration card; job vacancies were also mentioned, areas in which the offer of services is still incipient, in citizens’ perceptions.
Another action is related to communication. At this point, there are two important analyses: on the one hand, the lack of knowledge about e-government tools, which reach little less than half of the population (43%); on the other hand, the high levels of satisfaction and proneness to use. Those two factors associated indicate the existence of a repressed demand; however, the favorable e-government scenario will favor the use of this tool, once the unawareness of it is dealt with.
Citizens expressed a desire for informative communications explaining what to do and how to do it; that is, something not merely expositive. Additionally, the presence of citizens, along with the new communication tools available on-line, favors the adoption of strategies that will consider their participation and the conjoined building of knowledge. This strategy may also contribute to getting them involved in issues within the public sphere.
Finally, there is an aspect related to education. Citizens with higher levels of education get more easily acquainted with the new ICT tools, gain autonomy and emancipate themselves to make their relationships potentially more effective. Besides, education consists a fundamental requirement to enable citizenship and as a consequence for the advancement of e-government. In that sense, it is possible to infer that such autonomy would bring citizens closer to the public sphere, so that they would be able to understand themselves the dimension of their rights and
obligations, becoming relevant players in the construction of a more democratic process of public policy implementation by the government.

References