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# Brazilian e-Government

# Analysis of Technical and Social Aspects

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To my beloved wife Cintia. Without her devoted support and extremely patience I would not be able to reach this point.

**SUMMARY**

## 1. Introduction

The paper aims at discussing the use of information and communication technology (ICT) applied to a vast scope of governmental functions, especially in the provision of public services and information of interest to the most diverse social groups by several government levels.

Thus, e-Government concepts and features, its brief history in Brazil and it's interaction with ICT will be approached, focusing on the rendering of public interest information and services and the interoperability between the three government levels (federal, state and local). Thanks to its stimulating nature, e-Government ensures a more democratic relationship between government and society.

The challenges to be faced by the Brazilian society in using information technology mechanisms, whether in relation to its material structure or to society's cultural and educational background will be outlined.

Finally, the example of the Secretariat of Finance of the State of Bahia, which has been providing a great number of general services to its taxpayers, accountants and citizens through the e-Government concept, will be approached. Besides the improvement of its Internet services, the Secretariat has improved its Call Center and customer service at the Tax Audit Department, since many users still prefer this kind of contact, especially when the physical presence is a necessary requirement to settle eventual outstanding taxes.

## 2. General Features

On general terms, "e-Government" was the concept used to describe the relationship between government and the several social structures through Information Technology intensive use. Although many authors adopt a different definition, in essence the meaning is the same.

This interaction between the society and the Government can be classified in three different groups, depending on who is going to benefit: 1) Government solutions for companies or to make business easier (Government to Business or G2B), 2) solutions designed to improve the relation between the public administration and the general population (Govern to Citizen or just G2C), and 3) the applications to increase the relations between the Government agencies or between the levels of Government (Govern to Govern or simply G2G).

Nevertheless, Electronic Government shall be considered broader than described above, as written by Lenk and Traunmuller in *Designing E-Government – On The Crossroads of Technological Innovation and Institutional Change*: "This potential can be used for increasing the effectiveness and efficiency of governance and public administration and for attaining wider goals of transparency, of enhanced democratic participation of citizens and accountability. Making good use of Electronic Government, beyond some early showcase projects which helped to exploit the Internet fascination politically, depends on a thorough understanding and engineering of the process which produce public services, regulations and interventions."

In order to determine a way to measure the development level of the Electronic Government in the countries and its sub national states all around the world, some international organizations are establishing criteria to evaluate what is already done.

Even while knowing that such initiatives have a lot of subjectivity, those approaches are still considered to be an important tool for the Governments to determine the goals of the e-Government policy as it becomes possible to identify what the points to be improved and the reachable standards.

Nowadays, one of the most widely used typology was developed by The Gartner Group in 2000 and identifies four different levels of Electronic Government development on the Internet: presence, interaction, transaction and transformation.

Presence – It is the initial level in which information about the departments and agencies of the Government are disclosed in the Internet. Usually the information is basic, such as the mission and address.

Interaction – At this level there are some search services, downloadable forms, links for other government sites and contact by e-mail with the staff personnel.

Transaction – That is the level at which more complex services becomes available on line, like self services that go all the way from the filling out of forms until receiving the answer, consulting and paying taxes, etc. The Internet becomes a service portal open 24 hours a day, seven days a week.

Transformation – its characteristics are not only having the services and information in the World Wide Web, but rethinking the whole philosophy of public services. The ideal is to have just one door (portal) for the citizens to get into the government, no matter the subject of interest. The portals are a big step in the improvement of public administration publicity.

The governments do not have to go through all these levels of development. Although it is not very usual, it is possible to go directly from level 1 to 3 or from level 2 to 4.

**3. State Policy**

The more effective the e-Government policy, the more it will comply with the organization and the citizens' real needs. Thus, the ideals to be pursued should not be merely restricted in disseminating public information institutional information, but in identifying and complying with the population's longings throughout its several social organization levels.

More specifically, it is important to emphasize that its primary intentions are not just to increase the number of services and information available to the citizens, but to increase how those services and information can make the regular person's obligations to the state easier and how it can improve the means of the government accountability.

In this sense, it is extremely important for each branch of the government to bear in mind the citizens' real needs, so that services and information are not only rendered

for the sake of easiness, in detriment of the population's real interests. Thus, what matters most is not the number of services being provided, but the way they can simplify the citizens' daily life.

The integrated use of these technologies has encouraged attractive possibilities, namely services and information that can be requested by phone to be transmitted by mail or even by fax.

Another concern that has to be faced in the intensive use of the Internet as a means of contact media between the government and population is the lack of regulation or even a sector or group of people responsible for the Web. It is a paradox with the formality that usually is necessary for public administration performance.

In this sense, governments have started using an extremely powerful tool, but contrary to the general rule it has been used without much management controls. This is an issue that has been imposed and that has become a major concern at several government levels, leading to the establishment of laws trying to standardize the acts and facts that arise from the Internet use.

With all those considerations, e-Government must be seen as a management policy centered on the citizens' needs, bringing together different Information Technology trends in the provision of services and public services information, raising the level of state government accountability.

## 4. Internet History in Brazil

The history of the World Wide Web in Brazil is still recent. In 1991, an international line was connected to Fundação de Amparo à Pesquisa no Estado de São Paulo (FAPESP[1]), so that educational institutions, research foundations, Non Governmental Organizations and government agencies could have access to the Internet.

[1] FAPESP – Foundation to Give Support to Research in the State of São Paulo

In 1992, during an international event held in Rio de Janeiro, named ECO 92, the Instituto Brasileiro de Análises Sociais e Econômicas (IBASE[2]) and the Associação para o Progresso das Comunicações (APC[3]) entered into an agreement to enable the access of Brazilian NGOs to the Web. During this meeting, the second Brazilian connection to the Internet was made, which encompassed twelve educational institutes.

In the same year of 1992, the Rede Nacional de Pesquisa (RNP[4]) was expanded, with the organization of access to Infoways and the creation of a backbone structure, establishing points of Internet presence in the Brazilian state capitals, making all the network knots in this country operational.

However, private access providers were only established in 1995, with a joint directive of the Ministry of Communication and the Ministry of Science and Technology, which enabled a greater operational diffusion of the commercial network in the country.

This tool, which was originally meant to be used by educational organizations or by organizations with specific purposes, started being used as a strong catalyst for popular mobilization, thus expanding its objectives. It simplified the trade of goods and services and access to the most different kinds of information, thus adopting its own and particular features.

The number of network users in the country went on increasing. According to a Nielsen/Netratings survey (Table 1), in September 2004 the estimate of active Internet users in Brazilin was about 11,992,791 users for a estimated population in 2004 of 181,581,024, inhabitants (Table 2), according to the Instituto Brasileiro de Geografia e Estatística (IBGE[5]) numbers. This means that, at present, only 6.8% of the Brazilian population are benefiting from the possibilities provided by the Internet.

[2] IBASE – Brazilian Institute of Socio-Economic Analysis
[3] APC – Centralized Public Service
[4] RNP – National Network of Research

**Table 1.**

**Brazil: Average Web Usage**
**Month of September2004**
**Home Panel**

| | |
|---|---|
| Sessions/Visits Per Person | 24 |
| Domains Visited Per Person | 49 |
| PC Time Per Person | 25:10:13 |
| Duration of a Web Page Viewed | 00:00:59 |
| Active Digital Media Universe | 11,992,791 |
| Current Digital Media Universe Estimate | 19,311,854 |

Source: Nielsen/Netratings

**Table 2.**

| ESTIMATIVE OF THE RESIDENT POPULATION 07.01.2004 | |
|---|---|
| **BRASIL** | **181,581,024** |

Source: IBGE

This data shows the great paradox of Internet use in Brazil. Despite having a meaningful number of users in absolute terms, most of the country' s population still does not have access to the Web, whereas an important sector of this group has never really used the Internet.

## 5. History of Electronic Government in Brazil

Effective use of the World Wide Web by the government in Brazil started in 1993, when a few government agencies started having Internet sites. From this time on, the Federal Government expanded the number of sites, followed by some Brazilian states. However, most of these sites had only institutional information and a very limited number of services up to 1997.

[5] IBGE – Brazilian Institute of Geographic and Statistic

In 1998, even though a unique policy for the e-Government use had not been defined by the Federal Government, the Secretaria da Receita Federal (SFR[6]) started giving a new meaning to government relationships with the population through the Internet by enabling the annual income tax return through the Internet.

Thus, the Internet was being acknowledged as an important means of communication between governments and citizens. Soon afterwards, Federal Decree no. 2,594 was published in January 1999, which ratified this agreement and provided in Article 15 that:

*"Article 15. In the elaboration of normative bills of special political or social meaning, the basic text can be broadly disseminated, being also made available on the Internet or at public hearings, so that the interested agencies, entities or interested individuals to whom it is oriented to can send their suggestions."*

It is important to note that, even in a timid way, there was recognition of the importance of the Web as a mean to publish not just the laws, but also the bills that are still in evaluation by the congress, allowing the society to participate, on democrat bases, in discussions of Government affairs.

Following up the international trend of Internet use, in December of this same year, Fernando Henrique Cardoso, Brazil's president at that time, launched the Information Society Program. This program encompassed the federal government's definitions and strategies for the use of ICT by society and discussed the digital literacy characteristics.

The e-Government policy was institutionalized by the federal government after a comprehensive discussion process and after evaluating the objectives to be achieved. It began in 1999 and was completed in the following year, with the publication of the "Green Book"[7], a document that is considered a milestone for defining objectives and goals to be achieved through e-Government in Brazil. The Ministry of Science and

[6] SRF - Internal Revenue Service
[7] Download of the "Green Book" can be made in the site: http://www.socinfo.org.br/livro_verde/

Technology was in charge of its coordination in consultation with several technicians and experts, from Brazil and from abroad.

On October 18, 2000, the Federal Decree that created the Comitê Executivo do Governo Eletrônico (CEGE[8]) at the federal government level was published. In order to show the government's commitment with this group, the chairman of this committee was the Minister and Chief of Staff to the President.

According to the above mentioned decree, among other responsibilities, CEGE was responsible for:

- Coordinating and articulating the implementation of programs and projects to rationalize the purchase and use of the infra-structure, services and utilization of information and communication technology in the scope of the federal public administration:

- Establishing guidelines for the Ministries to formulate the annual plan of information and communication technology;

- Establishing guidelines and strategies for planning the provision of services and information through electronic media, for the agencies and organizations of the federal public administration;

- Defining patterns of quality for the forms of electronic interaction;

- Establishing levels of services for the provision of services and information by electronic media;

- Coordinating the implementation of mechanisms to rationalize spending and the allocation of costs in the use of information and communication technology resources, in the scope of the public federal administration.

[8] CEGE – E-Government Executive Committee

✍ Establishing guidelines, instructions and propositions to revise the pluriannual plan bills, budget guidelines and the annual budget, making the budget proposal for public and federal agencies related to investment resources and costs in information and communication technology.

The intention of the federal government was to create a unique structure of the e-Government program in order to obtain a greater efficiency in the use of the money available for this purpose and to achieve the desired goals.

From that time on, e-Government in Brazil has experienced an ongoing development process, encompassing several agencies of the three branches of the Republic and the three government levels, improving services and the available information.

## 6. Digital Democracy

One of the most interesting e-Government features is the possibility of social transformation through the control that the citizens can exert on the State's functions.

Even noticing that this aspect was not the main justification for implementing an e-Government program, as the initial objectives were to get better public services and information to the people in general, the reality of the Digital Democracy represents a very interesting perspective for the society.

The Brazilian Constitution, which was promulgated in 1988, much earlier than the diffusion of the Internet as an effective means of communication and even before the creation of any e-Government concept, in its Chapter on essential rights and guarantees, in Paragraph 33, article 5, states that:

"*XXXIII - all persons have the right to receive, from the public agencies, information of private interest to such persons, or of collective or general interest, which shall be provided within the period established by law, subject to liability, except for the information whose secrecy is essential to the security of society and of the State.*"

We can perceive that the dissemination of information of interest to society has always been a legislator's concern as it was included in the country's Magna Carta as a citizen's right and an essential guarantee to Brazilian Democracy.

Thus, with the rational and effective use of ICT, not only can data and information become quickly available to the population in a swift way, but also the access is simplified, even for those who live far from the major urban centers.

At this point, it is pertinent to bear in mind Chahin, Cunha, Knight and Pinto's standpoints. According to them "the perspective of generalizing the transparency guidelines with the creation of integrated channels for the citizen and civil society's access to information and administrative procedures is placed on the decision making process and on the government databank. On the other hand, the provision of information with quality, its updating and scope, presupposes the continuous production of its content, format and modulation to reach a vast and diversified audience, which requires the revision of the conventional mechanisms of public administration communication."

The authors highlight the transparency in the rendering of information and its scope of action, as a public administration tool and as an effective means for the social agents to control several government activities.

Hacker and van Dijk in *Digital Democracy* define this new idea as "a collection of attempts to practice democracy without the limits of time, space and other physical conditions, using ICT or Computer Mediated-Communication (CMC) instead, as an addition, not a replacement for traditional 'analogue' political practices."

Consequently, e-Government goes beyond its limited mission of speeding up and expanding the citizen's access to information and services, to play an important role as a mechanism for the population to control and supervise government actions.

Indeed, making means of an external control of governmental activities available to the citizens is a foundation of the modern politics and a basis in a new concept of democracy.

The intensive use of information and communication technologies has fostered the emergence of new theoretical concepts on democracy. In this sense, the expression "Electronic Democracy" has been used to describe the state/society relationship, whose implementation was based on this new reality.

Hagen in *A Typology of Electronic Democracy* says "An 'Electronic Democracy' is any democratic political system in which computers and computer networks are used to carry out crucial functions of the democratic process - such as information and communication, interest articulation and aggregation, and decision-making (both deliberation and voting)."

The idea of digital democracy has became so complex that the author also distinguish three different concepts of electronic democracy (Teledemocracy, Cyberdemocracy and Electronic Democratization) differing each in its assumptions about the use of direct or representative forms of democratic government and the quality in which the data and information is transmitted to the general public.

The interests of the authorities in Brazil have been proved effective with the implementation of this new concept. In the year 2000, when referring to corruption in the country, the former President Fernando Henrique Cardoso said: "I am convinced that the solution for the problem has to go through the radicalization of democracy, with the complete disclosure of information on public spending, so that society can follow-up the control of the results."

With this purpose, television channels have recently been created for the live transmission of the voting of bills in the House of Representatives and in the Federal Senate, as well as for the judgments of proceedings carried out in the plenary of the Federal Supreme Court. Therefore, each person can very closely follow-up and evaluate the activities being performed by the National Congress and by the Supreme Court.

Reinforcing this line of thought, President Luis Inácio Lula da Silva, in a trip to Gabão in July 2004 stated in his speech: "We are discussing ways to strengthen citizenship and improve the democratic institutions. The access to technological

advances shall be a right assured to all and not only to a few privileged individuals. Digital literacy has to be immediately encouraged."

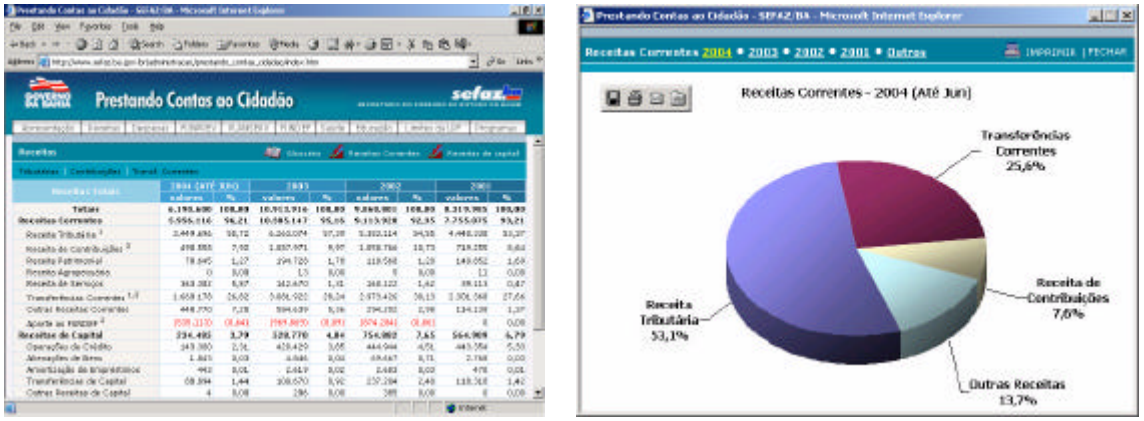
Several standards have been edited in Brazil, anticipating the administrators' obligation to disseminate reports on the Internet. Possibly the most emblematic of these laws is the Federal Complementary Law no. 101 of May 4, 2002, known as the Fiscal Responsibility Law, which has a chapter dedicated to deal with transparency, control and supervision, and which states in its Article 48 that:

*"Article 48. Instruments of fiscal management transparency, which shall be widely disclosed, even in electronic public media, include: plans, budgets, and budget framework laws; rendering of accounts and respective previous opinion; Summary Budget Execution Report and Fiscal Management Report; and the simplified versions of those documents.*

*Sole paragraph. Transparency shall also be ensured by encouraging public involvement and by holding public hearings during the preparation and discussion of the plans, budget framework laws, and budgets."*

As an example of the compliance of this legislation, two pages of the Internet home page of the Secretaria da Fazenda do Estado da Bahia, in which are published the budget of the state of Bahia, are shown below (Figure 1). Those pages were designed and written in order to make the consultation for regular people, who are not used to the technical terminology, easier.

**Figure 1.**




Site "Prestando Contas ao Cidadão" (http://www.sefaz.ba.gov.br)

As far as these new legal requirements are concerned, it is worth mentioning that they reflect a new era in Brazilian democracy, according to which the citizens are granted more power at different governmental levels.

It is important to highlight that e-Government reinforces democracy, since it enables any and all citizens, regardless of their social or educational status, the possibility of checking and controlling the state government activities. Moreover, they can also express their opinions on given decisions or bills that may or may not be considered pertinent.

However, some authors call the attention, in a very sensible and timely way, to a problem that arises together with the electronic democracy in developing countries and that could be the antithesis of its own meaning, namely the information and decision making processes being handled by the elite.

Thus, e-Government dissemination cannot be used only to broaden the means of access of public administration information and services to a layer of the population that is already equipped for this purpose, excluding from this process, the least privileged ones, both on educational and economical terms.

In this sense, Sérgio Amadeu da Silveira, president of the Instituto Nacional de Tecnologia da Informação (ITI[9]), stated in his article "The New Democracy Challenge in Brazilian Society" that: "Digital democracy is not fully-inclusive, in other words, people who are capable of deliberating on digital democracy are being excluded from it, for not having access to the Web. In this sense, e-Governments are also antidemocratic, for they are oriented to the minority. Therefore, information technology society poses a new problem for the democratic theory and practices, which are very similar in their presentation to the census and economic restraints of voting of the 19th century democracies; the digital divide is the new face of the old social and political exclusion."

Thus, although e-Government has become a new democracy tool, it is also clear that the development of an e-Government program is not enough by itself to ensure an in-depth penetration and transparency on the state actions to be achieved by society. Therefore, it is essential to find the solutions for overcoming the challenges in the dissemination of the access to e-Government benefits to all citizens.

## 7. Challenges

While this new tool of interaction between Society and State is being presented with ICT intensive use, other social economic and political obstacles also emerge. These have to be overcome, so that e-Government can be broadly implemented as a form of a democratic government policy.

### 7.1 E-Government Consolidation

Before making comments on any other challenge that the e-Government policy has to face, it is essential for the governments to envisage this kind of program as a social advancement priority, which is integrated with the best practices of state management being adopted.

Thus, there is more to be done than to simply define the priority. It is essential to clearly identify the human and material framework necessary to implement e-

[9] ITI - National Institute of Information Technology

Government, and if necessary, to consolidate this policy as the objective of performance of the public administration.

This specification does not necessary stem from the arrangement of the administrative agencies, but also from the personnel policy. It is essential to recruit people and to build their capacity in an appropriate way, so that there is a perfect integration between the interests to be achieved by the e-Government and the means for their achievement.

It is also necessary to seek an integrated action of the several governmental agencies in a single direction, with all defined goals and established aims for each specific area. Thus, the achieved results can be followed-up and evaluated in a quick and precise way, enabling the expansion of successful actions and the efficient correction of the activities that did not reach their expected objective.

It is important to search channels to exchange experiences within the same administration and among the several levels of government. In this way, it is possible to disseminate the problems found by each administration, thus avoiding the repetition of a mistake that had already been experienced by others. The successful achievement can be disseminated to be applied among the agencies that participate in this process of sharing experiences.

Moreover, even though the human structure and the integration of governmental agencies have been reached, the intensive use of information and communication technology also demands considerable financial resources. Therefore, an essential condition to ensure the implementation of an e-Government policy is to allocate the necessary resources in the government budget, according to previously defined priorities and requirements.

Finally, e-Government consolidation policy also requires the promotion and consolidation of partnership processes between the organized civil society and the several levels of government, mainly to disseminate technology, giving emphasis to the projects for expanding the access to the Internet and to improve the transparency of government actions.

**7.2 Digital Divide**

Undoubtedly, "Digital Divide" is one of the difficulties for implementing and developing an e-Government program. This problem can be describe as a lack of access of a great part of the population to information and communication technology resources, ranging from television and telephone up to the Internet.

Even in more developed countries, where the population in general has much easier access to information technology when compared to developing countries, this obstacle to an effective e-Government is still a challenge to be overcome.

In Brazil, Digital Divide is a huge obstacle, which demands an urgent government strategy to fight it because its persistence can represent a major source of delay for the country's development.

"Digital Divide" is so relevant for the program of implanting e-Government in Brazil that the "Green Book," published in September 2000, defined an essential e-Government standard:

*"In the Internet era, the government must promote the universalization of access and the growing use of the electronic information media, to generate an efficient and transparent administration throughout all levels. The creation and maintenance of equitable and universal citizen service are placed among the major public action initiatives. In the meantime, it is up to the political system to foster digital literacy policies, so that the technological leap can reach the human, ethical and economic dimensions. The so called 'Digital literacy' is a key element in this scenario."*

According to the above mentioned standard, having promptly acknowledged the limitations imposed by digital divide in the country, the Brazilian government proposed "digital literacy" as a basis to ensure that the technological advance does not surpass human advance, which would result in an innocuous government policy.

Right from the beginning, when one mentions digital divide, the first observation to bear in mind is that this problem does not originate from one or two causes, but from several ones. They can vary according to the different regions and countries all over the world. This paper aims at relating these causes and making comments on their characteristics and specificities.

However, although it may seem a paradox, this great challenge can also be seen as a great opportunity for Brazil to experience an overall growth. Since "Digital Divide" encompasses a great number and variety of people, well planned government actions are necessary to reach stimulating results, not only for the sake of digital divide, but also to trigger socioeconomic advances. Therefore, the development gap can be reduced in several Brazilian regions.

In the *e.gov.br – A Próxima Revolução Brasileira*, the authors observe: "There is still much to be done in Brazil in terms of digital literacy. The challenges are difficult and digital divide is very high among the excluded population, going beyond 100 million for a population that does not reach 180 million, regardless of the statistics and the estimate being used. We believe that digital literacy can be a bridge to narrow the social gap that separates regions and people in this country."

### 7.2.1 Access to the Internet

Thanks to its characteristics of efficiency, speed, and globalized scope of action, the Internet is undoubtedly the most suitable channel for disseminating government activities and complying with society's demands for quick information services provided with quality.

As shown before in Table 1, in September 2004, Brazil had about 11,992,791 effective users of Internet. That number may mislead the interpretation, because in absolute terms it is a significant quantity of people. However if the analyzes is made considering proportional numbers, the users represents only 6.8% of the entire Brazilian population.

Thus, one cannot effectively speak of e-Government without bearing in mind the great expansion process of public access to the World Wide Web.

Another challenge that the Government authorities have to be outcome is the low number of Brazilian cities with their own Internet providers. In 2000, IBGE found that only 1,262 of the 5,559 cities in Brazil or 22.7% of the municipalities had at least one Internet provider (Table 3).

**Table 3.**

| TABLE - MUNICIPALITIES AND INTERNET PROVIDERS | | |
|---|---|---|
| Brazilian Municipalities | Internet Providers | |
| | Yes | No |
| Total | 1,262 | 4,297 |

Source: IBGE

It is true that this number has been increasing. As years go by, the expectancy is that by late 2004, approximately 2,000 municipalities in the country will have their own service providers. However, this still means that most of the Brazilian cities will not have access to this service.

People of those cities that want use the Internet have to make a long-distance call to the closest provider, increasing the cost of using. In addiction, the fact that connection must be by telephone, reduces the quality and the speed.

In Brazil the telephone companies do not have especial prices for Internet connections calls. So, if the user does not have a high speed connection and has to go through the phone, the charges will be the same as a regular long-distance call, no matter the time of the connection.

The price of purchasing a personal computer is one more obstacle for expanding the Internet use in developing countries. Let's consider the sum of US$ 500 to buy equipment in Brazil with the necessary devices to make an Internet connection. According to the IBGE data, the per capita GDP in Brazil was approximately US$ 2,780 in 2003. In that way, the computer price corresponds to approximately 18.1% of the Brazilians mean annual compensation.

If it is considered that in the poorest regions of the country, the per capita GDP does not reach US$ 2,000, it is clear that, for most of the population of those areas, buying a personal computer is out of the question, making them completely dependent on the Government programs.

To cope with the difficulty of access to the Internet, the federal, state and local governments have adopted the policy of implanting computers connected to the Web in several communities, namely the "Telecenters." The centers allow the residents to use the computers in an organized way.

These agencies have a very peculiar management. Although the guidelines are specified by the government, society participation is vital in the decision making process. The result is a shared management, in which the users' opinion is an essential tool when it comes to making the decisions.

At this point, it is of interest to realize that one of the basic criteria for determination of which area will be chosen to participate on the program is the Human Development Index (HDI) by the United Nations. The lower the index, the greater the possibility of beeing listed for the Telecenters.

Nevertheless, some authors call attention to the conceptual difficulties regarding this type of solution for providing computer literacy. One of the reasons is that this proposal can only be effective in regions with a major population concentration. Therefore, in major urban centers, the implantation of Telecenters has shown very promising results in disseminating culture based on information technology.

In this way, it would be very difficult to help the population mass that lives far from the great urban centers, because the installation and maintenance costs would be too high for the number of people who could benefit from the Telecenters in these locations. As the distances in the rural areas are considerable, it would be necessary to install a great number of these agencies in order to reach all the people.

Another challenge to be overcome is the need of financial resources to bear all the expenses. To install the Telecenters is not enough. It is important to anticipate the necessary mechanisms to ensure the continuity of these centers throughout time.

One of the costs to be anticipated in the budget of these centers is the one that refers to the use of a computer park. As it is well known, computer equipment has a limited useful life, which means that they have to be replaced after four to five years of use. Thus, if the number of Telecenters is very big, the number of new computers to be bought to up-date the centers will be proportionally large.

Other costs also have to be considered. It is important to remember that for Telecenter to be an effective mean to reduce the digital divide, the hardware is not the only need. The government has to pay for connections fees and training programs for the users and the instructors. Those costs can get to be a considerable amount, especially for a country with high social demands as Brazil.

### 7.2.2. Level of Education

The low schooling level of its population is a major obstacle for the implantation of the popular participation concept through the intensive use of technology in Brazil. According to the IBGE data (Table 4), out of the 153,486,617 inhabitants in Brazil by late 2000, 57,382,270 had completed up to 3 years of formal schooling, which represents 37,4% of the population, including in this group the 25,951,324 inhabitants who had less than a year of schooling.

**Table 4.**

| DEMOGRAPHIC SENSUS - 2000 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| PEOPLE 5 YEARS OR OLDER, BY GROUPS OF YEARS OF SCHOOLING - BRASIL | | | | | | | | |
| Population | Total | Groups of Years of Schooling | | | | | | |
| | | No instruction or less than 1 year | 1 to 3 years | 4 to 7 years | 8 to 10 years | 11 to 14 years | 15 years or more | Not determinate |
| Total | 153,486,617 | 25,951,324 | 31,430,946 | 46,979,147 | 21,034,423 | 20,957,396 | 5,911,119 | 1,222,262 |

Source: IBGE

The aim of this paper is not to evaluate the level of schooling at schools. However it is necessary to stress that it may be very low among those who only attended public school in Brazil. Often the grades they are attending do not correspond to their level of schooling. In Brazil this fact is called "functional illiteracy." In other words, those who fit into this definition are not qualified to perform their daily activities properly.

Thus, it seems incoherent to propose the implementation of an e-Government program as an instrument to improve democracy or merely to simplify citizens' lives by providing more information and services through the use of the Internet, when a great number of the country's population, even though interested, would not have the basic conditions or knowledge to access what is being offered to them.

This paper does not propose a stagnation or reduction of the e-Government process. On the contrary, its aim is to stress that schooling is essential to reach the desired results. Thus, rather than taking into consideration an e-Government involution process, it should be seen as a challenge to encourage the State to invest more on education as a means of equipping its citizens with the necessary means for the country's social transformation.

### 7.3 Infrastructure

The size and geographic characteristics of a country as big as Brazil is another obstacle to be overcome, for a better dissemination of government services through the Internet.

Communities located far away from the major population and financial centers are not commercially attractive for major information technology companies, so the burden of providing the necessary means to integrate a network infra-structure to enable their connection to the Web is transferred to the government.

In some Brazilian cities, conventional telephone services are still reduced to a very limited number of available lines, which makes the commercial use of the Internet in these locations almost impossible.

The technology to integrate these distant points in Brazil is already known. However the costs are very high, especially when taking into consideration that resources for implementing an e-Government program are scarce, and that the number of people to benefit from it would be limited when compared to other initiatives that are underway.

During the privatization process of the Brazilian convention and mobile telephone services, Law no. 9,998 of 08/17/2000 established the obligation for successful bidders to allocate part of their billing (1.0%) to a capital fund for the government to disseminate the use of information and communication technology all over Brazil.

This fund is called Fundo de Universalização dos Serviços de Telecomunicações (FUST[10]) and it encompasses other financial sources that are listed in article 5 of the referred law. However, despite being established in the year 2000, the federal government has not made significant investments with this sum. Studies are still being developed to find the best way of reaching the desired objectives with this budget allocation.

*"Art 5. FUST resources will be invested in programs, projects and activities that are consonant with the general plan of goals for the universalization of telecommunication services or their expansions, it will encompass the following objectives, amongst others:*

*I – serve locations with less than 100 inhabitants;*

*II – vetoed[11];*

*III – complementation of the goals established in the General Plan for the Universalization of goals to attend low-income communities;*

[10] FUST – Universal Telecommunication Service Fund
[11] In Brazil, the President has "line-item veto authority"

*IV – implementation of individual accesses for the provision of telephone services under favorable conditions to schools, libraries and health services;*

*V – implementation of accesses for the use of digital information network services oriented to public access, including the Internet under favorable conditions to health services;*

*VI – implementation of accesses for the use of a digital network of information oriented to public access, including the Internet, under favorable conditions, to schools and libraries, including the terminal equipment for users' operation;*

*VII – reduction in telecommunication service bills at schools and libraries for the use of a digital network of information services oriented to the public access, including the Internet, so that the percentage of establishments attended by low income population is higher, according to regulation of the Executive Branch;*

*VIII – installation of high speed networks, oriented to the exchange of signals and to the implementation of teleconference services between the teaching establishments and libraries;*

*IX – service to remote areas and to strategic interest frontiers;*

*X – implantation of individual access for public security agencies;*

*XI – implantation of telecommunication services at public service, civil or military units, located at remote points on the national territory;*

*XII – supply of individual accesses and interface equipment to institutions that care for the disabled;*

*XIII – supply of individual accesses and interface equipment to the needy disabled;*

*XIV – rural telephone services implantation*

*Paragraph 1. As each year ended, at least 30% of the FUST resources will be invested in programs, projects and activities carried out by the operator of Fixed Line Services – STFC in the areas encompassed by Sudam[12] and Sudene[13].*

*Paragraph 2. Out of the total of the FUST resources, 18%, at most, will be used in public teaching establishments.*

*Paragraph 3. The service to the disabled will be a priority in the use of the FUST resources.*

[12] Sudam – Superintendence for the Development of the Amazon
[13] Sudene – Superintendence for the Development of the Northeast

From what was described above, it is possible to infer that this fund was created with the main objective of disseminating the use of ICT among low income populations at public schools, and also to provide access to this technology to the several regions of the country, especially the poorer and more remote ones.

At present, the debate on how and when the available FUST resources will be used has been intense among several streams of thought. Some experts insist on the creation of community centers for Internet use in major urban centers, while others reinforce the government need of supplying access to the World Wide Web, especially to the poorest and most remote locations, making the Internet available to this layer of the population.

### 7.4 Lack of standardization

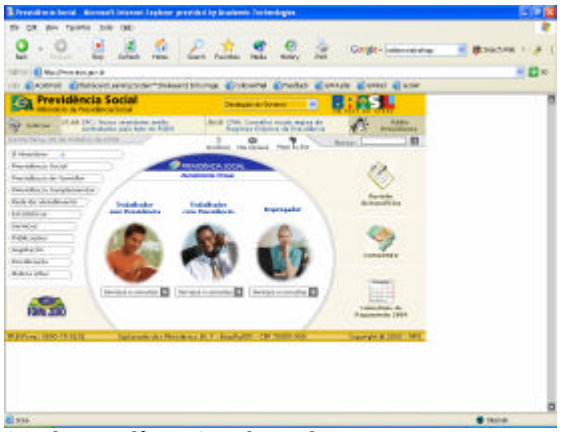
In the year 2001, the Federação das Indústrias do Estado do Rio de Janeiro (FIRJAN[14]) carried out a comparative quality survey among the state government portals on the Internet. From this date up to now, meaningful improvements can be felt, and also all the 27 states of Brazil have their portals for the access of services and information.

However, one of the problems that were identified in this survey still remains: the lack of visual identity and main accessibility pattern among the several sites within the same state. Thus, although the states have a central portal to provide their several services, the forms of accessing them can be very different.

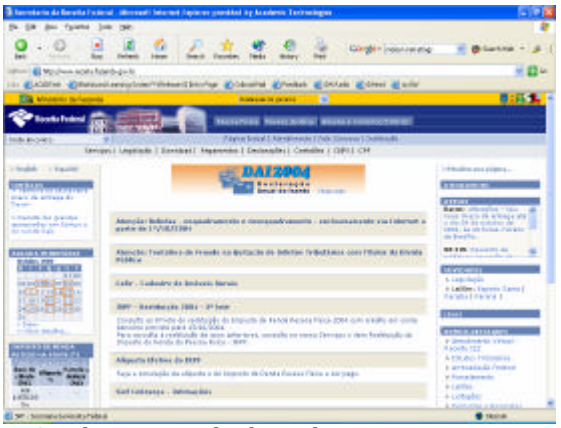
Unfortunately, this problem is also experienced at the federal level. One can perceive by the graphic arrangement of the pages below (Figure 2) that even though all of them have been developed and supported by the Federal Government, the ways of locating the available services are very different, making the access more difficult for the users who need to access services from several government agencies.

[14] FIRJAN – Federation of Industries of the State of Rio de Janeiro

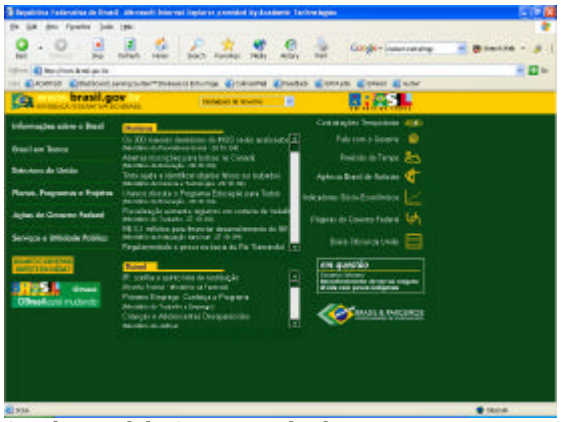
**Figure 2.**



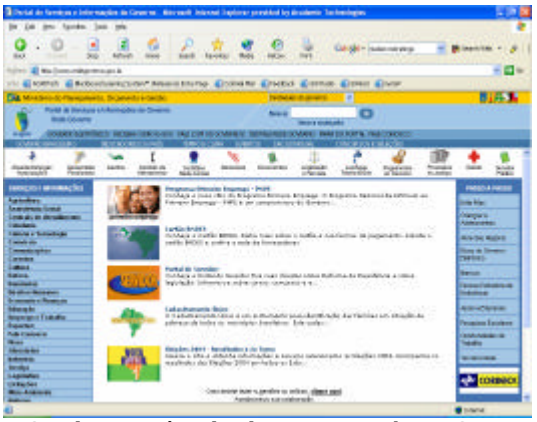
Site da Previdência Social Brasileira
(http://www.inss.gov.br)



Site da Receita Federal Brasileira
(http://www.receita.fazenda.gov.br)



Site do Portal do Governo Federal
(http://www.brasil.gov.br)



Site do Ministério do Planejamento sobre E-Gov
(http://www.redegoverno.gov.br)

This lack of standardization makes the use of the government sites less friendly, and forces the user to remain connected to the Internet for longer periods of time, searching for desired information and services. This lack can be extremely negative if the access is through dial up connections, and even worse when the connection is established through long distance calls.

### 7.5 Structure by departments

Another difficulty is that the Brazilian government sites on the Internet are divided by departments, displaying the same functional structure of the agencies they belong to. Thus, the citizen needs to access several different sites, or even government portals to meet the desired goal.

At present, the governments that show more concerns of the citizens' demands are organizing their homepages on the Internet with "life situations."

Information and services are placed at the population's disposal in an integrated and complete way, regardless of whose departments are in charge of them. The ordinary person does not need to know how government is being structured to get a service, as long as the services are accessible in a logical sequence.

Another possibility is that the government pages can also have links to the private pages of profitable or non-profitable organizations.

As an example, it is possible to see what can happen with someone interested in a simple action such as buying a car. The person goes to the government portal and can link with private companies' home page that sells new or used cars. At that point, with the selection made, it is possible to go back to the government site and find out what documents are necessary to buy the car and what tax and fees have to be paid.

Tourism is an industry that has being greatly benefited from this idea. Nowadays, it is usual to go to an official Government site and see what the main attractions of a region, to find the directions to those attractions and the closest hotel to each one.

## 7.6 Interoperability

Nowadays, Brazil can rely on important advances in its e-Government policy. Several government agencies have their sites on the Internet and are constantly discussing the best way to develop this program. On one hand, this means that some citizens have effective access channels to information and public services with the use of information and communication technology. On the other, growth from now on will be even more difficult and will depend on more resources, whether material or human.

Data Interoperability is an advantage that can provide considerable improvement in e-Government quality among the several agencies of public administration at the three government levels.

One of the characteristics of this interoperability is that the government computerized systems can access data stored at several data banks in a logical and structured way. Thus, for the provision of a given public service, with stages under the responsibility of more than one state agency, the intervention of two independent information technology systems would not be necessary, since only one would be responsible for carrying out the whole data integration to complete the service.

With this solution the citizens do not have to go to several places and government agencies for the provision of services. All they have to do is to go to the government agency responsible for gathering all the necessary information that is stored in the electronic files of the several government levels.

However, this integration level can be extremely complex and expensive, and it depends on a clear definition of the governments involved in giving priority to this action. It is important to keep in mind that the government's actual database has to be adapted to comply with the interoperability requirements.

The federal government has already started carrying out this task. Since 2003, the Ministry of Science and Technology has been developing the "e-ping" project[15], whose aim is to establish criteria for the development of systems and data storage, so as to enable the consultation of electronic information by the several governmental levels.

### 7.7 Information Up-dating

In order not to affect the credibility in the use of the government pages on the Internet, it is necessary to continuously update the available information and services.

In the annex we can see the price list of cooking gas available in August 2004, on the e-Government site of the Ministry of Planning, Budget and Management. The values refer to September 2002 and were completely outdated on the date of the inquiry, in October, 2004.

[15] Detailed information can be seen in the site: http://www.eping.e.gov.br

Outdated information is a known problem for the managers, but, even than, not successfully solved. It is still possible when browsing in a Government site, to find data that is completely obsolete.

Generally, this obsolescence occurs because the site managers are not familiar with the particulars of the available services and information. Thus, their role is to demand that application managers constantly update the information. Since the quantity of services and information at the portals is too vast and encompasses a large group of departments, its maintenance is highly complex.

This problem can become even worse because with the dynamics of the changes in legislation, it is not possible to anticipate when an information will or will not be outdated. Thus, it is necessary to keep constantly in touch with the ones responsible for the data to be accessed, for them to check and correct the ones that are not suitable.

Another possible drawback is that for organizational reasons, some information can be under the responsibility of more than one area, or even worst, sometimes there is no agency dedicated to manage this data.

Since this activity is essentially based on procedures, inconsistencies arise and can remain online on the government communication channels for a considerable time.

In order to contextualize the competence conflict outlined above, it is possible to make a parallel between what occurs on the Internet, with the government Call Center services. In general, Call Centers attendants access information recorded on scripts. They do not have the knowledge, or even the permission, to change them, and therefore, they also depend on their updating, which has to be carried out by application managers.

Thus, it is essential that whenever there are information changes, they have to be immediately transmitted to the ones who are capable of updating them on the sites, so that citizens do not get wrong answers to their inquiries.

Besides the problem of outdated or mistaken information available on the sites, there is also the problem commonly known as "broken link." This problem when there is a link on the government's homepage that cannot be accessed and a message that the page cannot be found is displayed. It is a highly unpleasant situation for the users, besides discrediting the government's page.

Site managers ought to implement a continuous checking policy to control everything that is available on their page, and thus, information and links that do not belong to their administration would benefit from this measure.

### 7.8 Answers to "Contact Us"

The users often make remarks on the responsibilities of several government levels, defining and following-up the e-Government policy. Therefore it is extremely important for the citizens to rely on the services and information placed at their disposal in obtaining the expected results.

The citizens' communication channels have to be extremely effective. The "Contact Us" is an option for them to send messages through government sites when they have doubts or when they want to make suggestions, compliments or denouncements.

Concerned with the relevance of this service, the Federal Government established, through the CEGE, Resolution no. 7 of 07/29/02, that the messages received by any federal government agency, when deemed proper, must be answered back within five business days at most. Thus, the citizen's right of having the most diverse kinds of information would be complied with.

However, this objective has not been fully complied by the federal government structure. Quiet often, the answers are only sent after the five-day period previously established or even worse, many of them are not even answered.

That policy should apply to all communication channels and not only of the Internet. Thus, public agencies with Call Centers, where trained attendants answer

citizens' phone calls would also have to be engaged in answering the users who have forwarded doubts, denouncements or complaints. This also relates to messages sent by mail or facsimile.

This prompt service to the citizens' request complies with the Brazilian legislation expressed in the Federal Constitution, as it has been shown. Moreover, it reflects democracy's effective principle, transforming e-Government into a social inclusion tool.

**7.9 Administrative Continuity**

Since e-Government policy is defined by public administration high echelons, its administrative continuity is essential to ensure the maintenance of the advances that have been achieved.

This concern must be effective for when a new government takes office, an emblematic characteristic of democracies. However, the idea of loss or interruption of actions and projects that were being carried out by the former government is unacceptable.

When the differences in government philosophy from one administration to the other are outstanding, it is important to be even more careful. The results to be reached at short and medium term in the information and communication technology area depend, above all, on planning and actions that had started months or even years before.

Lack of continuation was clearly experienced when the staff of the President Fernando Henrique Cardoso left and president Luis Inácio Lula da Silva took office in early 2002.

In an interview published on the site of the "Electronic-Government – Citizen Service – GESAC (www.gesac.gov.br)" Program in january/04, its present manager, Antonio Albuquerque, when asked about the major initial difficulties that were found for carrying or the Program stated "we had several difficulties originating from a series of mistakes that were made by the previous government in the Program during its

specification and bidding stages. This program was interrupted in January/03 and spent four months being restructured. There were moments when the present government staff even thought about canceling it. However, with considerable effort, throughout the first semester, the difficulties were gradually overcome."

The continuity being proposed does not state that the change of power is an obstacle to the country's growth, or that it imposes limitations to governmental decisions that aim to correct its direction. It calls attention to avoid, at each transfer of power, a new start of an e-Government policy, rejecting planning and investments that were made, which would delay the outreach of the expected results.

**7.10 Evaluation of the challenges**

In the chapter about information gaps between the different groups of people in the book "Digital Democracy," van Dijk says "First of all, we have to give sufficient evidence of not only an existing but also an increasing gap in types of access between different kinds of people. We can look at their age, education, income, sex, ethnicity and country or region of origin. This has to be done because knowledge gaps, information gaps and usage gaps have always existed among people, at least since the invention of writing and perhaps even since the first primitive division of labor."

Based on these mentioned challenges, one can perceive that to make e-Government in Brazil totally effective is not an easy task, nor that it will be reached in a short period of time. Quite the opposite, these challenges are definitely a permanent development policy that has to be recreated daily, owing to its intrinsic characteristics, and the new ways and opportunities that are always being presented.

In order to overcome these obstacles, Brazil needs to find the solution for the structural problems of a society with high inequality degree and low educational level of a great part of its population. Only then can it be said that the country has implemented e-Government for its citizens, and that they all have easy channels to contact the public administration and to supervise the state activities.

Because of it's peculiar reality, Brazil has to find its own path to achieve a real implementation of an e-Government program. More than just lack of money to support this idea, the country needs a different policy that meets the effective needs of the society, considering the characteristics of each group. The Internet is not going to be a panacea of public administration transparency and accountability in a country that has about 17% of its population illiterate.

**8. Other means of implementing e-Government**

At present, many people in Brazil associate e-Government only with services and information available on the Internet. Although the papers and technical conferences on this area center basically on the Web, the reality it is quite different.

The e-Government scope has to be vaster than simply the Internet, when taking into considerations the challenges that were reported for the expansion of its use in Brazil - other communication media have to be integrated, such as telephone, post office and even the Integrated Centers for the citizens' services, which will be further approached in this paper.

As it was previously mentioned, although the Internet is the preferred channel to make information and public services available, it is not the only communication means for public administrations to provide their services.

As a parallel, Brazil has one of the most advanced bank information technologies in the world. Several kinds of bank transactions can be carried out through the Internet, so that customers will not have to go to a bank branch.

However, these private banks are still investing considerable sums in the maintenance and improvement of their Call Center structures. Many of the clients, the ones who fit into the digital divide group or other ones, would rather use the telephone to perform their bank operations.

Thus, despite the high sums that the financial institutions invest to simplify the Internet users' life, integrating an increasing number of services through this media, the

Call Center's structures are being expanded, since there is still an active demand from the bank clients. There are also many people who still go to the bank to make deposits, pay their bills and transfer money, etc.

Banco do Brasil, the largest Brazilian commercial bank will be opening, late this year, a new Call Center facility with more than 3,000 associates to attend the growing demand of this kind of service.

This example of the real situation of the Brazilian financial institutions shows that providing a large number of information and services to the population through the Internet does not leave aside the need of maintaining other proper structures to meet the individuals' needs.

Although the bank example stems from the private initiative, it must be taken into consideration in specifying an e-Government policy. Different from those institutions, the public administration cannot impose restrictions of economic or social nature in the selection of its users, since a great part of the Brazilian population fits into the population group that experiences more difficulties in using the Internet.

What is happening in Ministère de Revenu de Québec[16] is another example that the Electronic Government policy has to be broader than just improving the use of the Internet.

Although the Canadian portals in the Internet are listed among the most developed and best structured ones for navigating and obtaining the desired services, and despite being organized based on the daily life of the common citizens, the other forms of service, such as call centers, mail and a client's physical presence in the offices of the province's Ministère de Revenu are still meaningful.

Despite the fact that the annual income tax return can be made through the Internet since 1997, until June of this year, 55% of the tax payers preferred to turn in the information by paper[17].

[16] Ministry of Revenue of the Province of Quebec (Canada)
[17] Report from the Ministry of Revenue of the Province of Quebec (Canada)

The same report shows that, although the most frequently answered questions are available in the Internet; a great part of the province population still uses the telephone. To face that demand, the Ministère keep a Call Center with 550 attendants.

Concerning the need of maintaining other e-Government access channels separated from the Internet sole and exclusive use, it is worth mentioning the great change in the paradigm of the Brazilian reality with the implementation of the so called Integrated Services Centers.

Created at first by Bahia State Government in 1995, with the name of Serviço de Atendimento ao Cidadão (SAC[18]), these centers offer several kinds of services in the same location, bringing together services of federal, state and local agencies as well as of the three branches.

The location of these service centers is essential to reach the desired objectives, since the cost of transportation is an important issue when taking into consideration the availability of services for the poorest social classes of the country.

Thus, it is important to those centers to be located close to commercial centers or other places with easy access to public transportation.

In the state of Bahia, nowadays, there are 25 agencies of SAC. Eight of them are in Salvador, the state capital and largest city. There are, also, two mobile unities that were built on trucks and goes, all around the year, to the small communities without a regular office.

As this initiative was a great success, others Integrated Services Centers were implemented in other Brazilian states and municipalities. Each one received a new name, but follows the same philosophy. In São Paulo state it is called “Poupa Tempo” (Time Saver), in Rio de Janeiro state is called “Rio Fácil” (Easy Rio) and in the city of

[18] SAC – Citizen Assistant Service Centers

Curitiba, capital of the south state of Paraná the name is “Ruas da Cidadania” (Citizenship Streets).

From January to May 2004, the Bahia SAC provided more than 2,654,743 services in the capital city and 2,111,332 services in the inland.

Some of the services provided in these centers are not available through the Internet. Moreover, at these centers it is possible to get the essential documents for all citizens, such as the identity card, the work permit and the voter’s registration card.

From January 2001 to June 2004, the SAC supplied 1,961,649 identity cards, which is the document that grants the personal identification for the citizen to carry out all the civil life actions. This sum represents an average of more than five hundred thousand identity cards being handed out per year.

Before the implantation of the SAC in 1995, people who lived in Salvador had to go to a single place to get their identity card. They had to stand in long lines and were offered low quality services. Moreover, the identity card was not given to them on the same day, so they had do go back one more day just to pick them up.

As an acknowledgment of the relevance of services of the Integrated Service Centers in the improvement of services to its citizens, The United Nations granted the Public Service Award to the Government of Bahia in June, 23rd.

Even though many obstacles have already been surpassed and e-Government has expanded its scope of action towards the use of the Integrated Service Centers, the citizens may need, or simply opt for other means of interaction with the public administration, and the most obvious form of recognized the democratic rights it to supply this demand.

## 9. Case of The State of Bahia Secretariat of Finance

### 9.1 History

According to its history and legal activity, The Secretaria da Fazenda do Estado da Bahia (SEFAZ[19]) has always provided a great number of services to taxpayers, accountants and to the general public. However, its officials perceived that the services that were being provided had to be improved to follow-up the quality demanded by its users.

Thus, by late 2000, at a high level organization meeting, the senior administration decided that one of Secretariat's three strategic goals would be to improve public service quality, resorting to the intensive use of information and communication technology as one of the pillars to reach the desired results.

In April of the following year, the Diretoria de Atendimento (DIRAT[20]) was created. Its main task was to establish a philosophy of global service, whose aim was to simplify and, above all, to meet the needs of those who used SEFAZ's services.

However, DIRAT was not the only responsible department for improving the quality of the services being provided. The whole organization felt that this was a very broad aim and it was necessary to rely on the effort of all the areas. This became a reality and the desired results were achieved.

### 9.2 First Actions

The first action was to make the distinction between the physical and remote (Internet, Call Center, fax) services, defining specific programs for each one of these areas, without losing track of the need of establishing a common philosophy.

In terms of physical presence, it was necessary to become familiar with the Secretariat's main difficulties in the provision of services. With this purpose, a

[19] SEFAZ – State of Bahia Secretariat of Finance
[20] DIRAT – Board of Directors for Customer Services

comprehensive satisfaction survey was conducted with the users, to identify the main topics to be worked on to improve the provision of services.

Based on the results of the survey, a program that encompassed several measures to reach the desired goal was elaborated. A survey of the number of services that were provided in each one of the offices of the Secretariat was made, and the following steps were adopted: recalculation of the number of attendant offices; hiring and building the capacity of the personnel to provide the service, purchase and distribution of IT equipment, and facilities renovation, with the purchase of new furniture for customer service.

Another important measure was the institutional use of the Procedimentos e Rotinas Informatizadas (PRI[21]). This tool enabled the standardization of the procedures throughout all the Secretariat's offices, avoiding different requirements for each unit.

The priority for the remote services was the structuring of a Call Center to make and receive calls, and the redesign of the Sefaz site, qualifying it to meet the new needs that would come up.

And those needs soon came up with the launching of the 100% Internet Program, anticipating that all the services provided through the Secretariat's offices would be made available through the Internet. This measure enabled Sefaz to move from seven kinds of Internet services in January, 2001 to 91 in 2003, namely a 1,200% increase in only three years.

### 9.3 Consolidation

The first actions performed were highly efficient and increased the level of quality of the organization service. However, they were not enough. Other measures were then adopted to increase the customers' level of satisfaction.

[21] PRI – Computerized Procedures and Routines

Among other initiatives, the Secretariat purchased a software that makes it possible to follow-up on the waiting time and on the customer service time, as well as to check the highest demand of services. With this software the performance of each attendant can also be observed and the lines can be checked with electronic passwords.

This information can be assessed on the organization's corporate network, so that it can be visualized at places far away from the location where the services are being provided for.

This system was able to identify the obligations that required a major service and did not bring meaningful results to SEFAZ. Thus, they were no longer required, which reduced bureaucracy and the demand of physical services.

Computers were placed at the taxpayers' disposal at every one of the Secretariat's offices. To improve the effectiveness of using them, officials were trained to help in the provision of these services. The intention is not to change the direction of the waiting lines towards the computers, but to disseminate a new culture of computer use, even for those who had not previously being exposed to them, so that they can use the services at their office or at home.

In order to foster a more transparent follow-up, as well as to plan the necessary time for the offices services, the Secretariat has made available an on-line inquiry to monitor the service status. The users can then check the number of people that are waiting to be served before leaving their home or office.

In the remote service field, besides the services available on the Internet, emphasis was also placed on the service to clear users' doubts, forwarded through the "Contact us" channel. The goal is to answer the messages in two business days, establishing a credibility relationship with those who use this tool.

In order to guarantee more comfort to those who need to go to a office, it was defined that some services can only be requested via Internet, thus meaningfully reducing the demand of the physical attendance.

The Call Center has also expanded the available services and has answered a growing number of users. Recently, a joint solution of Contact Center and Custom Relation Management (CRM) was implemented, one of the most modern technologies available, which has enabled a management system that is more attentive to its users' needs.

Thus, it is possible to identify the users that make calls to the Contact Center and the issues that are dealt with, so that the managers can draw a profile of the services performed, to automate and develop improvement actions for major demands.

This solution also enabled the implantation of the Automated Unit Response, making available a 24 hours service seven days a week, besides having expanded the Call Center's capacity without increasing the number of officials that work in the area.

### 9.4 Results

The taxpayers who want to issue invoice books must first request the Autorização para Impressão de Documentos Fiscais (AIDF[22]), which represented approximately 22% of the total of the physical services provided at the Secretariat's offices. Up to late 2002, only 13% of these permits were granted through the Internet. At present, approximately 86% of the AIDF requests are performed through the Web, showing an extremely meaningful advance in the use of this tool.

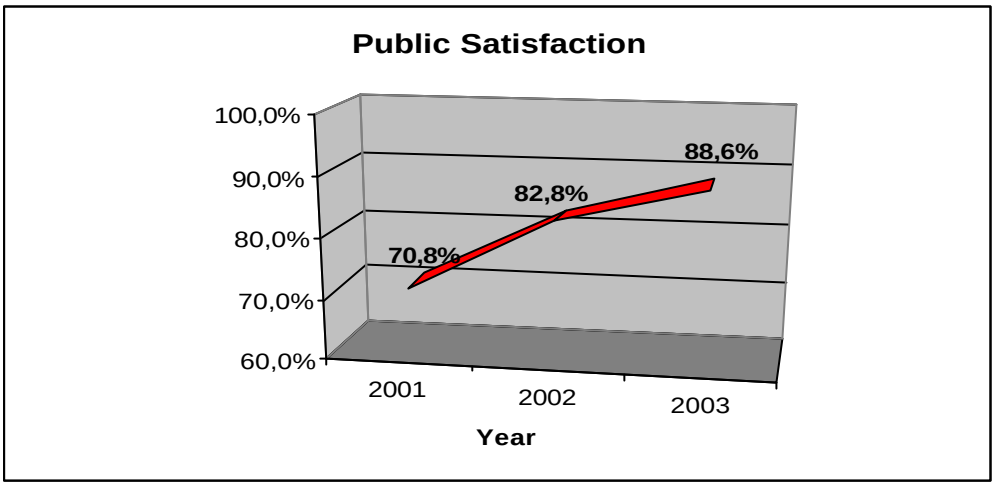
The SEFAZ Call Center received 139,441 calls in the last six months, answering questions about legislation and other subjects, showing that there is a great demand for this service by the public.

Tax payers and accountants that have to go to one of the SEFAZ's offices all around the State of Bahia, have to wait only up to four minutes to be attendant, instead of more than twenty minutes that were required before these actions were taken.

[22] AIDF – Permission to Print Tax Documents

This program enabled the Secretariat of Finances to reach the results beyond its expectation. Thus, the users' general satisfaction level in terms of physical presence, measured by a survey conducted by the Federal University of Bahia, presents a growth curve from 70,8% in 2001 to 88,6% in 2003 (graph 1).

**Graph 1.**




Source: Universidade Federal da Bahia

## 10. Conclusion

Summing up, the use of information and communication technology by governments has become a reality, which presents an ongoing growth trend.

The reason is not only because it simplifies the public's access to services and public administration information, but also because it has become an effective tool for encouraging citizenship, democracy and transparency in the public assets management. E-Government has become a true cultural change in societies, making the population come closer to their authorities.

Thanks to its intrinsic features, the Internet has become e-Government's main interaction media, as well as being responsible for a complete change in the level of services provided through this new concept. However, despite its meaningful advances with the intensive use of information and communication technology, it cannot be considered the only form of relationship between public administration and society.

Undoubtedly, at present, the Internet is the main interaction means between the involved parties and a suitable tool to make information and services more and more available.

This paper has approached the "digital divide" and the difficulties to be overcome in building a bridge that will enable the access of the poorest population to the globalized world of the World Wide Web. Therefore, it is necessary to study, implement or improve other communication media between the government and the needy population, with the intensive use of Information Technology, so that e-Government is not characterized as one more mechanism to benefit those who have a better financial status and higher schooling level.

Thus, it is necessary to insert e-Government into a broader scope, taking the technological advances to all the areas of government interaction with citizens. The physical service also has to be involved in this continuous improvement environment, by using Information Technology, so that all, without any exception, can benefit from this new world.

Considering e-Government as a broader action than just increasing the use of Internet is a policy change that has to be made by the Brazilian Government. In the "Green Book", that established the philosophy of an Information Society, there is a chapter which discuss how to deliver more services to the Brazilian citizens[23] and the only mentioned mean to do it is the Internet.

In developing countries like Brazil, there is still plenty of space for making information and public services available by regular and mobile telephone as well as by the use of mail and radio. It is also possible to get more intelligent solutions in the Integrate Services Centers.

It is important to make it clear that use of other information and communication technologies does not mean the stagnation of the democratization projects of access to

[23] Chapter 3 of the "Green Book"

the Internet, which must go on being considered a priority at the several government levels; rather, the awareness means that a meaningful part of the population is still not familiar with this media.

# ANNEX

*Levantamento de Preços - GLP*

*Salvador - BA*

*Dados : 12 e 13 de setembro de 2002*

| Razão Social | Bairro | Distribuidora | Preço Consumidor | Preço Distribuição |
|---|---|---|---|---|
| | | | R$/ botijão de 13 kg | |
| EDILMAR ANDRADE PASSOS | FAZENDA COUTOS I | | 21,99 | |
| BATISTA BEZERRA COM.MAT.CONST.LTDA. | PARIPE | AGIPLIQUIGAS | 22,00 | 18,50 |
| REJARGAS COM ACESS BOTIJAO DE GAS LTDA | PARIPE | NACIONAL GAS BUTANO | 22,00 | 19,70 |
| EUNICE SILVA RORIZ CARVALHO SANTOS | PLATAFORMA | AGIPLIQUIGAS | 22,50 | 17,15 |
| FERGAS COM DE GAS DE COZINHA LTDA | PERIPERI | AGIPLIQUIGAS | 22,50 | 17,93 |
| GERSON SANTOS BARBOSA | FAZENDA COUTO III | ULTRAGAZ | 22,50 | 18,00 |
| NC COM DE MAT DE C. E FAB L PRE LTD | TERREO PARIPE | ULTRAGAZ | 22,50 | 18,00 |
| GILSON FREITAS SANTOS | ENG. V. BROTAS | ULTRAGAZ | 22,70 | 19,50 |
| ANJOS E MOTA LTDA | PLATAFORMA | ULTRAGAZ | 22,90 | 19,00 |
| LUCINEIDE MAGALHAES DE SOUZA | MATATU | AGIPLIQUIGAS | 23,00 | 17,00 |
| ROBERIO SANTOS SOUZA ME. | ALTO DA TEREZINHA | AGIPLIQUIGAS | 23,00 | 17,78 |
| EDSON OLIVEIRA SANTOS | LOBATO | ULTRAGAZ | 23,00 | 18,50 |
| CLAUDIO ISRAEL PINHO DA SILVA | PERIPERI | ULTRAGAZ | 23,00 | 18,50 |
| SUSSURGAS | SUSSUARANA | ULTRAGAZ | 23,00 | 18,70 |
| H L GAS LTDA | PARIPE | ULTRAGAZ | 23,00 | 19,50 |
| MERCANTIL COMERCIO DE GAS LTDA | ALTO DO CABRITO | | 23,00 | |
| GLP DISTRIBUIDORA DE GAS LTDA | JD.ELDORA | | 23,00 | |
| JORGE MOURA DA SILVA FILHO | TANCREDO NEVES | | 23,00 | |
| ENERGIG DISTRIBUIDORA LTDA | VASCO DA GAMA | AGIPLIQUIGAS | 23,50 | 17,00 |
| EDUREI COMERC. E REVENDA LTDA | LIBERDADE | AGIPLIQUIGAS | 23,50 | 17,00 |
| THEREZINHA BARRETO SAMPAIO | STA. MONICA / IAPI | AGIPLIQUIGAS | 23,50 | 18,50 |
| POSTO LIGUE GAS | VASCO DA GAMA | ULTRAGAZ | 23,50 | 19,50 |
| GEORGE UILTON PEREIRA DOS SANTOS | B. DA PAZ | | 23,50 | |
| TEMGAS COMERCIO E REVENDA DE GLP LTDA | ITAPUAN | | 23,50 | |
| SUELI BENTES HUGHES PENNELLA | PARIPE | | 23,50 | |
| DIVA MARIA BENTES HUGHES FARIAS | PRAIA GRANDE | | 23,50 | |
| MAVIKEL RIBEIRA | ITAPAGIPE | AGIPLIQUIGAS | 23,70 | 17,00 |
| MAVIKEL COM. E REPRESENTACOES LTDA | URUGUAI | AGIPLIQUIGAS | 23,70 | 17,00 |
| MAVIKEL COM. E REPRESENTACOES LTDA | URUGUAI | AGIPLIQUIGAS | 23,70 | 17,00 |
| POSTO BONFIM GAS | VASCO DA GAMA | AGIPLIQUIGAS | 23,70 | 17,00 |
| MEGA - COMERCIAL DE GAS LTDA | PERIPERI | ULTRAGAZ | 23,70 | 18,00 |
| EMILIA DE JESUS PEREIRA | PERIPIRI | ULTRAGAZ | 23,70 | 18,00 |
| EDMILSON SANTOS SENA | SÃO JOÃO DA PLATAFORMA | ULTRAGAZ | 23,70 | 18,00 |
| JOSE AUGUSTO S. JESUS | COSME DE FARIAS | ULTRAGAZ | 23,70 | 18,50 |
| MANOEL ARGALO DE CASTRO | COSME DE FARIAS | ULTRAGAZ | 23,70 | 18,50 |
| ENGENHO NOVO GAS | ENGENHO VEILHO DE BROTAS | ULTRAGAZ | 23,70 | 18,50 |
| FERNANDO NELSON LIMA DE BRITO | JD. CRUZEIRO | ULTRAGAZ | 23,70 | 18,50 |
| EDSON OLIVEIRA SANTOS | LIBERDADE | ULTRAGAZ | 23,70 | 18,50 |
| VILMA NERI SANTOS | MACAUBAS | ULTRAGAZ | 23,70 | 18,50 |
| ANGELA MARIA CUPERTINO LEITE | MARES | ULTRAGAZ | 23,70 | 18,50 |
| SOGAS DISTRIBUIDORA DE GAS LTDA | SALVADOR | ULTRAGAZ | 23,70 | 18,50 |
| LEONGAS DISTRIBUIDORA DE GAS LTDA | SANTA MONICA IAPI | ULTRAGAZ | 23,70 | 18,50 |
| URUGAS DISTRIBUIDORA DE GAS LTDA | URUGUAI | ULTRAGAZ | 23,70 | 18,50 |
| URUGAS DISTRIBUIDORA DE GAS LTDA | URUGUAY | ULTRAGAZ | 23,70 | 18,50 |
| SANTO INACIO COMERCIO DE GAS LTDA | SANTO INACIO | ULTRAGAZ | 23,70 | 19,00 |
| RS RANGEL COM DE CIMENTO LTDA | ITAPOA | ULTRAGAZ | 23,70 | 19,40 |
| RAMA GAS LTDA | MUSSURUNGA-ITAPOA | AGIPLIQUIGAS | 23,70 | 19,40 |
| RAMA GAS LTDA | SAO CRISTOVAO | AGIPLIQUIGAS | 23,70 | 19,40 |
| PROVER GAS | ENG. V. FEDERACAO | ULTRAGAZ | 23,70 | 19,50 |
| NORDESTE GAS LTDA | ITAPOAN | ULTRAGAZ | 23,70 | 19,50 |
| OGIEL MIGUEL DA CRUZ | ITAPUAN | ULTRAGAZ | 23,70 | 19,50 |
| COMERCIAL DE GAS JARDIM LOBATO LTDA | JD. LOBATO | ULTRAGAZ | 23,70 | 19,50 |
| NORDESTE GAS LTDA | NORDESTE DE AMARALINA | ULTRAGAZ | 23,70 | 19,50 |
| SUBURGAS-SUBURBANA COMERCIO DE GAS LTDA | PERIPERI | ULTRAGAZ | 23,70 | 19,50 |
| LANDRE COM. REP. E SERVICOS LTDA. | RIO VERMELHO | ULTRAGAZ | 23,70 | 19,50 |
| LAELSON DE JESUS SANTOS | SAO CRISTOVAO | ULTRAGAZ | 23,70 | 19,50 |
| ZEP COMERCIO E REPRESENTACOES LTDA | AGUAS CLARAS | | 23,70 | |
| RAMA GAS LTDA . | BOCA DO RIO | | 23,70 | |
| EDAG-REVENDEDORA DE GAS P/ COZINHA REPRES. COM. LTDA. | BOCA DO RIO | | 23,70 | |
| FABIO JOSE BARROSO GONZALES | BOCA DO RIO | | 23,70 | |
| DISTRIBUIDORA DE GAS LIGOU CHEGOU LTDA | IAPI | | 23,70 | |
| MARIA ISABEL DE SOUZA COSTA | ITACARANHA | | 23,70 | |
| PEDRINHAS GAS LTDA | NORDESTE DE AMARALINA | | 23,70 | |
| PEDRINHAS GAS LTDA | NORDESTE DE AMARALINA | | 23,70 | |
| LUCIANO RODRIGUES COSTA | PITUACU | | 23,70 | |
| LUZIMARIO COMERCIO DE MATERIAIS | PLATAFORMA | | 23,70 | |
| ANTONIO P. DOS SANTOS | LIBERDADE | ULTRAGAZ | 23,75 | 18,50 |
| AURECILIO SANTOS SILVA | BROTAS | | 23,80 | |
| TEND GAS REVENDA DE GLP LTDA | FEDERAÇÃO | ULTRAGAZ | 23,90 | 19,00 |
| R.J. COMERCIO DE GAS LTDA | SAO CRISTOVAO AEROPORTO | | 24,00 | |
| DENISCAR COM.PECAS USADAS VEICULOS | LOBATO | ULTRAGAZ | 27,00 | 18,50 |

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