# TECHNOLOGY AS A NEW BACKBONE TO DEMOCRACY

Ana Cristina Bicharra Garcia
*Universidade Federal Fluminense*
*bicharra@dcc.ic.uff.br*

Fernando B. Pinto
*Universidade Federal Fluminense*
*fernando@addlabs.uff.br*

Inhaúma Neves Ferraz
*Universidade Federal Fluminense*
*ferraz@dcc.ic.uff.brr*

**ABSTRACT**

Athens, the world's first democracy, was an extremely high performing organization due to the high level of commitment and engagement from the population. Representation, participation, and deliberation, the three pillars of democracy, were feasible. As a population grows, it is easier to adopt choose a small elite to run the State, almost inevitably leading to a decrease in their participation and deliberation of the State's decision-making process. With the advance of Information and Communication Technology (ICT), new expectations are raised to bring back full-democracy. However, ICT should not be incrementally introduced or it may jeopardize people's participation. This paper discusses three unsuccessful attempts to revive Athenian democracy using ICT to deal with participation scalability. We argue that there are necessary layers of technology that, if not included, can lead to worse results than without ICT altogether.

**KEYWORDS**

Tele-democracy, ICT, Participatory Public Budgeting, Social Network, Community Directories

## 1. INTRODUCTION

Democracy is the government of the people, for the people, by the people. The concept involves freedom and franchise. The aspirations for freedom are universal but no particular franchise is essential, depending on the culture and period.

According to Columbia Electronic Encyclopedia (Columbia Electronic Encyclopedia 2001), democracy is:

> *"a term originating in ancient Greece to designate a government where the people share in directing the activities of the state, as distinct from governments controlled by a single class, select group, or autocrat. The definition of democracy has been expanded, however, to describe a philosophy that insists on the right and the capacity of a people, acting either directly or through representatives, to control their institutions for their own purposes. Such a philosophy places a high value on the equality of individuals and would free people as far as possible from restraints not self-imposed. It insists that necessary restraints be imposed only by the consent of the majority and that they conform to the principle of equality."*

There is a well-acknowledge precept that democracy requires an informed citizenry, as information engenders trust and control over politicians to serve the electorate's desires. The very heart of democracy has been changed by the mutating information dissemination technology. Nowadays, television, radio, papers, and Internet are the most effective means of information broadcasting and acquisition. Unfortunately, these vehicles are not neutral. Media editors' political biases strongly manipulate public opinion towards (un) desired moves. In some countries, the power of public manipulation by corporations is under scrutiny, with Rupert Murdoch's (Milmo 2001) and Silvio Berlusconi's (Hooper 2003) empires as good examples.

Consequently, implementing a true e-democracy requires a careful and comprehensive plan for citizens to learn how to use the electronic forum (Watson and Mundy 2001).

Communication technologies such as videoconferencing, fax, e-mail (spam) and telemarketing are expanding the influence of the lobbies over the State, the latter considered a threat to democracy. However, others believe that only the lobbies can handle the need of an effective system of checks verification and balances supervision of the executive, legislative or court powers, and guarantee that the State listens to the people's will.

Internet has become a hope to revive democracy. As usual when such power shift occurs, people that use to be dominated are reluctant to believe they will have a truly active participation and, consequently, they are usually ineffective supporters of the change. On the other hand, the dominant class quickly acknowledges any risk to their power, and energetically opposes to the technology that jeopardizes their dominance.

What is the actual effect of using Information and Communication Technology (ICT) to assist democracy realize its intrinsic goal? Including people in the governance seems to be the first pre-requisite, however, we claim that ICT should not be included incrementally or it will destroy the entire process of bringing about people's participation and commitment.

In this paper, we claim ICT should be included at full; i.e., ICT should enable citizens to participate in the State decision-making as well as see their influence in the State deliberations, stimulating government transparency. In order to accomplish these two goals, Internet access to retrieve information as well as sending suggestion is necessary, but not sufficient. We argue that ICT raises high expectations in the population, and, if not fully deployed, it will frustrate people furthering incredulity in the democratic process.

This paper starts by discussing the three different approaches to democracy, followed by the description of Participatory Public Budgeting (PPB), a Brazilian program to bring the population into a more active role when deciding the city's annual priorities; i.e., theoretically, a way to implement Deliberative Democracy. After, we discuss three prototypical attempts to make people to participate more: Barcelona (Spain), Arraial do Cabo (Brazil) and Rio das Ostras (Brazil). The emphasis is to show that the introduction of ICT to connect politicians and citizens by means of information, voting, polling or discussion (Gronlund 2001) may lead to a total failure when only incremental. Then, we present the necessary ICT ingredients sufficient to support deliberative democracy.

## 2. DEMOCRACY MODELS

Democracy consists of three practices usually denominated deliberation, participation, and representation (Davis and Jegu 1995). Representation is the creation of proxies to impersonate the population's desires. Participation is the act of voicing opinion. Deliberation is the actual action on governance; i.e., the decision-making itself. Each of these three parameters can be modulated to represent a democracy model as summarized in Table 1. For example, the greater the citizens' participation is, the higher their demands on the State governance. Ancient Athens is an example of an ideal degree of people's participation; however, it was only feasible because of the small number of voters.

It is usual to find societies in which people's democratic participation is restricted to choosing their representatives, hence delegating all deliberation action to others. In such scenario, the inhabitants become mere spectators of their destiny. People delegate to "a wise elite" the right to decide for them. Although this scenario seems distant from true democracy, its advantage includes low implementation cost and fast deliberation.

There are other societies, plebiscitary societies, in which the population gets involved in choosing among options posted by the government. Citizens' participation and deliberation increase, though not enough to voice their own needs. The people's role is to trade votes for policies as in an economic market. This scenario is called the Rational Choice democracy.

Finally, in full Deliberative Democracy societies, as in Athens, representation is at a minimum. Here people meet to discuss their needs, by formulating and selecting policies. Of course, this ideal democracy becomes restricted as the size of the population grows. Information and Communication Technology emerge as a possibility to bring back the ideal forum of democracy.

Democracy has become an ideal dream, but an unfeasible reality. The Wise Elite democracy is the usual recipe followed in many countries, however people's distrust in the system has increased. Voting has been

decreasing, wherever it is optional. Tele-democracy is the use of Information and Communication Technology to promote the democratic process of a society's rule (Rengger 1997). Technology contributes to greater government openness and accessibility, and encourages and assists the public, voluntary organizations, and political work. Although technology appears to be the solution to save democracy, the process still requires public participation. Next, we describe a Brazilian experience to bring people closer to the State's decision-making.

Table 1. Democracy Models

| | Wise Elite Model | Rational Choice Model | Deliberative Democracy Model |
|---|---|---|---|
| Definition | People delegate decision-making to a selected group through a majority voting process. | People are consumers of policies, ideologies and information formulated by the State and politicians. | People consume as well as generate policies, ideologies and information. People get together in public assembly to persuade as well as be persuaded by ideas, ideologies and needs. |
| Representation | Strong (key issue) | Average | Weak (almost no need for representatives) |
| Participation | Weak and sporadic | Strong, but limited, and frequent | Strong and frequent |
| Deliberation | Fast, uncommitted and restricted to a small group | Fast and accessible to population | Slow and accessible to population |
| People's Role | Passive | Active Selection | Active Voice |
| People's Action | Vote for representative (Elite) | Vote for policies presented by representatives | Generate suggestions and vote for policies presented by representatives |
| People's Interaction | None | Almost none, maybe with the representatives | 'Persuade and be persuaded' |
| People's Objectives | Pass responsibilities to others | Perceived self-interests | Self-transformation |
| Implementation Cost (time and State money) | Low | Average | High |
| People's supervision | Low | Average | High |
| Risks | • Elite corruption<br>• Elite bias | • Imaginary democracy (people's votes validate Elite's desires) | • Anarchy<br>• Overwhelming participation<br>• Biased process |

# 3.  PARTICIPATORY PUBLIC BUDGETING

The participatory public budgeting (PPB) is the process through which the population formulates its priorities and then decides, in a direct and democratic manner, on the application of government resources in public works and services to be executed by the municipal administration. Its first implementation occurred in 1989

in the city hall of Porto Alegre, of the state of Rio Grande do Sul. Its purpose was to bring people back to the State decision-making process (Orsi 2001), return their faith in it, and endow greater transparency to the formulation and execution of its priorities. PPB has been a success according to rate of participation, increasing from a few thousands in 1990 to 40,000 in 1999 (Goldsmith 1999).

Porto Alegre's successful experience had positive repercussions throughout Brazil, and today, the participatory public budgeting is used, independently of the political party of its administrators, in large metropolitans such as São Paulo and medium and smaller cities such as Caratinga in the state of Minas Gerais, Blumenau in Santa Catarina, and Olinda in Pernambuco. Aside from Brazilian metropolitans, important cities outside of Brazil such as Saint-Denis, in France, Toronto in Canada, and Montevideo in Uruguay, have also been using participatory public budgetings in the elaboration of investment priorities and application decisions regarding government resources.

Although each city has its own regimen of participatory public budgeting, there is a basic functional organogram, based on the pioneering experience of Porto Alegre, and explained in detail in books and implementation primers (Genro and de Souza 1997).

The process begins with thematic regional plenaries, in which the participants, living in the same region, or belonging to a same social group, gather to establish a list of demands and priorities. The next step is the undertaking of assemblies in which the population elects its representatives, counselors, and regional delegates, charged with consolidating their demands, forwarding them to the popular vote, and taking them to the municipal administration. At the same time, city hall has preparatory meetings in which it renders accounts for the previous cycle, and presents the Investment and Service Plan (ISP) for the following year. ISP is forwarded to the negotiating circles where delegates and counselors discuss the viability of the population's demands with government agents before forwarding them to the vote. At the end of the process, the demands that were consolidated and voted for are brought to the municipal administration to execute them according to the budget directives.

Nevertheless, the population does not have access to information on investments and regional and city needs in order to elaborate its demands. Thus, they end up sending poorly formulated, repeated, or impractical suggestions to their elected representatives. Furthermore, citizens depend on an efficient information system to accompany the priorities chosen by the municipal administration and the progress of their execution. Otherwise, they will continue to generate low-quality demands. The delegates on the other hand may know the needs of their neighborhood or social group, but will know little of those of others. As such, upon organizing their priorities, the representatives do not have a precise idea of how much and how to make the demands. Another complicating factor of the prioritization of the demands is that, depending on the number of regions and citizens participating in the process, the delegates and counselors may receive such a large number of suggestions that organizing and prioritizing the demands received is extremely difficult. These limitations may make the participatory public budgeting process only a partial one, not to mention cause excessive time and resources spent in negotiation meetings.

In spite of these limitations, the positive results of the implementation of the participatory public budgeting are highlighted by public policy researchers interested in increasing the population's participation in the decision-making process. By enabling different groups and social movements to take part in the construction and discussion of the city's investment priorities beyond deepening democracy in the decision-making process, the participatory public budgeting allows the population to follow the work of the municipal administration. Regarding the case of Porto Alegre, the researcher Rebecca Abers concluded:

> "The consequence of this kind of transparency was the total elimination within the municipal budget of the corruption and clientelism that (…) corrode budget decision‑making." (Abers 1996)

Another important aspect is that the priorities are elaborated according to the genuine necessities of the population, which means a better deployment of public resource spending. According to Chris Richards (Richard 2002), citizenship has grown and strengthened as people's participation was reflected in the government actions.

# 4. THREE DIFFERENT CASES LEADING TO THE SAME OLD PROBLEM: HOW TO BE HEARD?

In this section, we discuss three attempts to bring the population closer to the State's decision-making process: Barcelona (Spain), Arraial do Cabo (Brazil) and Rio das Ostras (Brazil). These three experiences emphasize the concerns that we should have when introducing ICT to assist democracy.

## 4.1. THE BARCELONA CASE

In the city of Barcelona, city hall used the Internet to offer the population the chance to consult, vote, and opine on the government directives and investments. This experiment was part of EURO-CITI (Ajuntament de Barcelona 2002) (EUROpean CITIes), of the European Union, an international project that promotes citizen participation by means of new technologies.

For this experiment, the neighborhood of Poble Séc was chosen, as city hall surveys highlighted it for its increased interest in using new technologies and an increase in the acquisition of microcomputers. Any inhabitant of Poble Séc, 16 years of age or older, and who owned a microcomputer at home, had the option of joining the tele-voting and tele-consulting services to answer questions on themes related to City Hall's services and the region's Investment Plans, for example. Citizens who did not own a microcomputer, but desired to participate, could access the consulting services, but not the thematic voting, since it was necessary to guarantee there was only one vote per person.

The purpose of this initiative was to improve "direct democracy through a new model of citizen participation called e-democracy", which uses the new technologies to facilitate people's access to public administration decisions. If, on the one hand, the populace, in this case of Barcelona, was able to consult and vote on government thematic and priorities via the Internet, on the other hand, they could not devise, vote and consult their own demands, nor discuss them in the Web forums created. Thus, although the citizens could follow and choose the governmental decisions that best suited their necessities – the concept of rational choice democracy –, they still did not exercise a fully active role in the construction and affirmation of their demands and priorities, which could bring it closer to the concept of a deliberative democracy.

## 4.2. THE ARRAIAL DO CABO CASE

Arraial do Cabo is a small Brazilian city (23 thousands inhabitants) in southwestern Brazil. In the last four years, the city has tried to implement the Participatory Public Budgeting (PPB) as dozens of Brazilian cities have. In the beginning, it was the initiative of a political party that, once in government, opted for this kind of massive democracy. Soon, other political parties understood that it was a practice independent of any political bias in the municipal administration, and, consequently, the number of participating cities grew.

In Arraial do Cabo, the participation of its citizens consists of face-to-face meetings, just as we think people did in Athens. In the beginning, people's distrust led to low program adherence, but the response increased as they began to feel they were being heard. The number of participants grew so much that the mayor was swamped in suggestions and was no longer able to completely respond to them. In the past two years, the population's enthusiasm has decreased. There is no ICT involved and the participation is mostly in periodical meetings. In order to bring back public participation, city administrators must adopt ICT to overcome the blizzard of information.

The flaws of the experience are the absence of scalability, since as the city grows this kind of participation becomes more and more difficult due to traffic problems: the increasing distance between homes and venues, not to mention the scarce contact between citizens. We need to also point out the population's increased expectations not fully met by the process.

## 4.3. THE RIO DAS OSTRAS CASE

Rio das Ostras is a medium-scale Brazilian city (45 thousand inhabitants) located about 2 hours by car from Rio de Janeiro. The city has grown fast since they started receiving petroleum royalties 10 years ago. The mayor is at the end of his second 4-year term, yet even today, when he is close to completing his last possible term as Rio das Ostras's mayor, he enjoys a 91% approval rate.

In his first term he put into practice his party's government proposition; i.e., the Participatory Public Budgeting (PPB). During the first years, Rio das Ostras's mayor's efforts focused on making citizens aware of their new role in the city's management. Breaking the population's inertia, as passive spectators, became the mayor's main initial challenge. It took five years to modify the population's behavior. Now, they realize PPB has given them an opportunity to be heard. Most suggestions addressed local issues such as street paving, schools, and hospitals, whereas city macro planning remained with the government team.

As the population adhered to the program, the demand for meetings overwhelmed the program placing its feasibility at risk. The natural solution adopted was to embed information technology in the process. They created a Web site in which any citizen could directly submit suggestions to the government. The population's expectation grew since they expected that ICT allowed them to be fully heard. Unfortunately, after 2 years of ICT inclusion, the population is disappointed, which in turn has jeopardized the PPB itself.

Among the problems, we outline the following:

1) **Overwhelming number of suggestions**: too many suggestions have been sent to the government's team, but the team cannot process them all.

2) **Increase in population expectations**: since ICT allows everybody to voice their opinion, the population participates believing that they will all be heard by the government.

3) **Participation Bias**: Most Web participants live out of town, so they use the Web as a way to guarantee elite domination.

All of the above reasons led to a major consequence: popular distrust of the system, and democracy was once more jeopardized. The population got frustrated because they tried, but the participation cost was increased with the introduction of ICT. To make things worse, most people who successfully used ICT to participate were not heard.

In summary: using ICT only for suggestion input and information retrieval jeopardized the whole process of reaching a deliberative democracy.

# 5. ELECTRONIC PARTICIPATORY PUBLIC BUDGETING (E-PPB)

We claim ICT can assist democracy only when ALL the following components are present.

- Access information (LISTEN): people must be able to educate themselves on what the government is doing that may affect them. The Internet is a natural answer to that.
- Send information (SPEAK UP): people should be able to do more than only choose among possible options formulated by the Elite. ICT must provide a channel to gather the individual needs.
- Allow suggestions to be understood (BE HEARD): the government MUST be able to process all suggestions sent, no matter the volume.
- Get an answer (ACKNOWLDGEMENT): the population must trust they will be heard.
- Verify suggestion status (ACTUAL PARTICIPATION): the population must be informed what will be done about their suggestions.

In Figure 1, we present e-PPB that uses Artificial Intelligence techniques as key ICT elements to make tele-democracy feasible. We will implant this model in Rio das Ostras probably in 2004. We expect to revitalize the democratic objective of PPB.
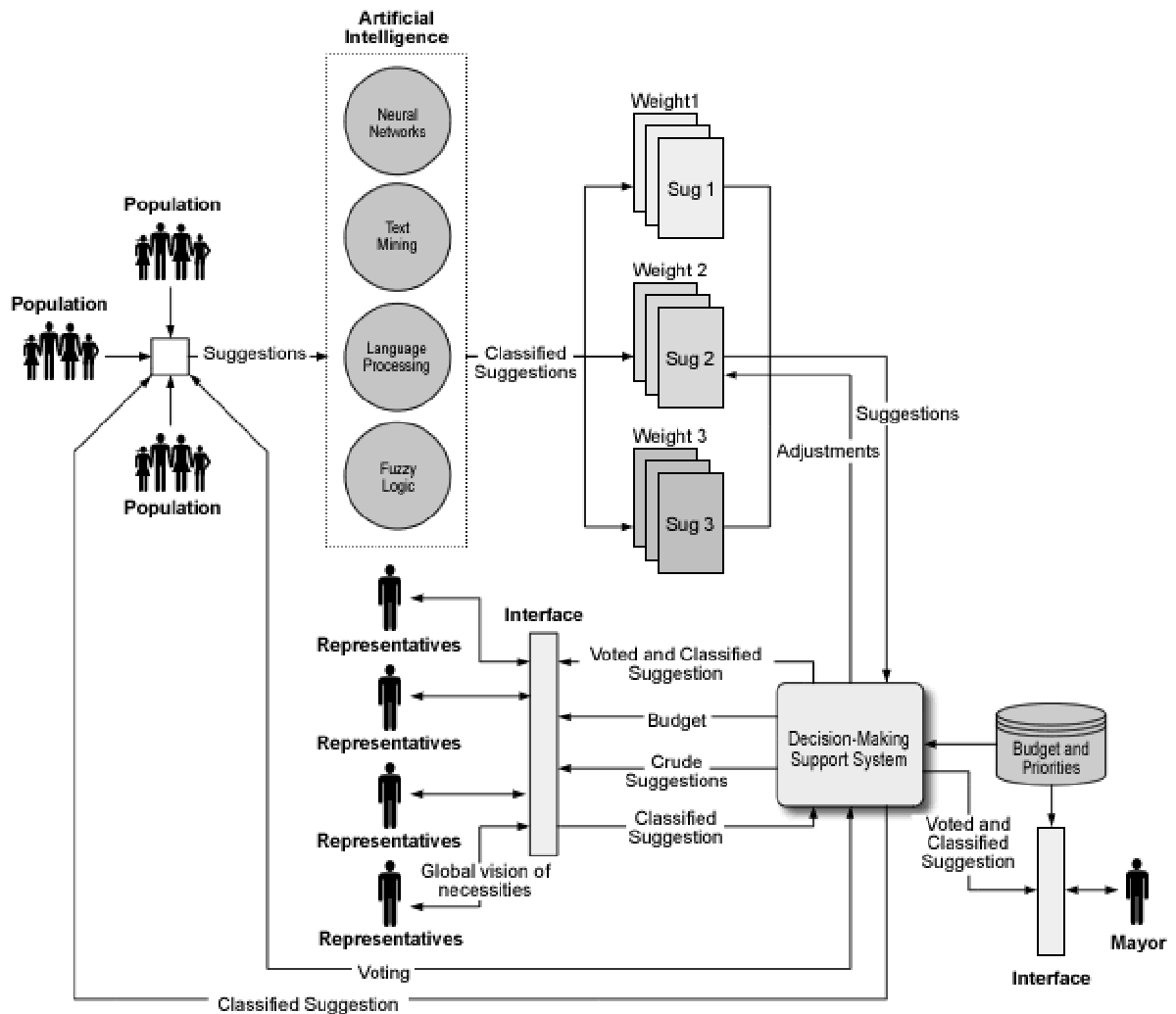
Figure 1. Electronic Participatory Design Model: Artificial Intelligence techniques are used to interpret, categorize and classify suggestions, and Decision Support Systems are used to assist the formulation of policies from the interpreted summary of suggestion.

## 6. CONCLUSION

In this paper, we discussed the influence of the technology in democracy. The critical points: representation, participation, and deliberation were focused upon and three experiences of increasing civil involvement in govern were described.

We can detect various layers of technology being adopted in order to obtain a "better" or more perfect democracy. In the first attempt, we can use the technology, such as the Internet in particular to disseminate information. People can then follow the administration's programs and indirectly develop public opinion movements against or in support of an issue. This layer has no drawbacks and is always welcome to democracy. It can improve the participation with negligible effects on representation and none on deliberation.

The second layer consists of technology used to open a channel for public manifestation, such as an e-mail to authorities. People tend to like this layer in the beginning because they feel good "being listened to". But it is impossible to give personal attention to the myriad of messages directed to public officials and soon the public becomes disappointed by the poor responsiveness their demands receive. The participation is

genuinely increased, but in terms of public satisfaction this second layer is a disaster because it introduces costs, overloads public officials and subsequently infuriates concerned citizens.

A third layer can interpret, filter the messages sent to the administration and their content, allowing administrators to respond selectively to messages, thus minimizing the discomfort of the "lack of attention" present.

The forth layer can bring the technological bonuses to democracy. If we develop an interactive system of deliberation, people will feel they are participating and the democracy is improved as a whole.

There is no doubt that ICT can raise high but unfulfilled expectations in people if the whole cycle of participation and deliberation is not completed. Technology can guarantee that people be heard by entering a virtuous circle and taking the bridles of control in their hands on what has to be done.

In spite of the impact, we cannot forget that technology is not neutral. Somebody implants it. We must be alert and prevent this technology from becoming a Pandora's box, embedding some bias that misinterprets the people's will. George Catlin (Catlin 1964) reports in the middle of the 20th century that the "most perfect democracies" already known were in Switzerland and South Africa. However, in Switzerland, at that time, women could not vote, and in South Africa Apartheid was already firmly established.

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