

# ELETRONIC PARTICIPATORY BUDGETING (E-PPB): INCREASING PEOPLE PARTICIPATION IN THE DECISION-MAKING PROCESS

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## ABSTRACT

Democracy originated in Greece and has been an ideal way of citizenry coexistence for centuries. History tells us that Athens, the world's first democracy, was an extremely high performing organization due to the high level of commitment and engagement of the people. The three pillars of democracy (representation, participation, and deliberation) were then feasible. When a population grows it is very difficult to secure full participation in State issues. Almost inevitably there occurs a decrease in people's participation and in the deliberation of the State's decision-making process. The utopian socialists of the XIX century have devised this and limited the population of the utopists Icaria, New Lanark and others to 500 to 1600 inhabitants. With the advancement of the Information and Communication Technology (ICT), new expectations are raised to bring back full-democracy. But, at the same time that ICT can enhance people's participation it can also jeopardize this effort when it is misused. Unattended hopes are worse than no hopes at all. This paper discusses three unsuccessful attempts to revive Athenian democracy using ICT to deal with participation scalability. Our point is that ICT has created greater expectations. If we don't use the necessary layers of technology this omission 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 an well-acknowledged 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 the 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 servings as good examples of this situation. 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 will of the people.

Internet has become a hope for the revival of democracy. As usual when such power shifts occur, people that used to be dominated are reluctant to believe they will have a truly active participation and, consequently, are usually ineffective supporters of the change. On the other hand, the ruling class quickly recognizes any threat to their power, and show vigorous opposition to the technology that jeopardizes their dominance.

What is the actual effect of using Information and Communication Technology (ICT) to assist democracy in the accomplishment of its intrinsic goal? Including the people in the governance seems to be the first prerequisite; however, we claim that ICT should not be included incrementally or it will destroy the entire process of promoting people’s participation and commitment.

In this paper, we claim ICT should be included in 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 the people and will foster disbelief 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. Next, we discuss three prototypical attempts to increase the participation of the people: 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 it is only incremental. Then, we present the necessary ICT ingredients sufficient to support deliberative democracy.

## **2. DEMOCRACY MODELS**

According to the conception of Davis and Jagu (Davis and Jagu 1995), democracy consists of three practices, usually denominated deliberation, participation, and representation. 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 participants.

In societies in which the democratic participation of the people is limited to choosing their representatives and thus hence delegating all deliberative action to others, inhabitants become mere spectators of their destiny. People delegate to “a wise elite” the right to decide for them. Despite of the Wise Elite democracy predominance in the occidental societies, the people’s distrust in the system has been increasing. Voting has

been decreasing, wherever it is optional (<http://noticias.terra.com.br/mundo/interna/0,OI327704-EI294,00.html>). There is another scenario where the people's role is to trade votes for policies as in an economic market, the Rational Choice democracy. In this model, population gets involved in choosing among options posted by the government. Citizens' participation and deliberation increase though not enough to voice their own needs. .

Finally, in full Deliberative Democracy political systems, as in Athens, representation is at a minimum. Here people meet to discuss their needs, by formulating and selecting policies. The challenge in the post modern big cities is how to follow these ideas of a fully deliberative democracy while the size of the population; the cities and the electoral abstention statistics have been growing.

Table 1. Democracy Models

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

Governmental institutions and researchers have been discussing the use of Information and Communication Technologies (ICTs) for bringing back the ideal forum of democracy. Using ICTs to promote the democratic process of a society's rule (Rengger 1997) is most commonly defined by e-Democracy and the practices to implement the e-democracy principles - technology contributing to greater government openness and accessibility, and encouraging and assisting the public, voluntary organizations, and political work - are called e-government.

We can analyze e-government different perspectives structured in distinct levels of citizen participation. There is the governmental portal, the online one-stop ones, where it's possible to have 24-hour access to public services from home, from work or any other place connected to the Internet. It is sometimes defined in a narrow sense as citizens' services, re-engineering with technology or procurement over the Internet. According to a Pew Internet and American Life Project, "65% of Americans expect to find government information online." This same research indicates that the Internet is the first place that most users will go to for any kind of information. Another relevant example is the Singapore G2C portal, which offers over 500 online services, from buying a home, finding a job, to dealing with death and taxes. The UK central government defined 2005 as the deadline for delivering electronically – or digitally - all governmental services to citizens. Austria ([www.help.gv.ac](http://www.help.gv.ac)) and Greece also maintain relevant Web site ([www.polites.gr](http://www.polites.gr)) portals (Tambouris et al 2002).

Those portals also offers, in another perspective, the possibility of consulting government statistical data and giving suggestions in webforums about the government policy or the electronic service delivery quality. But in these governmental portals people's participation is restricted to the service consumer character: they do not receive a feedback about their suggestions or opinions nor can they measure their influence in the decision process.

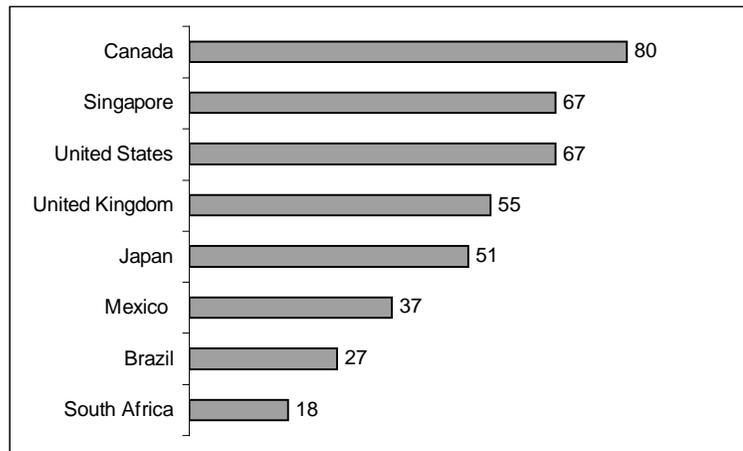
Other perspective of e-government initiatives is where the population has the opportunity to consult, express opinion and vote via Internet in the most attractive governmental decisions. In Canada, a country where such e-government initiatives are among the best-developed, people can access public costs and budget, and choose who will represent their interests. According to an NFO CFgroup study, two out of three Canadian Internet users say they would vote on federal, provincial and municipal elections over the Net if the options were available to them.

However, if on the one hand, e-governance uses the new technologies to facilitate people's access to public administration, on the other hand it is necessary to guarantee that citizens devise, vote and consult their own demands, not to mention discuss them in the Web forums created. It means that they must adopt a fully active role in the construction and affirmation of the decision-making process. The possibility of speaking and opining, through the ICTs, is an enormous step forward to greater democracy but it must be on the condition that the development of systems guarantees that users' discussions and demands will be heard. Otherwise, we argue that the incomplete deployment of ICTs can destroy the entire process of bringing in people's participation and commitment.

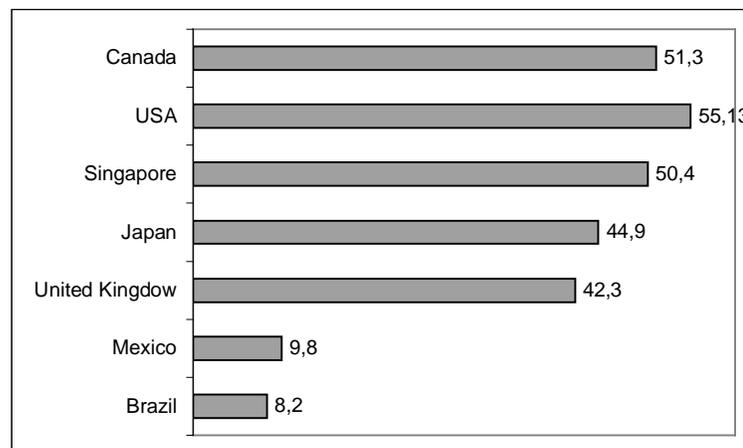
Accenture (Accenture 2004) has done a research about the e-government maturity in different countries (Figure 1). Usability, electronic delivered services enabled and communicability were utilized as measures for constructing this maturity ranking. By other side, this research shows a relevant correlation between e-government maturity and digital inclusion, as described in Figure 2 (ITU 2003).

It means that the countries well positioned in the digital ranking have better maturity indicators. However, there isn't, at least in this research, a measure for people participation, for population real influence, through the new technologies offered, in the decision-making process.

**Figure 1: 2004 Accenture overall maturity scores**



**Figure 2: Internet users per 100 inhabitants**



In the next section, we will discuss the Participatory Public Budgeting, a Brazilian policy practice to include population in the decision-making process, not only for consulting nor just opening on government decisions, as in the webforums or e-government portals, but discussing and electing their own demands.

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

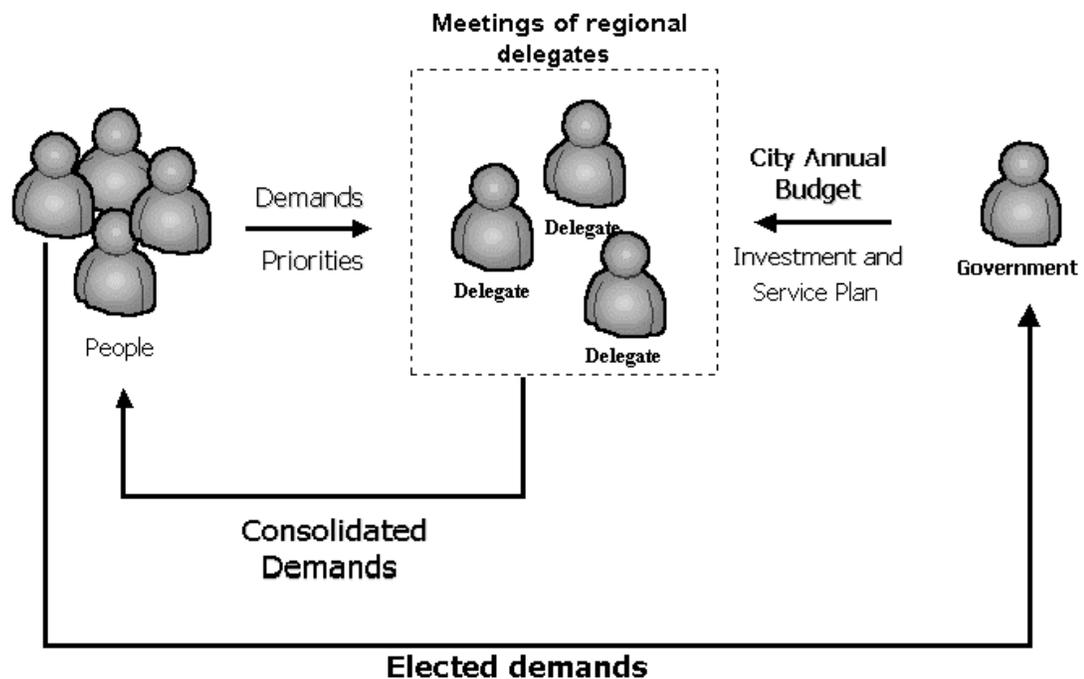
Porto Alegre's successful experience had positive repercussions throughout Brazil. Today, the participatory public budgeting is used, independent of the political party of its administrators, in large

metropolises 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. In addition to Brazilian metropolises, important cities outside 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 (Figure 3) begins with thematic regional plenaries, in which participants, living in the same region, or belonging to the 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, the city hall has preparatory meetings in which it renders accounts for the previous cycle, and presents the Investment and Service Plan (ISP) for the year to come. ISP is forwarded to the negotiating circles where delegates and counselors discuss the feasibility of the population's demands with government agents before forwarding them to voting. 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.

**Figure 3: Participatory public budgeting process**



Nevertheless, the population has no access to information on investments and regional and city needs in order to elaborate its demands. Thus, they end up by 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. Delegates, on the other hand, may be aware of the needs of their neighborhood or social group, but will know little of those of other groups. As such, upon organizing their priorities, representatives do not have a precise idea of how much and how to make the

demands. Another complicating factor of giving priority to demands is that, depending on the number of regions and citizens participating in the process, delegates and counselors may receive such a large number of suggestions that it is extremely difficult to organize and attribute priority to all demands received. 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, public policy researchers interested in increasing the population's participation in the decision-making process highlight the positive results of the implementation of the participatory public budgeting. By enabling different groups and social movements to take part in the construction and discussion of the city's investment priorities the participatory public budgeting, in addition to increasing democracy in the decision-making process, 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 priorities are elaborated according to the genuine necessities of the population, which means a better deployment of public funds 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, the city hall used the Internet to offer the population the chance to consult, vote, and opine on government directives and investments. This experiment was part of EURO-CITI (Ajuntament de Barcelona 2002) a project supported by the European Commission under the Information Society Technologies programme of the 5<sup>th</sup> Framework Programme. The main objective of this experience was to promote citizen participation by means of new technologies, specifying, developing and evaluating an integrated platform for realising online one-stop government. Three different administrative regions in three European cities were chosen for the first experience: Athens, Barcelona and the London Borough of Brent. The proposed services have included tele-voting, electronic submission of forms and tele-consulting. Tele voting was used for opinion polls, petitions that can be initiated by both the local authorities and citizens with the purpose of reinforcing the concept of direct democracy.

For the Barcelona 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, aged 16 or more 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.

However, according to the mayoralty website, 83% of the Euro-Citi project participants used the offered Internet services for Tele-consulting, 14% for tele-voting and only 3% for e-Foruns (Euro-Citi 2003). Those data show that if people are interested in using new technologies for having better services and knowing

more about the governmental deliberations, they are not yet convinced that they will be heard through this new electronic channel.

Thus, although 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 thousand inhabitants) in southeastern Brazil. In the last four years, like dozens of other Brazilian cities, it has tried to implement the Participatory Public Budgeting (PPB). At first it was the initiative of a political party that, once it became 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 reduced 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 because of 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 the government will hear them all.
- 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)

Bringing people close to government asks for many types of assistance. First of all, people should be able to monitor what the government is doing. Transparency of action is a good recipe to build trust between people and their leaders. In order to accomplish that, information must not only be available, but also easily found. The key issue is to create information systems not only with good content but also with good usability to be used by the population with its intrinsic diversity.

In addition to having access to information, a good deal of services could be spread through the Internet. Brazilian Income Tax service is a good (or bad) example of that. Right now, you have to submit your income tax form through the Internet. This is a push to spread the technology. Unfortunately, the services have presented many usability problems; no usability proof yet.

Information and service access are important ingredients to e-governance; however it is not enough to allow people participation. Making sense of people's suggestions is a hard job that asks for computational help. We propose to create a system, the e-PPB (Electronic Participatory Public Budgeting) that simulates what an executive assistant would do, if humanly feasible, that can be summarized into five tasks:

1. Identification
  - a. Read each suggestion
  - b. Emphasize the keywords in the message
2. Interpretation
  - a. Rephrase the suggestion using the vocabulary of a predefined ontology
  - b. Classify each suggestion in one of the known themes or create new themes to incorporate creative ideas
3. Clustering
  - a. Group similar suggestions and add statistical information to the classified themes
  - b. Create an executive summary to show to the "boss"
4. Analysis
  - a. Check if there has been any executive action that has already addressed any of the provided suggestions
5. Follow-up
  - a. Send a personalized acknowledgement message to all suggestion senders with a special status note to the ones for which a government action has already been started.
  - b. Keep an eye for eventual government measures that direct or indirectly attend some suggestions. Again, he or she would send a message advertising the measure, mainly to the ones who sent suggestions asking for that type of measure.

These are mechanical tasks that request intelligence, mainly concerning text mining activities. Technology is ready. We are proposing an intelligent assistant to allow people participation.

Once people believe they will be heard, information will become available on-line at an incredible rate, just like what happens with Internet. It will require an enormous amount of time and effort to read everything, yet we often have to make critical decisions based on what we are able to assimilate. The technology of automatic text summarization becomes an interesting approach for handling this problem.

Text summarization stands for extracting the key information from a text material in a given context. It is important to define the goal or the specific interests when summarizing a text in order to improve the effectiveness of the result. The result of this process is a condensed, but meaningful, text or other media to convey the core ideas such as a graphic display. The more constrained the context, the better the chances to achieve a useful summary.

Although there are many researches searching for efficient algorithms to produce effective summaries, there is no acceptable product available. If summarization is still far from reality, extraction is a more feasible task. An extract represents a set of the most important/topical/central topic(s) found in the text. This set is ideal to computational further work. A final touch for producing the executive summary may require a human participation. However, the work becomes light and feasible.

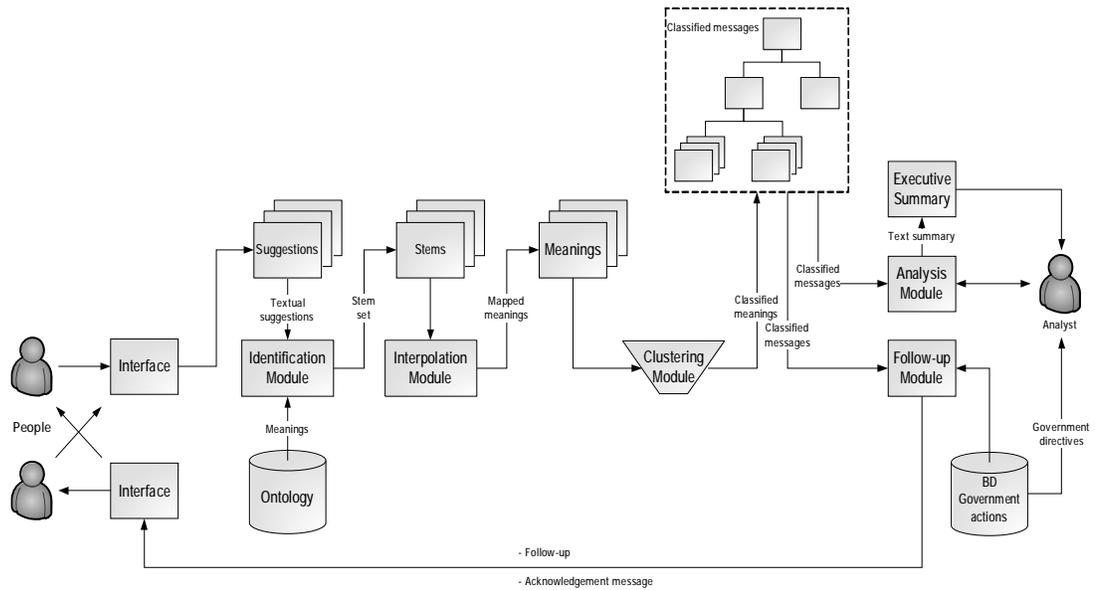
We propose a computational helper to assist executive listen to people's suggestion. This computational helper agent contains five key modules, illustrated in Figure 1, such as:

1. Identification agent: It gets the source text and returns a set of keywords (key stems). This agent embeds a stemming algorithm that transforms each word in its respective stem or root form.

Morphological variants can be ignored using the equivalent meaning for the purpose of summarization applications. Stemming algorithms, or *stemmers*, have been developed, which attempt to reduce a word to its stem. Thus, the key terms of a query or document are represented by stems rather than by the original words. The purpose is to reduce the ontology size, that is, the number of distinct terms needed for representing a set of documents. This saves storage space and processing time.

2. Interpretation: It gets the set of stems for each message text and returns a set of mapped meanings with their statistics. It uses a pre-defined ontology as the set of meanings to which the stems should be mapped.
3. Clustering: It clusters the messages based on the extracted meanings of each message. It also includes statistical data to the resulting clusters.
4. Analysis: Using the clustered topics, it retrieves from the government data base, the set of measurements already in action that address the topics
5. Follow-up: Save the suggestions, properly indexed by the classification, and the set of mapped meanings. Monitor the government database for possible changes that may attend the suggestions.

**Figure 4: e-PPB system model**



## 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 fourth 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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