

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/228283821>

# E-Participatory Budgeting: E-Democracy From Theory to Success?

Article in *SSRN Electronic Journal* · September 2008

DOI: 10.2139/ssrn.1273554

---

CITATIONS

39

READS

502

1 author:



**Tiago Peixoto**

World Bank

20 PUBLICATIONS 337 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



Digital Engagement Evaluation Team - World Bank [View project](#)



**E-DEMOCRACY CENTER**



e-Working Papers 2008

**e-Participatory Budgeting:  
e-Democracy from theory to success?**

**By**

**Tiago Peixoto**

**E-Democracy Centre**  
Universität Zürich  
Zentrum für Demokratie Aarau  
Villa Blumenhalde  
Küttigerstrasse 21  
CH-5000 Aarau  
Switzerland

Tiago Peixoto  
PhD researcher  
European University Institute  
Department of Political and Social Sciences  
Badia Fiesolana  
San Domenico di Fiesole  
Italy  
Phone: +39 39 22 12 29 09  
E-mail: [tiago.peixoto@eui.eu](mailto:tiago.peixoto@eui.eu)  
Skype: tiagopeixotoeui  
Website: <http://www.eui.eu>  
<http://www.epractice.eu/people/peixoto>

## ACKNOWLEDGEMENTS

This paper was prepared by Tiago Peixoto, PhD researcher at the European University Institute (EUI - Italy), and associate researcher at the Electronic Democracy Centre (Switzerland), a joint venture of Zurich University, the EUI and the Oxford Internet Institute (UK).

The author would like to express his gratitude to those who provided valuable comments and insights on the draft of this working paper: Edward Andersson (Involve, UK), Leonardo Avritzer (PRODEP), Joanne Caddy (OECD/GOV), Cornelius Cappelen (EUI), André Herzog (World Bank), David Hume (Co-creative, Canada) and Jaime Vasconez (CIGU). Special thanks are due to Ivar Tallo (UNITAR), and to those who provided feedback during the United Nations Workshop on “State of the Art: e-Democracy” in Geneva, 2007.

Many thanks are also due to Amy Chamberlain for precious editorial assistance in preparing this paper for final publication.

Last but not least, the author would like to express his gratitude to practitioners of the city administration of Belo Horizonte and its citizens, who contributed their time and information during this project.

## **ABSTRACT**

This paper concerns the use of Information and Communication Technologies (ICTs) as a strategy for reinforcing democratic processes - broadly defined as “electronic democracy” practices - and focuses on the use of ICTs in participatory democracy initiatives. By considering the experience of the e-Participatory Budgeting in the city of Belo Horizonte (Brazil), the aim is to understand some of the possible prospects and limitations offered by ICTs in participatory processes at the local level.

Considering the fact that the e-Participatory Budgeting took place in a city with 1.7 million electors and attained a level of participation of nearly 10%, the e-Participatory Budgeting of Belo Horizonte is, by any standards, one of the most significant initiatives in the world in the domain of e-democracy to have been implemented so far.

Among other findings, this paper argues that even though the use of ICTs was essential to the success of the initiative, other factors were also crucial in accomplishing such a level of participation, notably: i) the scope of the public works at stake; ii) the salience of the initiative and iii) citizens’ perception of their actual impact in the decision-making process.

It is expected that the outcomes of this incipient research will contribute to the literature on electronic and participatory democracy, as well as providing a policy evaluation of the use of ICTs at the local level in a large-scale participatory initiative.

## TABLE OF CONTENTS

1. INTRODUCTION: e-DEMOCRACY AND PARTICIPATORY BUDGETING: A NATURAL AFFINITY?.....	6
2. METHODOLOGY .....	8
3. THE e-PARTICIPATORY BUDGETING OF BELO HORIZONTE .....	9
4. THE DRIVERS BEHIND THE e-PARTICIPATORY BUDGETING.....	11
I – Increasing participation .....	11
II – Innovation.....	11
III – More salient public works.....	11
5. THE FUNCTIONING OF THE e-PARTICIPATORY BUDGETING .....	13
I – The selection of the public works to be submitted to vote .....	13
II – The e-voting platform.....	13
6. LEVERAGING SALIENCE: THE COMMUNICATION CAMPAIGN AND SOCIAL MOBILZATION .....	15
7. THE e-PARTICIPATORY BUDGETING PLATFORM IN ACTION .....	16
I – Information .....	16
II – Bilateral interactivity.....	16
III – Multilateral interactivity .....	16
IV – e-Voting: the numbers .....	17
8. ANALYSIS OF THE RESULTS OF THE e-PB.....	18
9. THE TRADITIONAL PB AND THE e-PB: COMPARING APPLES AND PEARS? .....	20
10. FINAL CONSIDERATIONS .....	22
11. LIST OF REFERENCES.....	24

## 1. INTRODUCTION:

### E- DEMOCRACY AND PARTICIPATORY BUDGETING: A NATURAL AFFINITY?

Since the 1990s, the use of Information and Communication Technologies (ICTs) in democratic processes has been broadly defined as “electronic democracy”, or “e-democracy”. Historically, the idea of communication technologies as a means to enhance political processes is a phenomenon that has always succeeded technical innovation: the “saint-simoniens” of the 19<sup>th</sup> century saw the telegraph as a way of establishing a universal communion between the Occident and the Orient (Vedel, 2003). In the 1970s researchers argued that democracy could be enhanced by ICTs, some claiming that new technologies could reinforce representative democracy (Laudon, 1977) while in the 1980s others underlined the potential of ICTs to radically alter democracy, moving towards a more deliberative and direct participation of citizens in politics (Barber, 1984). In a context of perceived crisis of representative democracy (Trechsel, 2004), as the Internet became popular and accessible in the 1990s, new expectations were raised. Since ICTs are beginning to offer a reliable means of communication, decentralized warehousing capacities and lowered costs, the most optimistic scholars will argue that democratic processes and government efficacy can be altered in a revolutionary way<sup>1</sup> (Levy, 1997; Castells, 2003).

From this perspective, the local level is considered as a privileged arena. As a political *locus* where citizens are more affected by decisions - and by consequence, more inclined to participate in the decision-making processes (Pailliarth, 2000) - the use of ICTs at the local level in order to foster democracy is envisioned as remarkably promising (Borja & Castells, 1999; Wolton, 2000). In this sense, the Internet and other ICTs systems potentially allow entities, institutions, city administrations and individuals to share the same virtual location as in a revived *agora*, consequently optimizing a city’s capacity to face challenges (Levy, 1995), with innovation becoming a vital means for a renewed participation in the urban domain, the *urbes*.

In a more pragmatic approach, it is also expected that e-democracy pioneering practices will tend to take place at the local level due to matters of general costs, since it presents a more controllable political and social environment, where achieving innovations requires fewer resources and where the costs of failure tend to be lower (Pratchett, 2006). In short, the local sphere is considered by the literature as a privileged arena for e-democracy innovations, and is simultaneously where the majority of experiences take place.

In its turn, participatory budgeting (PB)<sup>2</sup> - where citizens participate in the decision-making process of budget allocation - has been considered as one of the main innovations that aim to reinforce accountability at local and regional level. In this respect, it is clear that the two concepts – PB and e-democracy – have converging expectations for, if not a renewal of democracy, a reinforcement of democratic practices, with the local level as a privileged arena. In this sense, it is not a coincidence that the use of ICTs is increasingly incorporated into PB practices.

---

<sup>1</sup> Others have foreseen less optimistic scenarios for the use of ICTs in democratic processes. See Maldonado, 1997; Davis, 1999; Hill, 2004.

<sup>2</sup> Participatory Budgeting can be broadly defined as the participation of citizens in the decision-making process of budget allocation and monitoring public spending. Participation may take various forms, from effective decision-making power in the allocation of resources to more modest initiatives that confer voice during the development of the budget.

Of course, there is a visible variance in the extent to which ICTs are used in participatory budgeting: only a few exceptional cases employ communication tools in order to enhance deliberation or to foster participation. As for the latter, the initiatives that have aimed to increase participation in participatory budgeting (e.g. internet voting) seem to have done so by simultaneously neglecting the deliberative dimension of the decision-making process<sup>3</sup>. So far, however, a primary assessment of the use of ICTs in participatory budgeting practices shows that most of the initiatives tend to use the Internet simply as a means to provide information about the processes of participatory budgeting, with some websites providing more information than others. Nonetheless, if the use of ICTs has not altered in a revolutionary way the existing practices of participatory budgeting, this does not justify the current absence of works in the domain. The simple fact that many municipalities that have implemented participatory budgeting also make a secondary and opportunistic use of their websites to merely inform about their participatory budgeting should, by itself, bring the potential effects of the use of these new technologies to the attention of researchers and policy-makers in the domain.

Investigating the possible effects of the use of ICTs in participatory budgeting does not imply a normative agenda where ICTs are considered a panacea to participatory practices. Rather, it consists of observing and analyzing practices that are beginning to take place, albeit in embryonic stages of development. In this respect, this paper is conceived as an initial effort to understand the possible prospects and limitations of the use of ICTs in participatory processes at the local level, bridging the gap in the literature between e-democracy and participatory budgeting, as well as providing practitioners with empirically grounded policy lessons in the domain.

---

<sup>3</sup> For instance, in some cases citizens were allowed to vote online without pre-established deliberation structures (e.g. meetings, online forums) that would have allowed citizens to discuss the choices available amongst themselves.

## 2. METHODOLOGY

The main elements of the methodology followed in preparing this paper are set out below:

- ***Documental analysis:*** broad analysis of documentation concerning the e-Participatory Budgeting, from formal communication documents from the city administration to printed media material (e.g. newspapers, magazines).
- ***In-depth analysis of the e-voting platform:*** an in-depth analysis of the website was carried out in order to qualitatively assess the following e-democracy traits: Information Provision, Bilateral Interactivity, Usability, Multilateral Interactivity and Participation Tools.
- ***Identification of stakeholders:*** identification of main stakeholders to be interviewed (e.g. civil servants, members of civil society).
- ***In-depth semi-structured interviews:*** Interviews are essential in enabling the researcher to grasp an actor's perception of the technology and the use that he (and others) makes of this technology. Over 40 interviews were held, proving to be a unique opportunity for the researcher to develop a more refined understanding of the process.
- ***Statistical analysis:*** as an exploratory exercise, statistical analysis using aggregate data was carried out, aiming to identify relevant findings. Initial findings indicate some paths for further exploration using individual level data.
- ***Fact-checking:*** e-mails and telephone calls were conducted in order to deepen, to enrich and, above all, to check information gathered through the Internet and from the literature review.
- ***Quality control:*** a number of reviewers were selected to ensure that the paper has met quality standards.

### 3. THE E-PARTICIPATORY BUDGETING OF BELO HORIZONTE<sup>4</sup>

The city of Belo Horizonte (Brazil) is the capital of the state of Minas Gerais, with a population of 2,350,564 inhabitants and 1,732,606 electors<sup>5</sup>. Since 1993 the city has implemented a participatory budgeting process, with its *District Participatory Budgeting* (DPB). In 1996, a *Housing Participatory Budgeting* (HPB) was also created in order to address an increasing demand for housing in the city. In these processes (DPB and HPB), a series of assemblies are held enabling citizens to allocate budgetary resources, and scrutinize public expenditures.

The current PB of Belo Horizonte can be understood in the following manner<sup>6</sup>:

- 1) Every two years, the city administration and community leaders invite citizens to the official opening of the PB and to the district rounds that are to take place in every district, with a total of nine districts in the city.
- 2) During this first round of forums held at the district level, the administration explains the methodology of the PB and distributes amongst the representatives of each neighborhood a form to be filled in with citizens' demands for public works.
- 3) The representative gathers the community in order to establish what the priority public work for their neighborhood is (e.g. renewal of health centers, refurbishing schools).
- 4) Once the form is filled in with the demands and handed to the administration, the feasibility of each demand is technically assessed and, if considered unfeasible, a new demand must be made.
- 5) The second round of forums takes place at the sub-district level<sup>7</sup>. The administration presents the budget available to each sub-district, which is proportional to a sub-district's population size and inversely proportional to the sub-district's quality of life index<sup>8</sup>.
- 6) The sub-district forums pre-select a maximum of 25 public works for each district. In these forums each sub-district also elects their delegates. The number of sub-district delegates elected is proportional to citizen attendance at the forums in each sub-district. Traditionally, this is the stage with the highest level of participation<sup>9</sup>.
- 7) Tours are organized during which the sub-district delegates visit together the sites of the 25 pre-selected works. These tours allow the delegates to gain a better understanding of the demands that have been made across the whole district.
- 8) The *Districtal Forum* is the last deliberative stage of the PB, where the city administration indicates the estimated costs of each of the 25 pre-selected works. Based on these indications and on what the sub-district delegates consider to be priorities, they choose a maximum of 14 works. During this forum the sub-district delegates also elect the district delegates that will follow-up and oversee the execution of the public works.
- 9) The final stage is the *Municipal Meeting of Budgetary Priorities*, where the elected district delegates present to the mayor the public works selected by the PB to be executed by the administration.

---

<sup>4</sup> Free translation of the original name given to the initiative: *Orcamento Participativo Digital*.

<sup>5</sup> In Brazil, registering as an elector in one's place of residency and voting is optional for citizens over 16 years old and mandatory for citizens over 18.

<sup>6</sup> Source: Plano Regional de Empreendimentos do Orcamento Participativo 2007 / 2008

<sup>7</sup> Each sub-district is composed of several neighborhoods (bairros).

<sup>8</sup> IQVU (urban quality of life index), index developed by the local university (PUC-Minas) to be used by the administration of Belo Horizonte in order to measure the quality of life for each sub-district.

<sup>9</sup> Participation is higher since it is at this moment that the sub-district delegates are selected.

In 2006, along with the beginning of the regular PB as explained above, the city administration of Belo Horizonte launched the *Digital Participatory Budgeting* (e-PB). Independent of the budget of US\$43 million allocated for the traditional PB, a fund of US\$11 million was allocated to the new initiative. The e-PB consists of a scheme where citizens registered as electors in Belo Horizonte, independent of their place of residency in the city, vote exclusively online for 1 out of 4 public works for each of the nine districts of the city. According to the administration, the launching of the initiative had three main drivers: i) to modernize its PB through the use of ICTs; ii) to increase citizens' participation in the PB process and iii) to broaden the scope of public works that are submitted to voting.

## 4. THE DRIVERS BEHIND THE E-PARTICIPATORY BUDGETING

### I – Increasing participation

Traditionally, the level of public participation in PB processes is very low, composed in general of citizens of an advanced age and of lower socio-economic background. According to data provided by the city of Belo Horizonte, in the last four years, an average of 1.46% of the city's electors have participated in the second round of forums of the PB<sup>10</sup>, which is the most attended stage of the process. Hence, one of the objectives of the e-PB was to increase participation in general and to simultaneously integrate a new profile of participants, particularly those from middle class backgrounds and younger citizens. In this sense, the Internet was seen as a means to increase participation by reducing the costs incurred by citizens (*e.g.* time, transport)<sup>11</sup> as a result of participating in the PB<sup>12</sup>. In other words, if in the traditional PB citizens must attend meetings at a certain time and place, with the e-PB citizens were free to vote online within a period of 42 days.

### II – Innovation

As it is known, the desire to innovate may be in itself a driver for the use of ICTs in public governance (Caddy, Peixoto & McNeil, 2007). This aspiration for novelty and originality, which became clear in interviews with members of the administration, was also reflected in the communication campaign and in official discourses concerning the e-PB, where mentions of the pioneering character of the initiative were commonplace. Even though the administration was aware of other experiences of the use of ICTs in PB (*e.g.* the city of Ipatinga), the aim was to implement a unique system of online voting for the PB that would have a binding effect<sup>13</sup>, and it is in this sense that the mayor refers to this experience as the first one in history<sup>14</sup>.

### III – More salient public works

Another driver behind the e-PB was the creation of a participatory process where citizens could vote for public works considered to be of interest to a wider public – that is, to go beyond the logic of the traditional PB, where citizens can only vote for works in their district and options correspond most of the time to the specific needs of inhabitants of a particular area. For this reason, in the e-PB a citizen could vote not only for his/her district but also for the other districts. Furthermore, in the traditional PB, the larger number of public works that

---

<sup>10</sup> As explained previously, the 2<sup>nd</sup> round of forums is the moment when citizens pre-select the 25 public works and when sub-district delegates are elected.

<sup>11</sup> These costs can be either material (*e.g.* transport costs to attend a forum) or immaterial (*e.g.* time spent deliberating).

<sup>12</sup> In fact, preliminary research suggests that participation tends to be positively related to availability of time and negatively correlated to the amount of domestic tasks and to extra-domestic remunerated activities. See more in [http://www.sociologia.ufsc.br/npms/uriella\\_coelho\\_ribeiro.pdf](http://www.sociologia.ufsc.br/npms/uriella_coelho_ribeiro.pdf)

<sup>13</sup> Let us consider here the existence of two types of binding effects: legally binding effects and politically binding effects. Since there are no laws that oblige the mayor to respond to the demands of the PB, some Participatory Budgeting initiatives can be considered as politically binding, where “*despite the fact that there is no legal obligation for decision makers to act upon input received from citizens, strong public pressure generally leads to political commitments that are, in turn, translated into practice*” (Caddy, Peixoto & McNeil, 2007).

<sup>14</sup> Plano Regional de Empreendimentos do Orcamento Participativo 2007 / 2008

can be selected per districts (14 max.) leads to further fragmentation of the available budget. Such a fact renders difficult the election of public works of greater scope and cost. Nevertheless, citizens frequently demand such works on occasions outside of the process of the PB. In the e-PB citizens could select only one public work per district with a budget of US\$1.2 million allocated to each district<sup>15</sup>, in order to address demands of greater scope. Last but not least, in contrast with the traditional PB, the allocation of budget did not depend on population size or the quality of life index, as the works were considered to be of interest to all the inhabitants of the city, independent of their place of residence.

---

<sup>15</sup> Budget was equally allocated for each city district since the works were considered to be of general interest to the city and not only destined to benefit the inhabitants of particular districts.

## 5. THE FUNCTIONING OF THE E-PARTICIPATORY BUDGETING

I – The selection of the public works to be submitted to vote:

The process of the e-PB starts with the selection of 4 public works per district that will be subject to online voting with the aim of selecting only one work per district. This initial selection is made by the city administration and is subject to approval by the district delegates. As mentioned before, unlike the traditional PB, the works to be selected for the e-PB are intended to respond to demands of greater scope that will benefit a larger portion of the population, where a budget of US\$1.2 million is allocated for only one work in each district. It is important to underline that, if compared to the budget that is traditionally allocated to individual works chosen in PB processes, a budget of US\$1.2 million for a single work is significant by any standards.

II – The e-voting platform:

Citizens over 16 years old, registered on the Belo Horizonte electoral roll could vote on the Internet by accessing the e-voting platform through the city's official website. Here we consider the e-voting platform as a general term to describe the website accessed by citizens in order to participate in the e-PB. In order to better describe and understand the functioning of the e-voting platform, five key characteristics are outlined below: a) information provision; b) bilateral interactivity; c) multilateral interactivity and d) e-voting tools

*a) Information provision:*

Of easy interface, the website provided overall information about the PB initiative. This information was complemented by a link to 'frequently asked questions', providing answers to queries such as: what is a PB, what is the e-PB, what are the proposed public works, who can vote, the period of voting and how to vote.

The website presented all of the 36 proposed works (four per district), where each proposal was indicated geographically and followed by a standard short text with a description, a justification and the scope of the work. To each proposal an image was associated, normally depicting where works would take place in case they were selected. This description and image was complemented further by two videos. In the first video, recorded in a studio, two people presented the outline, objectives and expected outcomes of the works. In the second video, members of the city administration visited the location of the works to show the area and to explain more about each of the proposals. A subscription to an informative newsletter was also available.

*b) Bilateral interactivity:*

In this research bilateral interactivity is understood as the characteristic of the e-PB virtual platform that allows citizens to access general contact information (e.g. e-mail addresses) and to interact with members of the administration in charge of the e-PB by directly contacting them. An e-mail address was provided for contacting the e-PB staff, one member of which was specifically designated to respond to citizens' messages.

*c) Multilateral interactivity:*

Multilateral interactivity is the feature that includes not only the bilateral interaction between citizens and elected officials, but also the possibility of debate offered by a voting platform, for instance through online forums, chats, and mailing lists. From a theoretical e-democracy perspective, this is one of the most important characteristics of a website, for it potentially reinforces the deliberative aspects of citizen participation (Trechsel et al. 2003). As mentioned above, deliberation is a widely debated subject in the field of e-democracy practices, and of these practices, it is one of the most difficult to accomplish.

In objective terms, the online platform of the e-PB offered possibilities for multilateral interactivity and, consequently, facilitated deliberative action. Participation was opened to all citizens, with a forum including 9 different threads, one for each district. Users could post in a forum anonymously simply by clicking on their chosen topic. However, moderation was considered necessary by the administration in order to avoid misuse and to keep the focus of the discussions on subjects related to the e-PB. In this respect, the main role of the moderator was to ensure that comments posted in the forum were related to the e-PB but also to give additional information regarding the e-PB. Thus, the moderator would give further information on the proposed works as well as clarifying possible misunderstandings and/or misleading comments. Furthermore, the moderator would not post comments that were not directly related to the e-PB, such as demands for public works other than those that were subject to vote.

*d) e-Voting:*

In order to implement a voting platform, a primary concern was to ensure that the system would only permit entitled voters to take part in the ballot, since only citizens of 16 yrs and over that are residents in the city were allowed to participate. Secondly, and particularly considering that the results of the ballot were to generate binding effects, such a system should be able to identify frauds or attempts at double-voting, allowing each voter one single vote for each of the nine districts.

As a result, the city administration established a partnership with the Regional Electoral Court of the State of Minas Gerais (TRE-MG), where a database of citizens registered on the city's electoral roll was transferred to the city administration. Every voter in Brazil is in possession of a compulsory identification document that is registered under a unique number, called the *electoral title number*. Such a database, containing the electoral title numbers of citizens, allowed the system developed by the city administration to remotely identify the residents and to ensure that citizens would vote only once for a public work in each of the nine districts.

During the 42 days of voting, those wanting to cast their votes would access the city's website ([www.pbh.gov.br](http://www.pbh.gov.br)) and click on a link that would redirect them to the voting platform. The elector could cast the vote immediately or access the information provided on the website, as explained above. Furthermore, the platform displayed in real time the number of votes already cast for each proposed work. Given that electors could vote nine times (only once for each district), such a system allowed them to vote at their convenience. For example, the elector could vote for all the districts at the same moment, or log out and log in later to vote for the remaining districts.

Considering that the votes were cast exclusively through the Internet, in order to alleviate the effects of the digital divide, 178 public voting points were made available by the city administration, where trained personnel were on hand to assist whenever necessary. It is important to note that most of these points relied on existing structures of access to ICTs, such as public schools and public administration buildings. Also, a mobile unit, consisting of a bus equipped with computers with Internet access was available, alternating its position between several points in the city considered either of elevated circulation of inhabitants (e.g. city center) or with high levels of digital divide (e.g. poorest outskirts).

## 6. LEVERAGING SALIENCE:

### THE COMMUNICATION CAMPAIGN AND SOCIAL MOBILIZATION

One element that was considered important for the success of the e-PB was the city's communication campaign, which focused on the initiative and its novelty factor. In this sense, as mentioned before, the pioneering character of the initiative was underlined in most communications made by the city. Local radio, TV and newspapers extensively publicized the initiative, before and during the period of voting. Furthermore, flyers describing the initiative were distributed in the city and to community leaders, and posters were displayed on buses, public service buildings and areas of generally greater public circulation. This communication tended to explain the initiative, the public works to be voted on and the places where citizens could vote in case they had no access to the Internet.

In addition to this institutional campaign led by the city administration, an independent and vigorous movement of social mobilization took place. In this respect, several initiatives can be identified which represent independent campaigns led by neighborhood associations, religious organizations, small local businesses, and civil society in general. These voluntary campaigns, which favored a particular public work over another, included:

- Provision of information (*e.g.* posters, flyers, websites)
- Identifying supporters
- Encouraging people to vote for a particular work
- Providing voting points (*i.e.* Internet access points)

Stakeholders affirm that, in Belo Horizonte, this mobilization of civil society was impressive by any standards, with interviewees unanimously judging this canvassing campaign as a determining factor in voter turnout. In this respect, despite the difficulty of making any accurate statement about the effects of such mobilization on the e-PB, evidence offers some promising paths for identifying factors that increase public participation in initiatives similar to the e-PB.

## 7. THE E-PARTICIPATORY BUDGETING PLATFORM IN ACTION

Taking as a reference the four dimensions described above, in this section I will analyze the e-PB platform according to its traits and potentials and how this platform was actually used by those who interacted with it.

### I – Information:

As underlined by other authors (Trechsel et al. 2005) the capacity for provision of information on a website is, in theory, unlimited. Technology is, in this case, simply an enabler, and the quantity of information does not assure its quality (Caddy, 2005). The descriptive effort employed by the city administration - where the website would present text, pictures and videos – was intended to provide a proper mental representation of the works, by presenting citizens with images and concepts consistent with the reality of the proposals. This effort is justified by the fact that, if in the traditional PB citizens tend to vote for public works that are linked to their immediate reality (e.g. paving the streets in front of their houses), in the e-PB - with works of a more global scope (e.g. a road linking two districts that are distant) - citizens needed a more complex understanding of the direct and indirect benefits of the proposed works in order for their vote to be well informed. Moreover, often overlooked by policy-makers intending to enhance participation, is the fact that in general citizens are used to voting for a personality, and not a project. In this sense, the communication efforts deployed by the administration were appropriated considering the target public.

### II – Bilateral interactivity:

Despite the ease of putting e-mail addresses online, replying to an e-mail sent by a citizen is the action that completes the cycle of interactivity between citizens and the administration. Otherwise, the provision of contact information constitutes a mere formality that could frustrate citizens if left without a response. In this sense, in order to ensure that citizens would get a timely response to the e-mails sent to the e-PB staff, one person was specifically designated to respond to such messages. This initiative guaranteed an optimal level of responsiveness, where the majority of e-mails received a timely and personalized response.

### III – Multilateral interactivity:

Even though active participation in the forum was low (a total of 1210 posts)<sup>16</sup>, all posts could be seen without logging in by all of those who accessed the link to the forums, where the number of readers was significantly higher than the number of posts. In this respect, active participants in the forums were aware that their comments were likely to be read by many other potential voters that were not actively participating in the forums. Nevertheless, considering that the forum offered limited possibilities of interface, where only text was allowed, in some cases supporters would also use the forum as a means to redirect readers to other online environments that allowed them to better illustrate and corroborate their arguments. Thus, links posted by supporters would lead readers to other web addresses (e.g. websites, blogs, youtube videos) voluntarily created by supporters, where arguments were presented in a more structured format and supported by different resources, such as pictures and videos. Last but not least, in some cases, apart from overcoming technical constraints inherent to the forums, such a strategy allowed supporters to redirect potential voters to a sphere where their arguments were less likely to be publicly disputed and where the information provided was not controlled by a moderator considered to be impartial.

---

<sup>16</sup> <http://web.archive.org/web/20061211205301/opdigital.pbh.gov.br/jforum/forums/list.page>

Another strategy employed by active users of the forum – those who write a post - consisted of bypassing the moderation in order to make other comments that did not directly concern the e-PB. Consequently, these users, after having a few comments refused, developed the strategy of making combined comments - that is, sending a post where they would make a comment directly related to the process of the e-PB and in the same post make other demands that, if were made separately, would have been refused by the moderator. These ‘combined comments’ however, did not have any substantial effect on biasing the main focus of the forums, as the majority of the discussions concerned the public works of the e-PB.

Strategic practices such as the “combined comments” and using the forum to redirect users to other links cannot be seen as jeopardizing the online debate provided by the e-voting platform: it simply illustrates the unexpected dynamics that such a process may engender. These practices also demonstrate the active users’ awareness that – despite the relatively low number of active users – the forum was read by a much broader audience and that such a space could be an important resource to win votes and gain support.

As to the recurrent argument that forums that allow anonymous participation are not bound by the normal conventions of reciprocity, blocking offensive posts was rarely necessary and was a minor part of the moderator’s work. Needless to say, potential offenders that could jeopardize the debate might have been discouraged either by knowing beforehand that the forums were moderated or by having their posts blocked at their first attempt.

In the light of the arguments above, evidence suggests that the online forum was, overall, an environment of rational, argumentative and reflective debates where active participants would persuade and be persuaded of the importance of one public work over another and where readers - in larger numbers - could be informed on concurrent perspectives.

#### IV – e-Voting: the numbers

The total number of votes was 503,266 with a total number of 172,938 voters<sup>17</sup>. Such a difference between the number of voters and number of votes is understood by the fact that voters were allowed to vote nine times (9 districts) as long as they voted for only one work per district.

These numbers therefore correspond to a participation level of 9.98% of electors from the city of Belo Horizonte participating in the e-PB - a level of participation that has never been registered in the traditional participatory budgeting. In the following section, I will examine these figures more closely, to facilitate a clearer understanding of the outcomes.

---

<sup>17</sup> Source: PRODABEL – Belo Horizonte Administration

## 8. ANALYSIS OF THE RESULTS OF THE E-PB

In the light of the most important e-voting experiences around the world, the e-voting experience of the e-Participatory Budgeting in Belo Horizonte is, by any standards, significant to those interested in the use of ICTs as a means to promote participation.

With a total number of 172,938 voters taking part in the ballot, which corresponds to 9.98% of the city's electors, the first e-PB involved nearly 7 times more participants than the traditional participatory budgeting<sup>18</sup> of the same year in Belo Horizonte. This is, without a doubt, the highest level of participation ever seen if compared to the traditional Participatory Budgeting processes from around the world.

Total of registered voters	172,938
Total of e-votes	503,266

However, what else can be inferred from the available data regarding the votes? Considering that electors were allowed to cast nine votes each (one for each of the 9 districts), there was a clear variance concerning the amount of votes cast by each voter. More than half of the voters (52.1%) chose to vote for only one district, 15.26% chose to vote for two districts and 6.57% for three districts, with a total of nearly two thirds of voters (73.61%) choosing to vote for between one and three districts only.

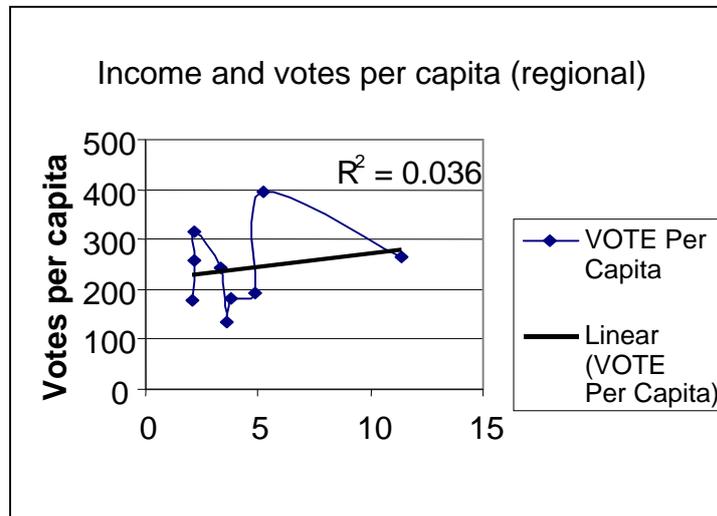
Number of votes cast	Number of voters	Percentage
1	92590	52.1 %
2	27123	15.26 %
3	11678	6.57 %
4	6459	3.63 %
5	3251	1.83 %
6	1790	1.01 %
7	687	0.39 %
8	484	0.27 %
9	28876	16.25 %

Also, between those who chose to vote for one district and those who chose to vote for eight districts, there is a decreasing trend, with this pattern being altered only by those who voted for all nine districts. Despite the fact that the available data does not permit an in-depth explanation of these numbers with regard to voters' motivations, a pertinent explanatory hypothesis may be formulated: the fact that most voters chose to vote for a few districts could show that most voters were not sufficiently concerned with voting for public works that were not related to their immediate reality. In other words, despite the fact that one of the criteria for choosing public works was that they were considered to be of interest to a wider public, the majority of voters decided to vote "locally". In this respect, to a great extent, the number of districts voted for per voter was inversely proportional to the costs of informing the votes. It was also inversely proportional to the time spent on voting, although to a lesser extent. Qualitative data seem to confirm this hypothesis, where citizens interviewed claim that they did not vote for works in other districts because they were not concerned about them and/or did not have "time to form an opinion on distant" district matters, or simply because they were "in a hurry".

---

<sup>18</sup> 6.85 times if compared to the 2<sup>nd</sup> round of the traditional PB, which is the moment of highest popular mobilization in the PB process.

As to the socio-economic factors, if one considers the average number of votes per capita received by each district and its average income per capita, there is no correlation. In other words, at the aggregate level there is no relationship concerning the average district income level and the amount of votes received.



Thus, considering the available data, there is no evidence, for instance, that districts of higher economic status were overrepresented in the e-PB, given that Internet access is strongly determined by, among other factors, income. Two hypotheses may be drawn for results such as these: 1) those with access to the Internet in the districts of lower income are the main voters; 2) the efforts of the administration and of engaged citizens to provide Internet access alleviated possible effects of the digital divide in the voting process. Regretfully, the lack of data at the individual level does not permit the confirmation or refutation of either of these hypotheses.

According to data provided by the city administration, there was a total of 192,229 visits to the e-PB website. If compared to the number of votes (172,938) one can state that no more than 19,291 voters may have accessed the website more than once. Hence, the highest possible percentage of voters who may have accessed the website more than once - to access information, to finish casting their votes<sup>19</sup>, or to use the other tools offered (e.g. forum) - is no more than 11.6%.

Concerning the geographical location of those who accessed the website, 119,903 hits were made from the city of Belo Horizonte, with the remaining hits originating from other cities, states and countries. In this respect, it can be stated that a minimum of 30.7% of votes<sup>20</sup> were cast from outside the city. In other words, nearly one third of votes – at least - were cast by people who would not have been able to vote if it hadn't been for the possibility of remote voting provided by the use of ICTs.

<sup>19</sup> Considering that each voter could cast 9 votes, they were allowed to access the platform more than once to cast all the votes.

<sup>20</sup> 53,305 votes

## 9. THE TRADITIONAL PB AND THE E-PB:

### COMPARING APPLES AND PEARS?

As mentioned above, the level of participation in the e-PB was seven times higher if compared to the traditional PB. Such a level of participation becomes particularly striking if one considers the amount of resources allocated to each of the initiatives, where a much smaller budget leads to a level of participation almost 7 times higher.

	RESSOURCES	PARTICIPATION
TRADITIONAL PB	US\$ 43 MILLION	1.46%
e-PB	US\$ 11 MILLION	9.98%

There is no doubt that the Internet dramatically reduced the costs of participating in such a process, considering that citizens could vote from virtually anywhere and during a 42 day period, and this should be considered as one of the decisive factors in the differing levels of participation between the e-PB and the traditional PB. But, is this comparison properly addressed? Are the new technologies the only factors responsible for such an outstanding increase in participation? The similarity of the two terms employed must not mislead observers, where the e-PB may be considered as the traditional PB with the addition of an “e”: differences go far beyond the deployment of Internet voting. Worthwhile comparison can only be made if we consider both initiatives in terms of channels of citizen participation in the decision-making process of budget allocation.

The differences between the two processes are numerous. To begin with, let us consider the scope of the public works involved in each process. One of the criteria for the selection of public works in the e-PB was that they were of larger scope and value than those in the traditional PB. In this sense, even if it is not possible to assess the relevance of the public works proposed by the e-PB compared to the works of the traditional PB, there is no doubt that the e-PB public works enjoyed much more visibility.

Secondly, let us consider the differences in the processes of agenda-setting - that is, the process of choosing public works that are to be submitted to a final vote. Whereas in the traditional PB a bottom-up movement characterizes the process, where citizens directly pre-select the works during assemblies, in the e-PB the choice of works was made in a top-down manner, with the participation of the administration and the district delegates aiming to identify more general demands. Conversely, it is in the e-PB that the final and definitive vote is made directly by citizens, whereas in the traditional PB the delegates make the final and binding vote. As a result, in the e-PB there was a decrease in the costs of participation alongside an increase in decision-making power at the individual level.

As to the existence of structured instances of deliberation, in the traditional PB, a deliberative process always takes place before a vote, with the entitled voters participating – either actively or passively – in the deliberative sessions (e.g. assembly, visits to the sites), whereas in the e-PB participation in the online forum – the only deliberative instance - was not a requisite for voting. Last, but not least, if in the traditional PB citizens have autonomy in the allocation of budget according to their own criteria (i.e. allocating different values to different public works) in the e-PB the budgets gave a fixed and equal value to every public work. In this respect, unlike the traditional PB, the e-PB did not function as an exercise resulting in an initial budget demystification/literacy.

Considering all of the above, it is clear that the differences between the two processes go well beyond the simple use of ICTs, where structural changes seem to have had an impact on the turnout level. As one citizen suggested, the e-PB - if compared to the traditional model - is “more participation and less participatory”. What are the implications of this, and how should this lack of a participatory dimension be addressed?

In this respect, the e-PB in the city of Belo Horizonte must not be considered as an initiative that competes with the traditional PB, and the existence of its own independent budget is proof of this. Rather, it is part of a global conception of citizen participation in the city, along with other initiatives such as the traditional PB. Thus, the e-PB should be seen as a complementary channel for citizen participation and not as a replacement of the existing practices. In fact, the e-PB and the PB are complementary initiatives where the relative flaws of the e-PB (e.g. less deliberative) could be easily addressed through the adoption of existing structures from the traditional PB. For instance, if the pre-selection of public works in the e-PB was made using a top-down approach, a stage such as the assemblies of the traditional PB could be included in future e-PBs in order to ensure a more deliberative, bottom-up selection process. Finally, the use of participative web tools<sup>21</sup> along with traditional forms of interaction could reduce the transactional costs of making the selection process more collaborative. Thus, citizens, civil society organizations and city administrations could work collectively on the pre-selection of public works to be voted for and on the dynamics of the e-PB itself.

---

<sup>21</sup> For more see: Participative Web and User-Created Content: Web 2.0, Wikis and Social Networking (OECD, 2007)

## 10. FINAL CONSIDERATIONS

Despite the lack of individual level data concerning voters and the motivation of those who participated in the e-PB, some preliminary analyses may be carried out in order to understand the reasons behind such an elevated level of participation. In this way, one can suggest possible explanations for the increase in public participation in the e-PB if compared to the traditional PB. For example:

- *Increasing the “window of time” for voting* reduces the cost of participation for citizens. By extending the voting time frame, citizens are able to vote at their convenience. In the case of Belo Horizonte, citizens had the opportunity to vote over a period of 42 days, where some were even able to vote at any time of the day or night.
- *Widespread access to voting points* also reduces participation costs, provoking an increase in the number of voters. In addition to the traditional points of Internet access (e.g. home, work), the 187 voting points strategically placed in the town, a mobile voting unit targeting relevant regions, and the computers made available by supporters may be considered as factors that helped to alleviate the effects of the digital divide and, at the same time, prompted citizens to cast their vote.
- *The scope and relevance of the public works:* The budget of US\$1.2 million for a single work was unprecedented and the scope of the proposed works much larger than before, where many of the works proposed corresponded to recurrent demands from citizens. In this sense, one might hypothesize that such relevance had an effect on citizens’ participation, where the assessment of the relative importance and benefit of the proposed public works would influence the decision to participate or not, and, if so, to what extent: either by simply casting a vote or actively supporting a particular public work by engaging in canvassing campaigns.
- *The salience of the initiative:* The intense communication campaign involved in the e-PB deployed by the city administration before and during the voting period, and the canvassing campaign organized by supporters, are considered by the unanimity of the stakeholders as some of the main explanations of the high turnout of voters. The novelty and curiosity that voting through the Internet may have provoked amongst citizens are also suggested as possible factors that influenced the number of identified voters. However, despite the effects of the novelty of voting through the Internet, it is important to underline that Brazilian elections have been fully electronic (though not through the Internet) since 2000, which could attenuate this novelty effect.
- *The binding vote:* experience shows that citizens are quite sensitive to the measure of their impact on decision-making processes (Caddy, Peixoto & McNeil, 2007). In this respect, citizens are concerned by the extent to which their participation is significant: in other words, whether they are simply being consulted or if their participation will be really be taken into account. Thus, considering that the e-PB was to generate binding effects, with the results of the voting being the only and decisive factor, citizens may have perceived it as a unique opportunity to participate directly in a budgetary decision of large scope, considering that, even in the traditional PB, the final vote is made indirectly by the sub-district delegates.

Despite having explored above the factors that one could pertinently hypothesize as contributing to the high turnout level, due to the absence of specific data, it is not possible to evaluate the extent of the influence of each factor, or to identify which are more important.

The absence of a specific evaluation during the e-PB (e.g. survey) of the profile of voters rules out a specification of the determinants behind the decision to participate or how these determinants operate. Such an evaluation could provide data with the potential to improve understanding of voters' behavior, and, eventually, serve as an analytical tool to help to increase participation - both in terms of number and of quality - in subsequent e-PBs. For this reason, nothing can be said about the profile of the participants, remembering that one of the objectives was also to integrate a new profile, reaching citizens from middle class backgrounds and younger citizens. Also, apart from data regarding those who participated in the e-PB platform, little can be stated about the quality of participation and how votes were informed. In this respect, the absence of a pertinent evaluation of the profile of voters is a flaw that could be addressed in future e-PBs.

However, one can safely hypothesize that the ease with which participants could vote – with the Internet as an enabler – and the salience of the initiative along with the citizens' view of their own participation as decisive in the process, were definitive factors in the attainment of such a high level of participation. Despite its novelty and relative flaws, the e-PB is a unique experience and an initiative that cannot be ignored by anyone interested in the use of ICTs as a means to enhance participation, and its future developments should be followed closely.

## 11. LIST OF REFERENCES

- BARBER, B. **Strong Democracy: Participatory Politics for a New Age**. Berkeley, University of California Press, 1984
- CADDY, J. **The role of technologies in democracy**. In Coleman, S; Norris, D: A new agenda for e-Democracy: International Journal of Electronic Government Research, 1(3), 69-82, July-September 2005
- CADDY, J ; PEIXOTO, T & MCNEIL, M. **Stocktaking of Social Accountability Initiatives in OECD Countries**. OECD and World Bank, 2007
- CASTELLS, M. **The Internet Galaxy, 2003: reflections on the Internet, business and society**. Oxford University Press, 2003
- COLEMAN, S. & GOTZE J. **Bowling Together**. Hansard Society, London, 2001.
- BORJA, J & CASTELLS M. **La città globale**. Novara, De Agostini, 2002
- DAVIS R. **The Web of Politics**. Oxford, Oxford University Press, 1999
- LAUDON K. **Communication Technology and Democratic Participation**. London, Sage, 1977
- LEVY, P. **Cyberculture: Rapport au Conseil de l'Europe**. Odile Jacob, 1997
- LEVY, P. **La Cyberdémocratie**. Paris, Odile Jacob, 2002
- MALDONADO T. **Critica della ragione informatica**. Milano, Feltrinelli, 1997
- OECD **Participative Web and User-Created Content**. OECD, 2007
- PAILLART, I. **Démocratie locale et nouvelles techniques d'information et de communication**. Pouvoirs, n° 73, 1995.
- PRATCHETT, L. **Making Local e-Democracy Work**. In, Virapatirin M. and Peixoto T., eds, The White Book on Local e-Democracy, SEM Issy-Media, 2006
- PREFEITURA BELO HORIZONTE **Plano Regional de Empreendimentos do Orcamento Participativo 2007 / 2008**, Assessoria de Comunicacao Social de Belo Horizonte, 2007
- RIBEIRO, U. **As mulheres no Orçamento Participativo de Belo Horizonte**. In: Anais do II Seminário Nacional Movimentos Sociais, Participação e Democracia, Florianopolis, 2007.
- TRECHSEL, A; KIES R; MENDEZ F; SCHMITTER P: **Evaluation of the Use of New Technologies in Order to Facilitate Democracy in Europe**. Strasbourg, European Parliament, STOA, 2003.
- VEDEL, T. **L'idée de démocratie électronique: origines, visions, questions**. Le désenchantement démocratique, pp 243-266, Paris, Editions de l'Aube, 2003
- WOLTON, D. **Le local, la petite madeleine de la démocratie**. Revue *Hermès*, no 26-27, CNRS Éditions, Paris, 2000

