Section: New Developments in Democratic Innovation Research
Panel: Do Democratic Innovations Improve the Quality of Democracy?

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Title: Democratic Innovations and Increase in the Quality of Democracy in Brazil: The Experience of the Digital Participatory Budgets in Belo Horizonte and Recife

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Democratic Innovations and Increase in the Quality of Democracy in Brazil: The experience of the Digital Participatory Budgets in Belo Horizonte and Recife

(Dimas Soares Ferreira UFPR – Universidade Federal do Paraná/
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Abstract: The aim of this paper is twofold: firstly, to characterize the experiences of participatory budgets in some Brazilian cities as "democratic innovations" by presenting the characteristics of increased power given to citizens and the production of democratic goods mentioned by Graham Smith in his work. Secondly, we will seek to demonstrate how these innovations contributed to introduce virtual and incremental democratic improvements in the quality of democracy in Brazil, by increasing the rates of participation and creating virtual deliberation spaces that were effectively used by the citizens in these cities, thus contributing to the production of decisions closer to the demands of the citizens. In addition, the experiences of virtual participatory budgeting in Brazil add value in relation to the previous face-to-face experiences by incorporating large contingents of the population in the budget-drawing process, from which they were previously excluded or did not participate in the process.

1) INTRODUCTION: THE MODEL OF DEMOCRATIC INNOVATION AND ITS IMPACTS ON THE QUALITY OF DEMOCRACY.

In recent years there has been growing interest in democratic innovations, which initially were conceived as responses to a "crisis" of civic engagement and representation, supposedly occurring in more institutionalized and stable democracies of post-industrial societies. However, despite the growing interest in this theme, studies often lack empirical data to carry out systemic analysis of different experiences of democratic innovation (DI) occurring in democratic political systems, especially in countries with more recent democracies. Furthermore, we can observe that the empirical indicators used in DI experiments are not always sufficiently precise to permit systematic comparative research to be carried out on the value added of DI to existing democracies, thus contributing to increasing their quality.

In our view, this kind of research is particularly relevant in a context in which the so-called "critical citizens" all over the world voice the fact that the disenchantment with institutions of traditional representative democracy does not necessarily imply in a general abandonment of democratic values (Norris, 1999, 2011). Arousing from the tension between the adherence to democratic values and their manifestation in institutions of low performance, marked with low degree of legitimacy and acceptance in the eyes of the citizens, the pressure for democratic innovations appear in an attempt to increase the quality of democracies. On one hand, this "relative democratic deprivation" increases

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1 This paper is one of the results of a period of postdoctoral research at University of Leeds that has been conducted with a grant from CAPES/Coordination of Improvement of Higher Education in Brazil. I would like to thank both institutions the opportunity to develop this research.
instability and tension in the political system. On the other hand, it opens a wide field of possibilities for democratic experiments in various areas of social life that seek to deepen democracy, rather than to restrict it or, in the worst case, to suppress it.

Parallel to this discussion, although not always linked to the theme of democratic innovations, a wide literature has emerged on the topic of participatory budgets (PB) all over the world, providing in-depth reflections on PB experiences on an international scale. This also happens with the recent experiences of Digital Participatory Budget (e-PB) although in smaller scale (Sampaio, 2014). Digital PB ou e-PB, which is the object this article, has been studied from a number of perspectives, seeking to evaluate its impacts on various dimensions of democracy including: a) the prerogatives to create spaces for citizen deliberation; b) to evaluate the engagement of new actors in the decision-making process; c) impacts on the public administration in general; d) partisan and geographical distribution of the different Digital PB experiences among others.

In this article, however, we intend to focus on the e-PB theme from a different perspective relative to the approaches explored by the literature. We shall focus our research of this social phenomenon from the "democratic innovation" and "quality of democracy" perspectives, thus seeking to answer two related but distinct general questions:

- **Question 1:** Based on what analytical parameters can e-PB experiences be evaluated as configuring a "democratic innovation" (DI)?

- **Question 2:** These innovations bring democratic gains from the point of view of the quality of democracy or to the contrary, according to the position of a long political tradition in western thought, the creation of new spaces of participation and the incorporation of new actors to the decision-making process can decrease the quality of democracy, so increasing its instability and/or decreasing the quality of deliberative spaces by incorporating actors with low cognitive ability to cope with the demands of democratic deliberation (Smith, 2005)?

As such, the basic purpose of this article is to deal with two controversial notions (Democratic innovation and quality of democracy) from an "empirically oriented" point of view linking this goal with a reflection on the impacts of digital democracy in contemporary democratic political systems.

It is important to point out that it is not our goal to solve theoretically all the problems posed by these two notions, and even less so to make an inventory of all
literature produced on the subject, but rather to draw some more general lessons from the experiences posed by the Brazilian Digital PB case studies.

In this sense, the more general analytical objectives of our work are the following: a) test the performance of the DI analytical model to empirically analyze the PB experiences of digital democracy in Belo Horizonte and Recife; b) associate this empirically-oriented analysis with a reflection on the concept of quality of democracy, which has been generally limited to the frameworks of traditional institutions of representative democracy.

With regards to the first point, we shall build the arguments on the pioneering study of Graham Smith about democratic innovations (2005; 2009). As is known, Smith drew up the concept of democratic innovation in the context of his criticism of "deductive" and "unilateral" democratic theories. So his goal was to develop an empirically functional analytical model capable of combining elements from several theoretical democratic traditions to evaluate whether: a) the experiences of institutional innovations introduced in democratic political systems could be characterized (yes or no) as democratic innovations; b) evaluate intensity and quality of the different DI experiences (i.e. the degree to which these principles are implemented in a particular political system).

For our purposes, we can retain the following central ideas of Smith's theoretical scheme:

1) DI experiences are a democratic advancement in relation to the existing status quo, before the implementation of such innovations;

2) Empirical indicators can be created to assess whether and how DI experiences are present in a given territory, as well as to analyze them from a comparative perspective;

3) These empirical indicators can be used to evaluate the quality and the intensity of DI experiences. Thus, contrary to what might be expected, a reflection on the quality of democracy is present in the formulation of the DI concept, although this last point was not developed systematically by the author.

Indeed, although concern over the quality of democracy was present since the beginning of DI studies, adequate methodological and theoretical foundations were not developed nor were accurate empirical indicators built with this focus, to evaluate the quality of DI experiences. Without the intent to solve this intricate analytical problem, the objective of this work is to shine light on the theme by carrying out a comparative analysis
of two e-PB experiences: one being of a digital nature and the second one of an attendance-based e-PB model.²

From this perspective, the great heuristic potential of the DI concept is to enable in-depth studies of incremental improvements in a particular pattern or model of representative democracy (polyarchy) without changing significantly its substantive nature, giving rise to complex institutional combinations where diverse experiences of participatory democracy and new spaces of deliberation coexist with varying degrees of representative democracy models (BLUMER & COLEMAN, 2009). As such we can refer to incremental enhancements or improvements in the quality of a particular model of democracy when these democratic innovations are institutionalized and when they are incorporated into the operational dynamics of a given political system. In our view this focus is particularly useful to assess the impacts of diversified digital technologies within polyarchies that truly exist in the contemporary world.

Thus, the first step of our study is to characterize e-PB as a democratic innovation, following the generic analytical proposal formulated by Graham Smith in his work. As noted by other authors the analysis of democratic innovations is a vast field yet to be explored considering that only recently have other experiences been evaluated from this perspective (Wright, 2012; Geissel & Newton, 2012).

As such we deem important to briefly introduce the DI concept by using a table separating the concepts from the categories used by the author, point out the empirical indicators that he used throughout the book, thus pointing out that this can be understood as the combination of four democratic and two institutional assets:

<table>
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<th>TABLE 01</th>
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1. Inclusiveness:
   - Refers to the manner in which the democratic ideals [or of political participation] bring into effect at least two aspects of political participation: voice and presence.

2. Popular control/Public scrutiny
   - Refers to the degree to which participants [or citizens] can influence [or monitor] various aspects [or stages] of the decision-making process.

1 It should be noted that a concern with the quality of democracy was present already in the context when the DI concept was being created, although the author does not develop this point: "The rules and practices of representation within PB reduce the possibility of corruption and clientalism, practices which have systematically undermined the democratic quality of Brazilian politics, although there are often complaints that budget councillors, in particular, fail to report back adequately to their communities" (Op. cit., p. 52_._
Considered Judgement - Refers to the degree to which citizens understand both the technical aspects of the decision-making process and the perspectives/points of view of other citizens participating in the PTD

(i) To what extent are citizens being exposed to other opinions and points of view, thus coming out from their state of isolation?
(ii) To what extent can one observe the occurrence of deliberative processes among participants and what is the quality of this process?

Transparency - Refers to the degree of openness of PTD procedures with respect to the participants and the general public

(i) Are citizens being clearly informed about the conditions in which they are participating?
(ii) Is the general public informed of the system's procedures?

B) INSTITUTIONAL GOODS

Efficiency - Refers to the costs of participation absorbed by the citizens and public authorities who participate

(i) What are the costs and benefits of the project, for the public administration and for the broader community.

Transferrability - Refers to the possibility of new institutional designs being replicated in different political contexts, both in relation to scale, type of issue and type of political system.

(i) To what extent does the DI satisfy the different requirements of replication, such as: a) transferability to other contexts and political scales; b) ability to address different types of "issues".

Source: The authors.

It is important to note that the summary table is not to be interpreted as a "strait-jacket", but rather as an exercise to organize some key empirical indicators that will be used in our analysis of e-PB experiences. To evaluate the intensity and the quality of DI, Smith and other authors have used this model, with varying degrees of definition of the variables involved in the analysis. To simplify the exposition of the author's ideas, we suggest observing how Smith applies his model to analyze the experience of Porto Alegre's PB and how Scott Wright (2012) applies the model to analyze the experience of online petitions, underlining with a "+" those that contribute to the increment of DI experiences and with a "-" those that are seen as obstacles in its achievement.

**TABLE 02**

<table>
<thead>
<tr>
<th>PORTO ALEGRE PB EXPERIENCE</th>
<th>DOWNING STREET E-PETITIONS</th>
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<tr>
<td>a) DEMOCRATIC GOODS</td>
<td></td>
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<tr>
<td>(i) Inclusiveness:</td>
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<tr>
<td>+ Large number of participants: thousands of people were participating in the regional budget assemblies.</td>
<td>+ Downing Street e-petitions had the filtering or sampling procedure: It was open to all who had the desire, knowledge, and ability to participate.</td>
</tr>
<tr>
<td>+ Participation of new actors and of the &quot;average citizen&quot;: &quot;This participation brought neighborhoods and regions that historically had not been mobilized into the realm of collective action. The majority were poor rather than middle class&quot;.</td>
<td>- However, there are some barriers to inclusiveness: politically active minorities can control and even manipulate the process; lack of digital competence can undermine the process; extent that ordinary citizens can influence the process as opposed to organized interests;</td>
</tr>
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<td>- However, studies show that in thematic forums participation does not occur the same way presenting a more elitist profile;</td>
<td>- &quot;To summarize, Downing Street e-petitions did not achieve popular control, but this was never the aim. More worryingly, the vast majority of petitions also had no obvious influence on, or link to, formal policy-making &quot; (p. 462).</td>
</tr>
<tr>
<td>(ii) Popular control:</td>
<td></td>
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<tr>
<td>+ The citizens have the power to set the agenda to define the rules under which the resource distribution occurs;</td>
<td>- In summary: “The notions of dipping a toe in the water and not being able to brush public opinion under the carpet speaks to the current</td>
</tr>
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<td>+ The PB also resorts to the use of representation principles, but some accountability mechanisms do exist, such as: a) representatives/delegates come from the same social segment as that of the participants; b) there are a number of factors</td>
<td>of democratic goods provided by citizens. It is a matter of public and private accountability, not a problem of &quot;what is in the public interest&quot;;</td>
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limiting the mandate and re-election rate; c) the people holding the positions are not paid; 
+ decrease in patronage and corruption
- There are however some limitations to public scrutiny, such as: a) dependency of participants in relation to the forums; b) possibility of citizens being co-opted by public institutional arrangements;
+ function of e-petitions for government; they are seen as a barometer of public opinion, particularly the citizens it sets their own agendas (Bua, 2012; Herbst, 1998; Kingdon, 2011).

| (iii) Considered Judgement | + Despite some problems (ex: the concentration of technical knowledge by the board members) there is evidence of balanced judgment in preparing the PB | - "In coming to the considered judgment, participants must have an awareness of the" facts "and consider the views of the people who will be impacted. Downing Street e-petitions are not particularly effective in this regard". |
| (iv) Transparency | + public officials and the Mayor are accountable for the process; + meetings are open to the public and there is a digital system for monitoring the project + + In summary: all the steps in the project are satisfactorily efficient | + "Compared with other e-democracy experiments (Coleman, Hall, & Howell, 2002; Wright, 2006a), the e-petition process was designed with a significant degree of transparency. First, all accepted and rejected petitions were published, alongside the criteria and reason for the decisions (...) Second, all the replies were published, and thus missing replies were put into the public domain. " |
| (v) Efficiency | + the delegates' cost of participation is offset by the benefits brought to the neighborhood in terms of works and improvements; + the benefits brought by the works for the neighborhood demonstrate a good incentive structure for participation + There is a cost in creating new institutions, but these costs are offset by the benefits + the PB also streamlines the process for choosing delegates; + "The benefits to the political life of the city are clear. Lines of accountability have been created where before corruption and clientelism were rife " | - "Analysis of the perceived benefits of signing the Downing Street e-petition among the general public was not possible, but the majority of successful petition creators perceived the process inefficient". - There was a key problem with the costs of moderation, which is a fundamental element in the process of democratic innovation: "The analysis suggests that while it was relatively cheap to run, the limited resources did serve to undermine the efficiency of the tool for both government and citizens". |
| (vi) Transferability | - a fact which prevents the replication is the excessive partisan nature of the PB and of its attempt to exclude sectors of the population which are not affiliated to associations belonging to the PTD; + The Olivio Dutra government took on the first attempts to adopt the process on a state-wide scale | + "e-petitions have spread across a number of countries, with the perceived success of Downing Street acting as a driver". + "the coalition government has delivered on its promise to reinstate an empowered e-petitions service." |

Source: The authors.

Although the author claims that the model is not final and can be expanded and made more flexible, to simplify the analysis, we shall work with the variables outlined by the author. That's because the basic objective of our analysis is to examine if and how the e-PBs have perfected (or not) the characteristics of the attendance-based PBs, thus characterizing the experiences as a DI.

Having exposed this justification, the following section presents the analysis of the e-PB experiences according to the criteria discussed above.

2) DIGITAL PB AS A DEMOCRATIC INNOVATION [DI]
Initially we should note that e-PBs, as well as their attendance-based counterparts feature all the DI prerequisites listed by Smith (2009): a) they *increase the participation and influence of citizens in the decision-making process*, to the extent that both experiences show that citizen political participation in the new institutional spaces created by the PB was expanded, and that the possibility of influencing the political process has increased; b) they are *different from the traditional initiatives of Representative Democracy (RD)*, insofar as they involve the creation of new spaces of decision and deliberation beyond the traditional representative institutions; c) they *engage the common citizen* and not just those that were previously involved or organized, to the extent that an increase in the political participation of citizens who were not necessarily present in traditional spaces, including in attendance-based PB was noted; d) these experiences are *institutionalized*, insofar as they involved the creation of new institutional spaces of deliberation that, over time developed relatively stable rules and procedures; and) they cause a *tension with traditional institutions*, insofar as they involve the creation of spaces for deliberation in parallel to traditional representative institutions establishing a dispute with the latter ones over spaces of the decision-making process.

Thus, the presence of these general pre-requirements justifies a more in-depth analysis of the e-PB from a democratic innovation perspective. Having said that, the questions that arise are: how and to what extent the e-PBs added value to democratic practices in comparison with the previous democratic experiments? Can they be characterized as a DI in comparison with the existing attendance-based PBs?

We will try to answer these questions by analyzing the experiences of the e-PB in two Brazilian cities. It is important to clarify that the empirical basis of the present study is founded on the fieldwork conducted in the two cities based on the analysis of on-screen and discursive contents originating from comments posted on the website of the Belo Horizonte Digital Participatory Budget (BH/e-PB) by using an index of the *Online Deliberation Quality Potential* based on indexes of online deliberative quality used by Steiner et al (2004), Stromer-Gaandlley (2007), Bächtiger et al (2009), Wales et al. (2010) and Mendonça and Pereira (2011) and Ferreira (2012).

### 2.1) General characteristics of e-PB experiences in Belo Horizonte and Recife.

Since the 1990s several local governments in Brazil, mainly (or almost exclusively) led by left-wing administrations, created and fostered new arenas of participatory public
deliberation, such as participatory budgets, councils and public policy conferences, among others (Avritzer, 2008). However and contrary to what occurs in more institutionalized and stable democracies of advanced capitalist countries these DI s did not unleash a "legitimacy crisis" of traditional representative institutions, just recently established in Brazil. In our view this is due to three basic factors: a) the Brazilian Constitution of 1988, drawn up following the participatory movements of the 1960s and 1970s, contained multiple devices regulating popular participation in government decision-making processes, especially at the local level; b) the elite leaders of the leftist parties in Brazil that won the elections at the municipal and state levels, from the early 1990s onward, were heavily embedded in those same democratic participatory values inherited from the movements of the preceding decades; c) last, but not least, the more politicized left-wing administrations (especially those belonging to the PT party) sought to imbue a trademark/label on their management in order to differentiate themselves from other center-oriented and center-left parties.

After implementing several relatively successful experiences of participatory management all throughout the 1990s and 2000, from the mid 2000 onwards the first experiences of participatory digital democracy were beginning to sprout in Brazil, including those related to participatory budgets.

In the case of Belo Horizonte’s PBs, the first participatory experiences in the city date back to the early 1980s when social movements multiplied across the city. However it was only in 1993, during the first municipal government led by the PT (Labour Party), that political participation has become a central vector of a management that envisioned to be democratic, participatory and of a popular nature. Following the Porto Alegre participatory budget (PA-PB) model, the Municipality of BH (PBH) adopted what was called a "Regional PB". Initially, participation was relatively small, but the process has been increasing ever since, especially to the extent that citizens began to understand the effectiveness of their decisions (Azevedo and Guia, 2005).

The implementation of the PB went on to establish a new model of governance guaranteeing popular political participation and the inversion of priorities. Throughout almost twenty years the government sought to ensure relative participation of civil society and especially of communities in defining part of their budget priorities. Over time, the PB went on to implement this model in every city neighborhood. According to Pimentel (apud OIDP, 2007), the PB is directly linked to the municipal planning process. Its improvements and extension catalyzed the inauguration in 1996 of the "Housing PB" and finally, in 2006,
of the "Digital PB", seeking to include in public deliberation processes civil society segments which were considered to be uninterested, especially as youth.

With this historic accumulation of participatory experiments, BH eventually became the first municipality in the world to adopt an exclusively digital model of participatory budgeting, recognized as a pioneering experience of e-participation, which was only possible due to the expertise acquired over nearly two decades of encouraging popular participation in politics (Sampaio, 2014). In fact this is an entirely separate process of the Regional PB, with the striking aspect of institutional design that gives up attendance-based political participation, and as such, distinguishes itself from other participatory budgeting experiences that mix offline and online possibilities for participation, like Ipatinga, Vitoria and Recife, to mention a few. Since its introduction there has been substantial increase in participation in public decision-making processes (Chart 1). In addition, new digital participatory channels were created based on the e-PB such as community association blogs as well as the "Comforças" (Public Supervisory Councils)\(^3\) to promote public debate and social control.\(^4\)

![Chart 1: Participation in Belo Horizonte's PBs (1994-2011)](image)

**Source:** Nabuco *et al.*, 2009: 141-2

The official website of the e-PB gives citizens access to information about the process and its methodology, on the works that are running for funding, including budget costs, location, before and after images and other information. Communication and interaction tools are also available online, such as email (contact us) and chats (online discussion forums) that enable citizens to discuss among themselves and with representatives of the Municipality of Belo Horizonte (PBH) issues concerning projects and ventures presented by the PBH. But, it is not possible to include new demands, since

\(^3\) The Comforças are BH-PB Supervisory and Monitoring Councils.

these are previously defined by the government based on a pre-selection process through other channels of participation. Another mechanism of digital information is the Newsletter, a sort of bulletin sent by PBH to citizens who register their e-mail address in the e-PB database. The Newsletter provides content on various issues about the process itself, such as positioning of the works in contention and citizen testimonials.

After voting, the citizen can monitor the results, as well as the implementation process of the winning works in their stages of design, bidding, implementation and final conclusion via the PB link on the PBH site. Therefore, the institutional design of the e-PB inaugurated the establishment of an online public decision-making arena (although without the inception of formal mechanisms where civil society can suggest demands and without expanding/opening arenas for further political debate). In spite of all its technical and operational complexity, the e-PB design is also seen as a solution to some of the problems concerning the social control of participatory budgeting processes. The relative success of the project is today a reference, not only for studies of e-democracy, but also for a significant portion of society who went on to identify in its design an interesting channel of political participation.

With regard to the Recife/e-PB, the administration of Mayor João Paulo (PT), implemented in 2001 a PB model mirroring the Porto Alegre structure. As such, the definition of priorities and works occurred prior to the election of delegates and through effective popular political participation in face-to-face deliberative arenas (Ferreira, 2004). Between 2001-2007 the institutional design of the Recife Participatory Budget (RPB) suffered some modifications aiming mainly to improve the participatory and deliberative processes. In 2007, during the government of João da Costa (PT), an online deliberative phase was introduced in the RPB cycle, merging off-line and online deliberative and participatory processes, which eventually turned into a semi-digital participatory budget process, albeit the total volume of resources allocated to the RPB didn’t distinguish values intended for one or the other type of participation. That is, a lump sum of resources is distributed for all the city's micro-regions. This change in the institutional design of the RPB was motivated by the need to foster the inclusion of new audiences into the public deliberation processes.

The objective of this hybrid design is to allow all citizens to participate in digital voting given that the person has not voted in the regional and/or thematic plenaries. In fact, the design introduced an additional stage of online voting after the completion of the plenary sessions. As such, the online vote, via electronic voting machines and/or the
Internet, became one more stage of the RPB. As stated by Labanca (2010), it is not an essentially Digital PB, but rather a design which allows two possible ways of participation, including an attendance-based participation and a digital one.

One aspect of the institutional design of the RPB that should be highlighted refers to the definition of the demands agenda. This agenda is not defined exclusively by the government, but is born from a deliberative process that begins before the regional and thematic plenary occur with the registration of demands to be placed under scrutiny. In order for this to occur the citizens must organize themselves into groups and indicate those actions that are deemed to be a priority. After drawing this list, the population debates and votes in plenary sessions the ten demands that will pass on to the digital stage and be voted on. Therefore, in this case civil society defines the list of priorities which will be placed in dispute. Nevertheless only citizens residing in Recife can participate in this process.

In light of the above we now can analyze in more detail these experience from the DI and quality of democracy perspectives by applying the analytical scheme presented above in the summary tables.

2.2) Democratic assets of the Belo Horizonte and Recife e-PBs and their impacts on the quality of democracy.

a) Inclusiveness.

In the preceding session we saw that inclusiveness refers basically to the possibility of incorporating new actors in the decision-making process, both quantitatively and qualitatively speaking. With regard to this point, both the Digital PB of Belo Horizonte (BH/e-PB) and of Recife (Recife/e-PB) increased public participation rates, giving voice to new actors and adding participation from both a quantitative and qualitative perspective.

With regard to the BH/e-PB, its first edition counted with 36 projects which were voted on, distributing four projects for each of the nine Administrative Regions. 192,229 accesses were registered, 951 e-mails were received through the "Contact Us" option and 347,323 email addresses were registered in the Newsletter, which received three electronic bulletins throughout the process, accounting for a total of 1,041,969 messages sent over the Internet. The first challenge was to include the portion of the population that did not have access to the Internet, 152 Digital inclusion Centers and municipal schools that served as

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5Evelyne Labanca, Special Secretary of Management and Planning of the PCR. Interview conducted on June 18th, 2010.
polling places scattered throughout the city. Digital inclusion has become a prerequisite of social and political inclusion (PBH, 2009: 33).

In the second edition of the e-PB (2008), modifications were introduced to improve the methodology. The goal was to implement an important transportation infrastructure project. For this purpose significant amount of budgetary resources were allocated to the winning project (R$ 50 million or 123% more than in 2006). The project was chosen from a list of studies conducted by the Belo Horizonte Road Structure Program (Viurbs). Furthermore, voting possibilities were extended to citizens by allowing phone-voting at no charge by using a 0800 number. Thus, giving citizens without Internet access the ability to participate in the online decision-making process. But, the most important change is that 124,320 citizens participated in the e-PB/2008, out of which 90.76% via Internet and the remainder by telephone. Comparing to the e-PB/2006, a 2.82% drop in participation was observed. However, when compared to attendance-based participation in the Regional PB performed during the same time interval (2006 and 2008), we can observe that digital participation was much higher (Chart 2).

Chart 2: Participation in the Regional and Digital PBs (2006-2008-2011)

<table>
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<tr>
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<th>OP Digital</th>
<th>OP Regional</th>
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<tbody>
<tr>
<td>2006</td>
<td>25488</td>
<td>25871</td>
</tr>
<tr>
<td>2008</td>
<td>124937</td>
<td>44000</td>
</tr>
<tr>
<td>2011</td>
<td>127937</td>
<td>33643</td>
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</table>


As such we can observe that the first requirement of a DI was met, insofar as it incorporated new actors. In 2008, 38,055 votes were processed via phone contributing with the e-PB. Of these, 11,483 have been transformed into votes. Therefore, out of the 113,383 total votes about 10% came from telephone calls. These votes registered via the 0800

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7 Silvana Veloso, Director of Digital Inclusion - Prodabel.
10 If we consider that the number of accesses to the DPB/2006 site was 192,229 then there was an even bigger fallout of 35.32% in participation.
service were decisive for the victory of Project #5 (San Vicente Square with the Ring-road). The project is located in a lower income region. Of the total votes given to Project #5, 13.2% came from telephone calls. Out of all the votes tallied via telephone, 40.6% of them were in favor of Project #5. In contrast Project #4 (Portal Sul/Belvedere), which scored in second place, located in the predominantly upper middle class south-central region, received only 3.5 percent of the total votes by phone. In other words, the option given to vote via telephone was decisive in the e-PB/2008, extending the possibility of political participation to poorer and digitally excluded citizens contributing mainly to decide in favor of a works located in one of the poorest and most needy regions of the city (Chart 3).

![Chart 3: Origin of votes of e-PB/2008 per works](chart)

**Source:** SMAP 09a, *apud* Nabuco et al., 2009: 151.

With regard to the Recife/e-PB an increase in participation can also be noted in relation to the attendance-based experiences, both in terms of quantity and quality. The introduction of the internet in the RPB of 2007, as an attempt to add new e-participation tools, expanded quite quickly the rates of political participation. Between 2008-2009 participation via the Internet grew 83% and through the use of electronic voting machines grew 29%, whereas attendance-based participation grew only 14% during the same period. Since 2009 Internet participation surpassed the participation via electronic voting machines and, in 2011, surpassed attendance-based participation during the plenary sessions (Chart 4). One of the factors that can explain the expressive growth of participation via the Internet was the fact that community organizers worked heavily to foster the use of Internet cafes scattered throughout Recife's underprivileged communities and neighborhoods,
negotiating access to these spaces by the population at any given time during the PB’s digital stage.

Even with problems of effectiveness, the e-PB processs induced civil society to mobilize and to create new channels of political participation in the process of public deliberation. A good example of this were the residents’ associations and other types of social organizations which, through their leaders, began to voluntarily diffuse the e-PB and campaigning in favor of works that interested them most. Many of these associations or social organizations have built blogs and distributed printed materials such as pamphlets, in which they sought to show in descriptive form the works, their impacts and importance to the community or region, as well as their supporters and instruction on where and how to vote. The selection of a works located in a lower income region reinforces our thesis of social mobilization. The question is how did a region, lacking technological resources and without easy access to the Internet, managed to get more votes than a region relatively wealthier and with much easier access the Web? Everything indicates that what secured the selection of that project was, in fact, the mobilization carried out by community leaders from that region.

![Chart 4: Evolution of participation in RPB (2007-2011)](chart)

The cases described above provide evidence suggesting that both the BH/e-PB and the RPB grew in terms of citizen participation in deliberative and decision-making processes regarding the partial allocation of public resources. However, in Recife this growth was most significant, becoming the main form of political participation in the PB while in Belo Horizonte this participation fluctuated with more intensity, depending largely on project management efficiency.
b) Public Scrutiny

We saw in the summary table that popular or social control refers to the degree to which participants (or citizens in general) can influence (or monitor) different aspects or stages of the decision-making process. In relation to this point, the BH/e-PB also added value in relation to prior attendance-based experiences by improving popular control throughout all the stages of the decision-making process, from the formulation of the agenda to the implementation of decisions through the intensive use of digital tools. In this sense, by aggregating transparency to the various stages of the decision-making process, the internet tools (available on the website) were pivotal in increasing demand for popular control throughout the stages of the decision-making process.

However, problems were also observed, such as such the fact that the definition of the public works agenda was carried out by city administrators without prior participation of the population. Furthermore the absence of popular control during the works execution process was cited as a key factor for the decrease in participation observed between the 2008 and 2011 version of the e-PB.

With regards to the BH-e-PB, a challenge that has been observed since its inception is the lack of influence that citizens may exert on the "agenda-setting" process, considering that in the first two editions of the e-PB, citizens only voted on proposals that were previously selected by the technical staff of the municipality. However, in other stages of the decision-making process, in spite of all its technical and operational complexity, the e-PB initiative has also been referenced as a solution to problems concerning citizens' ability to control the processes of participatory budgeting. Citizens who desired to do so could follow-up online the various implementation stages, thus reducing the cost of the supervisory process. To make this possible, the Municipality signed at the end of 2006 a partnership with Belo Horizonte's IT Public Company (Prodabel) to make available online the main project implementation phases for each of the projects approved by the PB process. The relative success of the project is today a reference, not only for studies of e-democracy, but also for a significant portion of society who went on to identify in its design an interesting channel of political participation and social control. Thus, the institutional design of the BH/e-PB foresees digital tools for monitoring and accountability where public authorities give the feedback to the demands of citizens on the site (illustrated by the figure below)
In relation to the Recife/e-PB it is important to observe initially that the agenda is not defined solely by the government insofar as every group of ten citizens can register two priorities to be placed for discussion and be voted. Throughout the plenary sessions, an electronic scoreboard allows participants to monitor the results of the votes in real time, giving more transparency to the plenary voting process, instigating people to mobilize throughout the process to ensure the approval of their proposals. From a conceptual point of view, one can attest that methodologically, the structure of the Recife/e-PB is the same since its creation in 2001. In fact an attempt was made to add new participatory technological tools to the process, such as the digitization of votes and the insertion of a digital phase where individuals had the opportunity to participate through electronic voting machines located strategically throughout the city and also via the Internet.

However, unlike the BH/e-PB, the Recife/e-PB did not offer citizens the possibility to monitor in real time the votes during the digital phases. In addition, the site offers relatively small volume of PB information (location, short description of the works or actions and before and after images). There is no technical information about the works nor is there a description of the impacts on the lives of citizens. Sketches are not shown and the costs of the works are not shared. Finally, digital monitoring tools are not made available. We must highlight that the deliberated projects do not reach a macro-structural level nor do they have the purpose of linking local demands with demands of a more regional scale. Most projects are localized in nature and represent specific demands of the communities that suggest them in the first place. The interference of public authorities in the definition of the agenda that will be submitted to the deliberative process takes place when the final selection of projects is carried out according to technical feasibility and budgetary constraints. Unlike the BH/e-PB, the works set out in Recife/e-PB, even if approved from a budgetary perspective, have yet to be submitted to a technical feasibility study. Namely, the population defines the works, but no previous study on its technical feasibility and budgetary dimensions exist, which also weakens the intensity of popular control over the process, although it is present in most stages of the PB.

In both cases that were described above growth was observed in terms of citizen participation in deliberative and decision-making processes regarding the partial allocation of public resources. But, in Recife this growth was most significant, turning the e-PB the main form of political participation in the PB. However, the question of whether the increase in participation was followed by an increase in the participatory quality and in the
deliberative processes with the opening of new debate arenas and online public discussions remains something to be investigated. The next session will try deal with this question.

c) Considered Judgment.

As we have seen above, the judgment refers to the degree to which citizens understand both the technical aspects of the decision-making process and the perspectives/points of view of other citizens participating in the e-PB. With regard to this point, the e-PB has added value to the decision-making process. It incorporated new digital tools to the deliberative process by increasing exposure of citizens to divergent perspectives. However, new challenges and criticisms were also noted, derived from the implementation process.

With regard to the BH/e-PB, digital resources were created such as the "Citizen Opinion" link, giving the chance to post comments, demands and criticisms. These comments were stored and were made accessible to all citizens at any time in the digital environment (Sampaio et. al, 2010). Additionally, alternative digital public arenas such as blogs and other tools of virtual public deliberation were created by community leaders, often in parallel and outside of the tools made available on the e-PB website.

The number of accesses to the site was also significant. In 2008, for example, in all 191,008 accesses were registered, with a daily average of more than 7,770 hits, which shows that the site was an interesting tool of interactivity. Firstly, because the average access time lasted more than five minutes, demonstrating that, in general, the hits, besides accounting for the vote itself, also suggested that the site was being used to gather information on the process of the works, post comments and reviews, and interact with other people and/or with public authorities (Ibid, 2008). However, since many of these posts did not abide by the deliberative principle of mutual respect, it was necessary to implement a mediator or moderator figure, who acted as a filter thus preventing the undemocratic use of these online deliberation tools.

However, a lot of criticism still prevails with regards to the e-PB interactive tools. For some authors the debates and face-to-face discussions that are so important in the Regional PB (attendance-based model), which are practically nonexistent in the e-PB, deprives the deliberative nature of the digital arenas. "The ability to post comments on the e-PB portal does not confer even a slight glimpse of the debate, because the various
manifestations are listed in chronological order and aggregated by works." Invariably, the posted comments "boil down to a type of propaganda of a specific project." According to Guimarães (2010: 4), the chats organized by the public authorities and made available on the e-PB site occur "with the mediation of municipal secretaries and advisers, not giving enough flexibility to engage viewers/voters." (For an analysis of the deliberation process in the BH/E-PB see Sampaio, Maia & Marques, 2010).

Regardless, the managers were aware of these problems, making attempts to improve these deliberative tools in the 2011 e-PB. In addition to the "Debates" link, two other interactive possibilities were offered, namely: Chat rooms and the Citizen's Opinion (posts). Four chats were suggested and three were actually implemented. These tools provided citizens with the opportunity to interact digitally with municipal staff, on key topics that are central to democracy, political participation and participatory budgeting.

The most important interactive tool on the e-PB website during this period was the "Citizen's Opinion" link, which allowed citizens to post comments, demands and criticisms relating to the deliberative process or in relation to the works in question. In fact, the initial proposal envisioned that individuals would only post reviews referring to the works submitted for voting in the 2011 e-PB, but the content analysis of these posts showed that they went beyond the original proposal. In addition, individuals have access to the latest posted opinions being able to select them by subject, for example. Other interactive tools allowed citizens to send messages to those that were responsible for the implementation of the e-PB, to clarify doubts or send suggestions, by email, or through shared links made available on the site through social networks (such as Twitter, Facebook and Orkut) among others. In light of the above, concrete evidence can be observed that the objective of combining participation with the internet, was much more than just building new spaces of participation seeking to attract new actors. It also resulted in the creation of spaces of effective deliberation and confrontation of diverging perspectives throughout the process, thus meeting the basic requirements of a true deliberative process according to

Finally, the analysis of the BH/e-PB institutional design showed that this experience constitutes an innovative online public decision-making arena. However, it still faces numerous limitations in its ability to increase the quality of the deliberative process such as: technological barriers to access and digital inclusion of the poorest layers of society, lack of more efficient citizen-to-citizen interactive tools that would provide the means to broaden the freedom of expression of opinions and arguments, among others.\footnote{We will evaluate later the quality of deliberative tools provided for citizens.}
Similarly, in the Recife/e-PB case, digital technologies allowed the creation of new features of deliberation, although a number of challenges were also observed. For example, the site of the Recife/e-PB did not provide formal and bi-directional digital interaction tools, which reduced the quality of the deliberation, restricting digital participation almost exclusively to an e-voting process, not allowing the expansion of prior negotiation and debates among the participants over the Internet. Unlike the BH/e-PB, which features at least three online interaction tools, namely mails, chats and posts, the only tools of web-interaction detected on Recife/e-PB site included email and twit-cams. However, from 2011, it was possible to share Recife/e-PB site via social networks, like Facebook and Orkut, allowing the diffusion of the process in other social networks. Finally, the RPB also made available on its website the possibility of individuals to register to receive a Newsletter. As such they began to consistently receive news regarding the PB keeping them informed on process events. In addition to the use of traditional media and through the distribution of printed material, such as banners and folders, Recife's public authorities launched different institutional tools of social mobilization to call citizens to participate in the R/e-PB.

However evidence suggests that the most important social mobilization tool is in fact not of an institutional nature, consisting of community leaders who carry out intense face-to-face mobilization campaigns in their respective communities to foster participation in offline and online PB stages (Reis, 2010). It is worth noting that these leaders are, in large part, delegates of the PB and use the web to mobilize individuals to participate in the PB, whether through social networking or through Recife's community and neighborhood blogs. According to Reis (Ibid.), "they join along, trying to pull people to vote on the projects". Similarly to what we noted in Belo Horizonte, the dynamics generated by the internet allowed the creation of other deliberative arenas, such as community association and neighborhood blogs. On one hand the range of tools that would allow virtual interaction between citizens lacked diversity. On the other hand, the experiences created stronger face-to-face interaction mechanisms, of mobilization and of association, thus leading citizens to participate intensely in the digital phases of the process. Individuals, in general, did not vote during the digital phase without first seeking information, discussing the options and becoming convinced of the importance of their vote, either as a result of the mobilization and engagement of their own community members (neighbors and friends), or due to the strong mobilization carried out by community leaders (Teixeira, 2011).
d) Transparency

With regards to this item we saw above that it refers to the degree of openness of e-PB procedures with respect to the participants and the general public. This is in fact one of the items where the e-PBs have generated most value added in relation to previous experiences of attendance-based PBs. Increase in decision-making transparency is one of the key factors cited by the literature to be directly attributed to the use of the internet.

In relation to the BH/e-PB, the digital format has improved the availability of data during various stages of the decision-making process, serving as an incentive to social monitoring and control over the execution of works. The digital tools of the BH-e-PB provided a considerable increase in the degree of information visibility regarding the decision-making process, potentially improving popular control for the citizens. For example, one of the most interesting tools used to give citizens more information to qualify their decisions were introduced in the 2008 e-PB providing explanatory videos made available on the website. Four videos were provided: in the first one the Mayor presented the e-PB, the second featured a short storyline of the PB experience in BH (from the Regional PB to the e-PB). The third video was more explanatory providing citizens with advice on voting procedures over the Internet. Finally, the last video showcased the five projects explaining the objectives behind each project (NABUCO et al., 2009). Through this set of digital, informational, communicative and interactive digital tools, the 2008 e-PB experience enabled the political mobilization of various sectors and civil society groups, many of them unaware and uninterested in participatory processes linked to public decision-making processes. This population perceived that the e-PB is a chance to discuss its demands and priorities, especially those which were being negotiated in their respective regions and/or related to their daily life in the city. This occurred through formal and informal online deliberative arenas, such as through the exchange of e-mails between individuals, discussion groups on social networks or the numerous blogs created without the participation of public authorities.

The 2008 e-PB website housed a variety of interesting links providing access to different digital information and communication tools, such as "15 years of the PB", "2006 Digital PB", "News", "Get to Know the Projects", "Q&A", "Site map" and "Digital PB Videos". All of these tools served as informational links providing citizens with the necessary information on the process as well as easy-to-understand technical information.
regarding the projects in question. In addition, quick explanatory videos were also made available to the general public, as well as drawings and "before and after" images of the projects in the execution stage. Some of these images were merely illustrative and served only as a support tool for a more general overview of how the locations would look like after the implementation of the works. In this sense, when accessing the link for any of the projects, citizens were initially directed to a page where a map showed the distribution and location of the five projects in the city. For each point the person accessing the site could find other links about "Project Solutions" (the desired changes, new traffic flows before and after etc.), in addition to "Opinions about the Project", "Project Video" and "Detailed Information" of the works (Figure X).

Although greater access was given to information on the various stages of the implementation process, the Recife/e-PB did not provide detailed technical information about the works, as well as on their impacts on the daily lives of citizens. Project drawings were not made available, information was not shared on the expected cost for each of the works, and digital tools were not provided to monitor the works. In addition, the images were static and did not use dynamic multimedia resources. Although the site did not use many technological resources, it was the first time that significant sectors of society had access to works’ schedules performed by the municipality. Along with the monitoring effort carried out by other social actors and in unison with the official press this experience presents an opportunity to take information quality to new heights in future editions of the e-PB.

Figure: Link "Discover BH" in the website site e-PBH /2011
In relation to the Recife/e-PB, a problem was detected with regards to the absence of technical information regarding the projects, as well as on their impacts on the daily lives of citizens. In addition, drawings of the projects were not made available, information was not shared on the expected cost for each of the works and digital tools to monitor the works were not provided.

e) Efficiency

Efficiency refers to the costs/benefit of participation absorbed by the citizens and public authorities who participate in the process. If the newly created institutions have a positive cost/benefit ratio, and if they are collectively seen as generating benefits that are higher than their related costs of creation, this will inevitably contribute to the legitimate institutionalization of the institutional framework. The e-PB, as well as other existing collective institutional construction processes involve costs in hiring personnel related to the maintenance and management of websites, providing technical support as well as the necessary maintenance throughout the process. What were the benefits generated in cities where the structures were deployed and what is the citizens’ perception of these benefits?
In the case of Belo Horizonte ample evidence suggests that citizens have generally approved the e-PB experiences as a means of bringing tangible benefits to the population. Generally speaking, the results produce by the various PB proposals adopted in BH since 1994 are impressive: the three modes of participatory budgeting (Regional, Housing and Digital), allowed the participation of more than 700 thousand people since 1994, with total investments exceeding R$1 billion. The invested resources resulted in the completion and delivery of more than 1,000 projects and 3,000 housing units to the population. As such, the benefits distributed in various communities, especially where the low-income population resides, are tangible in nature, having certainly contributed to the institutionalization of the process.

However, several problems have been observed with regard to the efficiency of BH-e-PB resource allocation, which in turn was responsible for the numerous adjustments that the program suffered over time. For example, in 2006 the PB approved nine projects (considered to be mid-sized) according to different thematic areas, such as health, urban infrastructure, sports, leisure among others and each one of them was located in one of the nine administrative regions within the municipality, totaling an investment of R$ 22,42 million. Although all of them have been completed and delivered to the population, the execution period ranged from seven months (revitalization of the Raul Soares Square) up to four years and four months, (for the transit connection routes between the city’s Northeastern and Northern Region) (see table X). The extent of this period covered two more editions of the e-PB.

The delay in the delivery of some of the works selected during the 2006 e-PB eventually reduced the level of trust among the population with regards to the effectiveness of the process and the fulfilment of the decisions by the municipal government. We believe that this fact has led to a drop in the number of participants in the 2008 and 2011 editions of the e-PB.

Table X: Works delivered in the BH/e-PB
The inefficiency in the implementation of approved projects was also singled out as one of the factors responsible for the decline of participation observed from 2008, as shown by the data below. Another factor attributed to the abrupt decrease in participation was the change in the institutional format from 2011, with the inclusion and application of an online survey that required the input of information on gender and age to register the voter.

<table>
<thead>
<tr>
<th>OBRAS</th>
<th>Custo da obra (R$ milhões)</th>
<th>Conclusão</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complexo Esportivo Vale do Jatobá</td>
<td>2,70</td>
<td>Jun/2009</td>
</tr>
<tr>
<td>Reforma da Praça Raul Soares</td>
<td>2,59</td>
<td>Jul/2008</td>
</tr>
<tr>
<td>Reforma PAM Sagrada Família</td>
<td>3,80</td>
<td>Jan/2009</td>
</tr>
<tr>
<td>Reforma Centro Ref. Est. do Migrante</td>
<td>1,48</td>
<td>Fev/2009</td>
</tr>
<tr>
<td>Obras de ligação entre Regionais Nordeste e Norte</td>
<td>2,50</td>
<td>Abr/2012</td>
</tr>
<tr>
<td>Espaço Cultural Multiuso na Via 240</td>
<td>2,58</td>
<td>Jan/2010</td>
</tr>
<tr>
<td>PAM Campos Sales c/ Centro Espec. Médicas</td>
<td>3,56</td>
<td>Nov/2009</td>
</tr>
<tr>
<td>Parque Ecológico do Brejinho</td>
<td>2,33</td>
<td>Mai/2011</td>
</tr>
<tr>
<td>Parque Ecológico Telê Santana</td>
<td>0,88</td>
<td>Dez/2008</td>
</tr>
<tr>
<td><strong>Total dos investimentos</strong></td>
<td><strong>22,42</strong></td>
<td></td>
</tr>
</tbody>
</table>


Graphic: Participation evolution in PB in Belo Horizonte
In contrast, the Recife-e-PB experienced an ascending trend in participation numbers during the deployment of the e-PB, mainly due to its efficiency in the execution stage.

As such, substantial gains were achieved in the efficient allocation of budget resources with the deployment of digital technologies. These were perceived as legitimate by a vast majority of groups participating in their respective cities.

f) Replication

Finally, replication refers to the possibility of new institutional designs being reproduced in different political contexts, in relation to scale, type of issue and type of political system. The Porto Alegre PB attendance-based model clearly attests to the high degree of transferability of its various PB stages (AVRITZER, 2010). However, only recently have studies emerged assessing systematically the potential of dissemination of Digital PB experiences (Best, 2012; Cunha, 2011; Sampaio, 2014 among others).

Due to the relative success of the pioneering digital and semi-digital PB experiences in other parts of Brazil, such as in Ipatinga, Belo Horizonte and Recife, other attempts at reproducing the experience locally, and in other spheres of government have been applied. Regarding the transferability of experiences of OPD, we should emphasize the study of Rafael Sampaio, who produced a comprehensive study on the subject. This survey recorded the existence of 170 occurrences of OPD between 2001 and 2013, held in 101 locations in 23 countries. Of this total, 139 were hybrid experiments, which showed online and in stages, and only 24 were stages exclusively online. (Sampaio, 2014).

However, despite this relatively broad dissemination of e-PB experiences, various problems and challenges has been singled out in their implementation such as: a) the problems of efficiency in the execution of the works and the shortcomings of popular control in their respective stages has discouraged the participation of citizens; b) excessive reliance on the experiences of specific political parties and absence of administrative continuity in the implementation of projects.

We can summarize the various dimensions of democratic innovations and the problems observed in the two e-PB experiments in the summary table below.

[TABLE TO BE ADDED INTO THE PRESENTATION]
2.3) The e-PDs and the quality of democracy and deliberative processes.

Once the e-PB experiences were characterized as DI and having pointed out some of the dilemmas facing their implementation, it is now important to focus on assessing the potential of deliberative quality promoted by these DIs, taking into consideration some key assumptions defined as essential in online public deliberation quality, which include: (i) interaction and discussion between online and offline arenas; (ii) effectiveness of participation and inclusion; (iii) mobilization and association and; (iv) social control and accountability.

With effect, the analysis of the institutional design of these two digital participatory institutions allows us to identify the presence of mechanisms of participation/inclusion, interaction/debate, mobilization/association and social control/accountability, resulting in different degrees of online public deliberation quality. For example, the existing online deliberation arenas allow debates in the BH/e-PB in contrast to the RDB case, where the debate is attendance-based and precedes the digital phase, focusing on the plenary sessions, when citizens have the option to express their demands, as well as to establish negotiation strategies around the priorities at stake in drawing up the budget. Therefore, citizens that participate in the digital phase of the RPB do not have digital debates, nor do they discuss or define the priorities in question, but simply vote on the list of the preset priorities. Ultimately this dynamic ends up empowering civil society as a whole, not only because it includes groups that until then where on the fringes of the PB deliberative process, such as the middle class and youth, but also because it gives them the possibility to maintain or reverse the list of priorities from preceding sessions, an issue that has been historically subject to criticism raised by the poorer segments of society. This is quite an achievement. Even if the digital mechanisms and tools are exclusively oriented towards e-voting, the process can reverse the order of priorities.

Regardless, it can be concluded that the institutional design of the e-PB induces a higher level of mobilization and political association during the whole process of deliberation, as community organizers need to be constantly vigilant and prepared to mobilize their bases in defense of collective interests, be they regional or theme-based, throughout the entire PB cycle including face-to-face plenary sessions and digital voting.

A second aspect of the RPB is the fact that it is civil society that sets the priorities. In this sense, the citizens participating in the digital phase are acting on demands expressed and defined by civil society itself, i.e. are choosing something that is the result of collective
will and not something that was decided ex-ante by the city managers. This approach ultimately breaks the typical bureaucratic insulation of Brazilian municipal public administrations. In contrast, in the BH/e-PB case, citizens choose among proposals that are prepared and presented by the government, without going through a deliberative arena in which civil society could express their demands by establishing a list of priorities to be discussed and voted on digitally. This has spawned recurring criticism on the part of citizens, independently of the fact that these demands are partially defined in other participatory channels (boards and committees), as well as from projects and proposals derived from various municipal technical bodies of the PBH.

One of the weaknesses of the RPB is the almost total absence of digital tools of social control and accountability allowing citizens to monitor and supervise the works and actions defined in the participatory decision-making process. The site only offers "before and after" images of the works, as well as a balance-sheet of the projects carried out by the PB in previous years. Thus implying a low degree of social control linked to internet digital tools. In contrast to the RPB, the BH/e-PB features on its site different tools that allow citizens to monitor and supervise the progress of the works, making it more accountable. It offers citizens digital tools that allow social control and accountability, giving the deliberations more quality albeit not necessarily increasing its effectiveness. Incidentally, this is an issue which has generated direct reflections about the degree of trust that citizens have with regards to the process, although this dimension is outside of the scope of our analysis.

To simplify the understanding of what is referred to as a deliberative quality potential, it was decided to build a frame with the four dimensions that served as our metric parameters, on a scale from zero to one, where zero (0.00) represents the lowest degree of deliberative quality and one (1.00) the highest degree. The digital deliberative quality assumptions were divided into four groups (interaction, social control, participation and mobilization), subdivided into four measures (0.00; 0.33; 0.66 and 1.00) (Table X).

### TABLE: Degrees of Online Potential Quality of Public Deliberation

<table>
<thead>
<tr>
<th>DELIBERATIVE QUALITY POTENTIAL ONLINE</th>
<th>PARTICIPATORY AND DELIBERATIVE ASPECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>Citizens do not participate in the decision-making process.</td>
</tr>
<tr>
<td>0.33</td>
<td>Citizens discuss and decide, but on proposals predefined by the government.</td>
</tr>
<tr>
<td>0.66</td>
<td>Citizens dispute in offline arenas the definition of proposals which are then submitted to a process of e-voting.</td>
</tr>
</tbody>
</table>
The citizen discusses and decides in *offline* and *online* arenas and the proposals are born out of the public debate.

**Result**  
BH/e-PB = 0.33  
Recife PB = 0.66

### MOBILIZATION

**Result**  
BH/e-PB = 0.66  
Recife PB = 1.0

- **0.00**  
  There is no mobilization action, whether on behalf of civil society or public authorities.

- **0.33**  
  Mobilization is fostered exclusively by the government.

- **0.66**  
  Civil society mobilizes itself, regardless of the mobilizing action executed by the government.

- **1.00**  
  Government and civil society promote share mobilization actions.

### INTERACTION AMONG ARENAS

**Result**  
BH/e-PB = 0.66  
Recife PB = 1.0

- **0.00**  
  There is no interaction, whether *offline* or *online*.

- **0.33**  
  Interaction only in *offline* arenas.

- **0.66**  
  *Offline* and/or *online* interactions are present, but only to define proposals that will be voted on.

- **1.00**  
  *Offline* and/or *online* interactions are present throughout the decision-making process.

### SOCIAL CONTROL

**Result**  
BH/e-PB = 1.0  
Recife PB = 0.66

- **0.00**  
  The institutional design does not foresee digital tools to monitor and to provide *accountability*.

- **0.33**  
  The institutional design only foresees digital tools of *accountability*.

- **0.66**  
  The institutional design foresees digital tools to monitor and to provide *accountability*.

- **1.00**  
  The institutional design foresees digital tools to monitor and to provide *accountability* as well as to provide the public sphere with feedback.

**Source:** Ferreira (2012)

The results obtained and exposed in the table above produced a graph that measures comparatively the quality of *online* public deliberation processes linked with the use of digital, interactive, communicative and informative tools for two participatory experiences (see graph below).

**Graph X: Dimensions of the Digital Public Deliberation Quality in BH/e-PB and RPB**  
(Participation; Mobilization; Interaction among arenas; Popular Control)

**Source:** Created by author
After carrying out this analysis and based on the obtained results, it can be concluded that the quality of public deliberation is not defined only by the introduction of digital technologies, nor is it limited to greater or lesser levels of inclusion of new social segments in the process, but, above all, it is a measure of how the these participatory institutions are designed to enable the linkages between different arenas of deliberation in order to give citizens the opportunity to express their views. In this sense, the analysis of the institutional design of these two participatory digital experiences showed that although both cases were just two more online deliberation cases among many others that seek to increase the democratic experience as compared to traditional political arenas, each of them incorporate participatory engineering strategies, participatory forms of social mobilization web-interaction tools and different levels of social control which make them potentially more or less qualified from a public deliberation perspective. However it must be clear that, despite the fact that the design of digital tools is a relevant factor, alone it will not be sufficient to explain the success or failure of the digital democracy experiences, as well as their variable degrees of deliberative quality. Other variables also count, such as the partisan political context, the predominant political culture in each of these cities and the political and ideological bias of public managers. However, it is infeasible to tackle all these dimensions within the limits of this paper.

From an institutional perspective, the BH/e-PB experience offers a better quality in the possibilities of web-interaction and social control. In contrast, the Recife/e-PB offers better quality from the perspective of participatory and mobilization potential. Both are digital or semi-digital democratic innovations that open new possibilities for the expansion of representative democracy, as well as in relation to the already existing attendance-based participatory experiences. However, the spaces that citizens will require to debate and discuss the process, whether in offline or online arenas, to define priorities and vote on specific projects, will ultimately depend on the institutional design of each of these experiences. As such the quality of these experiences will vary according to the political system in which they are implemented.

3) Conclusions.

A more general conclusion of this study is that, in contrast to more pessimistic theoretical predictions (MARGOLIS, 2000; HINDMAN, 2008) digital technologies can
serve as vehicles to introduce democratic innovations effectively achieving results and improving the quality of existing democracies. Evidently these results do not establish any variant of "direct democracy" or of a "virtual agora". As we have seen, digital technologies can be an appropriate means to increase popular participation in decision-making and for incorporating new actors to the process; to facilitate citizens' control over government policy-making processes; to mature opinions in the decision-making process, providing citizens with a wide array of perspectives and divergent viewpoints; to add transparency to the decision-making process by increasing the permeability of government agencies previously insulated from public scrutiny; and to increase allocation efficiency of global resources, by allowing the execution of works and by improving the quality of life of significant portions of the population in regions that were less favored or that were forgotten by the government prior to the implementation of the digital experiences. Last but not least, significant portions of the population do not consider such innovations as a "deceptive myth". On the contrary, they are replicated in other geographic and political contexts, producing the same results in terms of improving incrementally the quality of existing democracies.

As such, these experiences do not merely reproduce traditional forms of democratic decision-making. The results presented in this study signal the capacity of e-PBs to expand democracy and improve the quality, not only by increasing the participatory volumes in the process, but also because they present a possibility of developing new forms of inclusion, participation, mobilization and virtual interaction that is made possible with the use of internet tools such as mails, chats, blogs, posts, twitters and social networks (Facebook, Orkut etc.) In addition, digital technologies have increased citizen's access to information on public management, raising social control and accountability.

This doesn't mean, of course, that the implementation is free of challenges. A number of issues and limitations were singled out by several authors who analyzed e-PBs over the period, especially with regards to the efficiency of approved executed works and the relative low quality of deliberative processes that occur in the virtual world vis-à-vis those that occur in face-to-face sessions. However, there is no evidence that the deployment of e-PBs has created a democratic backlash, or that it has merely reproduced "politics as usual". To the contrary, the implementation of the e-PB brought forward new challenges in maturing and improving the quality of democracies. One of them, and not the least important one, is the need to link the on-line and off-line processes across the various stages that occur during the decision-making processes.
Among other important empirical findings, it is possible to observe that the low effectiveness of results can lead to discrediting the decision making process, due to the fact that the works and resulting actions suffer constant and systematic delays in the execution and implementation processes stemmed from bureaucratic, budgetary and technical difficulties. Finally we evidenced issues regarding patronage practices exercised by some community leaders who take advantage of the institutional design of the e-voting procedures to enforce the demands of their respective communities. These and other issues were detected in the participatory cases explored in this study.
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