Do Citizens Trust Electronic Participatory Budgeting? Public Expression in Online Forums as an Evaluation Method in Belo Horizonte

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This article provides a comparative study of citizen comments on the Electronic Participatory Budgeting (e-PB) online forums in Belo Horizonte (Brazil) in 2008 and 2011. The forums allow citizens to deliberate on public projects suggested by the city hall and to vote on which ones they think should be carried out. We analyzed all messages sent to the forums (N = 2,370) in order to investigate citizen feelings toward the initiative, use of narratives and testimonies, perception of e-PB political effectiveness and representation and whether uses changed from one edition to the next. The results indicate a significant change, from an environment of positive citizen evaluation in 2008 to a negative one in 2011, suggesting a loss of trust in the process. In 2011, participants expressed frustration over the lack of options, dissatisfaction that work promised in 2008 was not carried out, and lack of city hall responses in general. These findings demonstrate the importance of analyzing citizen perceptions and feelings when evaluating online channels and e-participation initiatives set up by local governments, and the necessity for governments to ensure interaction and feedback, in order to sustain citizen engagement and trust.

Introduction

This article studies the prospects of the Internet in enhancing possibilities for citizen participation in decision-making processes. We look specifically at the Electronic Participatory Budgeting (e-PB) online forums in Belo Horizonte (Brazil). It is now a well-known fact that the modern design of Participatory Budgeting (PB) was created in Porto Alegre (Brazil) in 1989,[1] giving ordinary citizens the opportunity to make decisions regarding municipal budget. Since participants need to negotiate in face-to-face conversations in local meetings that include citizens, representatives from civil society, and members of local governments, PB has even been classified as a sort of deliberative participatory institution (Smith, 2009). Considered a successful example of empowered democratic governance,

PB has spread to other cities in Brazil. After being recommended by the World Bank and UN-Habitat, PB was also implemented in other locations worldwide (Sintomer, Herzberg, and Allegretti, 2013).

In Brazil, PBs began to experiment with information and communication technologies (ICTs) in the early 2000s. For instance, the cities of Porto Alegre and Ipatinga used ICTs to accept submission of project proposals from 2001 to 2003. Proposals submitted online were then discussed in face-to-face meetings along with other suggestions. Belo Horizonte's e-PB was created in 2006 to complement its face-to-face actions. This innovation allowed citizens to deliberate in online forums provided by the city hall and to vote on the projects they thought should be carried out. Given its success, it was implemented again in 2008 and 2011. In fact, the first and second e-PB editions are now recognized as examples of the most successful e-democracy experiences in Brazil (Peixoto, 2009; Sampaio, Maia, & Marques, 2011). The initiative involved around 174,000 participants in 2006 and approximately 124,000 in 2008. Nevertheless, the 2011 edition had only 25,000 participants, a fact which seems to indicate significant loss of confidence in the process.

On the basis of such a scenario, our study evaluates the feelings, emotions, narratives, and perceptions of political effectiveness and political representation shared in e-PB online forums. In doing so, we are interested in understanding whether e-PB forums were used by citizens as a communication channel to evaluate the program and its proposals. Similarly, we would like to inquire into how feelings, storytelling, and the perception of political effectiveness can be used to assess the trust that participants placed in e-PB and in the municipality itself. Since the Belo Horizonte e-PB engaged a wide number of participants in its first editions, which were followed by a remarkable drop in interest in latter phases, it seems to offer a particularly suitable case for assessment purposes.

This article is divided in five parts. In the first part, we provide an overview of the literature on e-participation, focusing on issues of political influence and trust in online channels set up by local governments. In the second section, we introduce the Belo Horizonte e-PB's history and problems. In the third part, we present our methodology, providing details on our codebook. In the fourth section, we discuss our findings, showing a significant shift from overall positive evaluations (2008) to more negative feelings (2011). Last, we discuss how online messages and feelings expressed through these channels can be used to assess public policies, as well as examining some of the consequences of ignoring them.

Trust in Mechanisms of e-Participation

Configurations of political representation and the constant specialization of the decision-making processes within the state in contemporary society have promoted the distancing of political elites and citizens. In this scenario, citizens are gradually losing trust in political institutions, losing motivation to participate and feeling that no one represents their particular set of diffuse interests (Coleman & Blumler, 2009; Habermas, 2006; Lazer, Neblo, & Esterling, 2012).

In the light of this assessment, participationists advocate for greater channels of communication and dialogue between the civil sphere (citizens and civil society organizations) and the formal political sphere (institutions, parties, and politicians), in order to reduce the gap between these two bodies. In this regard, there is a general understanding that channels of communication properly organized and connected with decision making could generate greater legitimacy for political decisions, greater trust in government action[2] and a stronger sense of representation (Bimber, 1999; Coleman & Blumler, 2009; Tolbert & Mossberger, 2006). Moreover, citizens' experience and knowledge are resources that can contribute to better epistemologically oriented decisions (Fung, 2003; Habermas, 2006; Maia, 2012; Smith, 2009; Steiner, 2012).

In this context, the Internet is regarded as a possibility to increase citizens' political participation, as a way to reconnect citizens to their representatives, amplifying their knowledge of and influence over decision-making processes (Åström & Grönlund, 2012; Bimber, 1999; Culver & Howe, 2004; Lazer et al., 2012; Margetts, 2009; Wright & Street, 2007).

According to Margetts (2009), the Internet can promote openness in policy-making since its technology enables citizens to participate in decision-making processes, as well as promoting transparency through the quantity and scope of data on government business that becomes available to citizens and civil organizations. She argues that the Internet's effects on policy should be better studied, as a technology that has wrought intense social transformations that require more specific policies, but that has also brought new possibilities for learning about and participating in the policy-making process.

Citizens not only aim to influence decision-making processes, but also to discuss and set agendas. Citizens should be able to influence discussion and public policy agendas, before consulting and/or voting phases (Coleman & Blumler, 2009; Macintosh & Whyte, 2008). One way of listening to citizens' demands and improving their trust in politics is the creation of online communication channels, whereby issues, problems, demands, and suggestions can be addressed. Online forums are one type of platform that are often used to this end. Research has shown that local governments are especially amenable to opening such forums, since citizens tend to contact local officers and public servants for daily demands (Bimber, 1999; Coleman & Blumler, 2009; Delli Carpini, 2000; Tolbert & Mossberger, 2006).

Concerning whether local online forums created by the government can contribute to a reversal of political disengagement, Dunne (2010) came to negative conclusions. He argues that forums do not contribute to a reversal of civil disengagement since they galvanize people who are already information providers rather than involving new actors or citizens who were previously uninterested. He also maintains that political barriers, the digital divide, tool design, and the lack of meaningful chances to influence decision making make it hard for online forums to promote integration between citizens and governments.

Work by Dutil, Howard, Langford, and Roy (2008) offers a good hypothesis to explain government behavior. In their view, online initiatives sponsored by

governments approach citizens as mere "consumers" of services, despite expectations that people be treated as "citizens" having rights and freedoms, or as "customers" with whom a strategic long-term trust should be developed. In the absence of democratic parameters for online services, governments use a "business architecture" to guide their relationship with citizens.

Problems of trust in participatory projects conducted or sponsored by governments also come about as the result of preexisting suspicion. Coleman and Blumler (2009) argue that citizens do not trust governments to collect, store, and act on behalf of their personal data. The authors claim there is widespread fear that all interaction with the government is monitored and citizens' personal data can be distributed among government agencies without their consent.

Deligiaouri (2013) studied an online consultation platform built by the Greek government that allowed citizens to comment on each article of bills that were being debated and concluded that this type of tool is an appropriate way to attract citizens to public debate and law-making processes. This sort of procedure can engage citizens in a meaningful way, promoting openness in lawmaking rather than keeping it behind the closed doors of bureaucrats' offices.

Existing literature has also shown some ways of improving people's trust in such channels. For example, Coleman and Blumler (2009) state that when political representatives take part in online forums, people tend to be more active and deliberative because they feel their opinions will be read and considered. Similarly, Kies (2010) argues that citizens are particularly motivated to participate in forums organized by governments because the ensuing discussions are expected to have an influence on decision making. In some situations, citizens may participate even though they realize their activity will not result in direct political decision making but instead may result in symbolic or other types of impact (Coleman & Blumler, 2009; Delli Carpini, 2000; Sampaio & Barros, 2012). Transparency regarding participatory activity is also important; citizens must be recognized, heard, and respected in the process (Culver & Howe, 2004; Smith, 2009). Thus, participation initiatives need to be perceived by citizens as attractive opportunities.

Regarding e-PB, there is little available literature on it. On the one hand, some authors have emphasized the bright side of introducing ICTs into participatory budgeting processes, such as cost and time efficiency, improving the number of participants (including some who do not participate in face-to-face PBs), aggregated results for participants and civil servants, and increased transparency and monitoring tools (Luehrs & Heaven, 2013; Nitzche, Pistoia, & Elsäßer, 2012; Sampaio & Peixoto, 2014). On the other hand, many argue that introducing ICTs may lead directly to a loss of confidence in the process, due to the digital divide, individualistic participation, overlapping and redundancy of the organizational work done by public servants, and lack of true interaction and deliberation opportunities on the part of participants[3] (Allegretti, 2012; Vaz, 2008). This perception has led to what remains modest use of ICTs in participatory budgeting worldwide (Allegretti, 2012). Within this perspective of both potentials and risks, we will now move on to introduce the case of e-PB in the city of Belo Horizonte.

Electronic Participatory Budgeting in Belo Horizonte

The modern PB format was created in Porto Alegre (Brazil) in 1989, when the Workers Party took office in local government, promising increased citizen participation in local projects and in the municipal budget (Fung, 2003; Smith, 2009). PB is a program in which the government (usually local) invites residents to make decisions on the city budget, in whole or in part. It is then up to the residents to suggest, discuss, and nominate projects that can be carried out within the proposed budget. In a movement of south-to-north influence, PB gained ground in several European countries and currently has at least one edition in each continent. According to Sintomer et al. (2013) there are between 1,269 and 2,778 PBs active in the world, between 255 and 330 of them in Brazil.

At the same time that PBs are arising in many countries, there is an ongoing consolidation of Brazilian experiences, highlighting programs in Porto Alegre and Belo Horizonte (Brazil)[4] where the PB was implemented in 1993 and has not since then been interrupted. Nonetheless, during the 2000s the local government came to the conclusion that the Belo Horizonte PB was in need of updating (Ferreira, 2012; Lana, 2011). According to Lana's (2011) research, PB administrators believed that there was little renewal of participants, who were always the "usual suspects"—that is, citizens who were already politically active and mobilized—and that the PB failed to reach some crucial segments of the population, such as young people and the middle classes.

Thus, the Belo Horizonte e-PB was created in 2006 as an attempt to mitigate the above-mentioned problems (Lana, 2011). The e-PB had an agenda and budget that was different from its face-to-face version, which had not been modified; thus, its e-PB may be considered to be completely different from its in-person version. It was also the first fully online PB in Brazil to effectively allow citizens to decide which projects the municipality should implement. In its first edition, the municipality preselected four projects from each of the nine administrative city's regions.[5] Voters from Belo Horizonte were able to choose one project per administrative region to be carried out by the municipality.[6] Relying on the "novelty" factor and on a massive publicity campaign, the 2006 e-PB was considered a great success with over 172,000 participants who accounted for more than 500,000 votes. Therefore, about 10 percent of the city's registered voters[7] participated in the 2006 e-PB, nearly five times the number of participants in face-to-face PB that year (Peixoto, 2009), as shown in Table 1.

Given its success, the city chose to keep the e-PB and to run it biennially. The second edition took place in 2008. On its own initiative, the city hall decided to change the voting format, allowing only five projects to be proposed,[8] of which only one would be chosen and carried out. Besides voting via the Internet, a toll-free telephone number was also provided in attempt to mitigate the digital divide. At the end of the process, the e-PB reached impressive numbers once again, with approximately 124,000 online participants, still three times more than the number of participants in face-to-face PB that same year. However, the process was also blemished by allegations of fraud. Since the only thing required

Table 1. Registered Voters, in Person and Online PB Participants, e-PB Budget and Internet Access in Belo Horizonte, Brazil, in 2006, 2008, and 2011

Edition	BH Registered Voters	In-Person PB Participants	e-PB Participants	e-PB Budget (US$)	Home Internet Access
2006	1,741,327	38,302	172,938	10,000,000	14%
2008	1,771,846	34,643	124,320	25,000,000	18%
2011	1,831,008	44,000	25,378	25,000,000	36%

for participation purposes was a voter registration ID, there were people who voted using others' credentials, leading to the filing of a complaint through the Public Prosecutor's Office (Coleman & Sampaio, 2016).

Given that scenario, the 2011 e-PB underwent some alterations (no edition was held in 2010) in an attempt to make the process more secure and fraud free, yet again without public consultation of participants or citizens.[9] Among the changes was the need for an email address and two documents in order to vote, and termination of telephone voting due to security issues. It is worth noting that the project selected through the 2008 e-PB was never carried out; according to the city hall, it became a part of a larger federal government project, but it did not begin until 2011. Another issue was the execution of the second place project by a private building company, carried out as part of an unrelated compensation deal to that company. Even though the municipality publicized this fact, many people were misled to think it was carried out by the city hall.

Thus, we see that e-PB began in 2011 within this context of uncertainties. According to Coleman and Sampaio (2016), the mechanisms and volume of mass media advertisement also dropped. In any case, there was an attempt to return to a regionalized model and to the 2006 format, with 36 projects preselected by the municipality and then offered to citizens to vote on (one vote for each regional project.[10] Nevertheless, outcomes were significantly weaker than in previous editions. The number of e-PB participants dropped to 25,000, which means almost 100,000 less participants than the 2008 edition and, for the very first time, a smaller number of online participants compared to the face-to-face PB for that same year. Table 1 summarizes the major differences between 2008 and 2011.[11] To verify whether there was a loss of confidence in e-PBs online forums, we compared both editions, as discussed in the next section.

Methodology

In each e-PB edition, the city hall enabled online comment forums as a tool for voters and invited citizens to "have their say" through them: a place where people could debate, engage, and mobilize other citizens. Overall, it was a very simple platform, where participants did not need any registration or self-identification. Besides posting links, there was no option to post or share any audiovisual material, such as images or videos. There was no option to rank or to evaluate other participants' messages, as in Loomio or Reedit forums. Furthermore, there were no initial posts, questions, or anything to start the thread. Posts were merely divided

by project or region of the city. Therefore, we can say these forums were not specifically built for online deliberation, that is, they did not present a design that favored citizen interaction, as is usually recommended in the literature (Deligiaouri, 2013; Dunne, 2010; Kies, 2010; Liu & Zhang, 2013; Wright & Street, 2007).

It is also worthwhile noting that city hall employees moderated these forums, but moderation focused only on eliminating foul language. Moderators did not act to facilitate conversation or answer questions or demands. Therefore, these messages were left solely by citizens; in some cases, in the name of some civil society organizations, such as neighborhood associations. No indication was given as to whether these messages were being taken into consideration or even read.

In this sense, e-PB forum organizers never explained how or whether the messages would be used later on. e-PB websites provided no more than a simplistic explanation on the purpose of the forum, namely "an environment for debate and discussion on project proposals" (e-PB, 2008, 2011). Yet no explanation was given on how comments would be analyzed by public officials, nor even if they would be read at all. In other words, the municipality took no responsibility for reading or evaluating the messages posted there. Thus, it seems to be an online forum that offers little or no citizen empowerment.

For the purposes of this study, we analyzed all messages posted on Belo Horizonte's e-PBs online forums in 2008 ($N = 1,227$) and 2011 ($N = 1,143$). The analytical process was divided into three phases: collection, classification, and analysis. The first phase consisted of saving all comments in .txt format, with proper identification of authorship, posting date, and topic. Second, comments were coded according to study criteria (see below). As our unit of analysis, we took each posted commentary into account. Before coding all forum messages, we applied Krippendorf's alpha for the intercoder reliability test. Our two-coders blind tested a random sample comprising 200 forum messages (2008 and 2011) and achieved a coefficient higher than 0.678 for all variables, including "feelings" and "type of feelings." Type of feelings specifically scored the lowest intercoder agreement (82 percent), but still scored a valid alpha (0.758).

Our study has its limitations, since the results are based solely on analysis of messages that concerned citizens posted on e-PB online forums and therefore not representative of the Belo Horizonte population or e-PB participants as a whole. Furthermore, as the forums allowed anonymity, we cannot guarantee that a few people were not responsible for all messages. Other institutional and political elements were not analyzed, such as the socioeconomic and cultural profile of the population and civil society groups mobilized around issues on the agenda, among other contextual factors that may have influenced the results. Thus, future research may test our findings through other research techniques such as surveys and interviews with participants and administrators seeking to understand the importance of trust, feelings, and perceptions regarding political effectiveness in the e-participatory budget process.

This research compared two e-PB editions. Thus, the comparison of future editions can generate relevant data toward understanding the evolution of this participation initiative over time and how trust (or the lack of it) may play a role

in future editions. Since it achieved success in its first and second editions and then underwent a remarkable drop in the number of participants, the Belo Horizonte e-PB is a case that can be used to assess the reasons for the success and failures of other e-participation initiatives.

The Importance of Feelings in Debate

Recent progress in deliberative theory suggests the importance of feelings and emotions for deliberation (Maia, 2012; Steiner, 2012), given the current understanding that rational arguments cannot be separated from emotions. Furthermore, it is through looking at emotions that we may be able to identify motivations for engagement in public discussion and political participation (Coleman & Blumler, 2009).

In the literature on the online environment, there are some works that address the role of feelings in assessment efforts. Nonetheless, there are a number of recognizable difficulties that emerge. Researchers often choose more qualitative approaches when addressing online forums or may opt to implement surveys (McClain, 2009). Graham's (2012) study is an exception to this. For this reason, in search of an approach that is simultaneously detailed and feasible, we chose to assess the feelings manifested in the posted messages. Initially we evaluated only whether traces of feelings existed (dummy variable). Then, in cases of an affirmative answer, we analyzed whether the feelings were positive or negative. Finally, looking at a list of the most recurrent feelings reported in the literature on online forums (Bickford, 2011; Dillard & Backhaus, 2007; Hall, 2007; Lacewing, 2005; Morrell, 2010), we classified the feelings present in messages.

Classification was based on the aforementioned list, bearing in mind that other categories might emerge during analysis. Therefore, whenever we discovered a new category of feeling, every message expressing feelings was reevaluated (these are mutually exclusive categories). Nonetheless, we chose to employ broader categories of feelings (e.g., happiness and satisfaction were not distinguished) in our classification endeavors. Consequently, we decided to include three categories of "feelings" connected to more pragmatic issues: perceptions of political effectiveness and on the quality of representation,[12] and storytelling as a rhetorical strategy to express personal perspectives and impressions.

Perceptions of Political Effectiveness

We took on the task of assessing the feelings (or perceptions) of greater or lesser political effectiveness expressed online. For citizens participating in democratic innovations, feelings of empowerment and perceptions of their own capacity to generate real effects are vital for the success and continuity of the initiative, whether it is face-to-face (Fung, 2003; Smith, 2009) or online (Åström & Grönlund, 2012; Coleman & Blumler, 2009; Kies, 2010; Macintosh & Whyte, 2008).

Nonetheless, we acknowledge the fact that most of the messages are not about feelings or citizens' expectations of influencing decision making, at least

not explicitly. For this reason, we chose to include an indicator that is more easily verified in this type of forum: whether or not citizens approved the projects that were preselected by the municipality for e-voting. Thus, an ordinal variable was created, namely: (i) *I approve the project*; (ii) *I approve the project but I would like to suggest a change or other project instead*; (iii) *I do not approve the project*; and (iv) *Does not mention the project*. In doing so we sought to analyze whether the prechosen projects attended to citizens' will and needs.

Perceptions of the Quality of Representation

We also assessed the feeling (or perception) of being better or more poorly represented through e-PB implementation. According to Coleman and Sampaio (2016), democratic innovations such as e-PB seek to improve citizens' feelings of representation, that is, to bring representatives closer to those they represent and to improve citizens' empowerment.

In addition to the perception of being better or more poorly represented, this research attempted to build categories that are closer to the reality of citizens' feelings. After all, there was a greater chance that most participants would not leave any clear clue about representation through the comments, since no specific question about it had been asked. For instance, general criticisms about being unable to choose the projects, participate directly in the process, or not being listened to by city hall representatives were classified as *Feeling poorly represented* while messages congratulating the city hall, clearly supporting the chosen projects, or the city hall's attitude were tagged as *Feeling better represented.* Comments without explicit signs or markings (e.g., emoticons) linked to representation ideals were classified: *there is no indication.*

Furthermore, we verified that nearly 50 percent of the messages were monological, that is, people did not consider other participants, directly or indirectly. For this reason, our research considered whether participants addressed their comments to the local public authority, by posing the question: *Is the message addressed to the municipality?* (Dummy variable).

Storytelling

Finally, our research examined the use of narratives in e-PB online forums. Deliberative theory already acknowledges the importance of testimony and storytelling as important elements for deliberation (Black, 2008; Maia, 2012; Polletta & Lee, 2006; Steiner, 2012). Testimonies and storytelling may broaden the scope of discussion because they increase the perspectives available within the debate and under some conditions may make claims more tangible and easily recognizable as relevant for public debate, especially for those who have a lesser capacity to intervene in specialized debates (Maia, 2012). Considering that PBs usually deal with local projects, problems, and needs, our study looked at how these testimonies were employed.

In examining storytelling, we applied the categories from the *Discourse Quality Index*[13] from Steiner (2012): (i) Without narratives; (ii) Narratives were not related to the argument; (iii) Narratives were related to argument, only one justification; and (iv) Narratives were related to the argument, supporting rational justification.

Results

Feelings Expressed Through Discussions

The first step in analyzing each comment was to determine whether there was any trace of feelings or not. In this case, it is important to state that we were looking for both traces, that is, words, phrases, textual markings (e.g., emoticons) and more or less explicit statements of emotions, reactions, feelings, etc. This implies recognizing that the texts were rarely explicit in this regard and that therefore, assessment was based on the coders' reading and interpretation of the messages, which had already been successfully conducted by Graham's (2012) research.

The analysis of feelings expressed within discussions indicated that 54.6 percent of the messages in 2008 and 41.2 percent in 2011 showed some trace of feelings (see Table 2). This means that notwithstanding the difficulties involved in evaluating the expression of feelings in online environments, e-PB forums have been widely used for the expression of different feelings and emotions. According to Table 3, among the feelings manifested there was a prevalence (62.5 percent) of positive sentiments in 2008, and reversing the vector, a majority (59 percent) expressed negative feelings in 2011. Therefore, the breakdown of trust that occurred in the e-PB 2011 was, as expected, demonstrated not only by the drop in the number of voters, but also in the content of the messages sent to digital forums.

Table 2. Occurrence of Feelings in 2008 and 2011 Forums of the Belo Horizonte e-PB

Feelings	2008	2011
Yes	54.6%	41.2%
No	45.4%	58.8%
Total	100%	100%
	(1,227)	(1,143)

Note: $\chi^2 = 42.544$, df $= 1$, $p = 0.000$.

Table 3. Occurrence of Positive or Negative Feelings in 2008 and 2011 Forums of the Belo Horizonte e-PB

Feelings	2008	2011
Positive	62.5%	41%
Negative	37.5%	59%
Total	100%	100%
	(670)	(471)

Note: $\chi^2 = 51.701$, df $= 1$, $p = 0.000$.

If types of feelings are taken into consideration (see Table 4), some similar types of feelings are expressed in both editions, such as attention (11.3 percent and 15.1 percent) and indignation (14.0 percent and 20.6 percent). However, we also see that positive feelings, such as satisfaction (18.2 percent) and hope (20.1 percent), appeared more often in 2008, while frustration (31.2 percent) was the main feeling emerging in the 2011 edition.

Changes from 2008 and 2011 are illustrated by a comparison of feelings of frustration and hope (see Figure 1), and checked through Pearson chi-square tests.

Table 4. Types of Feelings Found in 2008 and 2011 Forums of the Belo Horizonte e-PB

Feelings	Year	
	2008	2011
Attention	11.3%	15.1%
Selfishness	4.2%	1.5%
Hope	20.1%	7.2%
Frustration	5.1%	31.2%
Humor	2.4%	2.8%
Indignation	14.0%	20.6%
Pride	1.3%	2.8%
Congratulations	9.1%	4.9%
Concern	9.6%	2.1%
Anger	4.6%	1.5%
Satisfaction	18.2%	10.4%
Total of messages	100.0%	100.0%
	(670)	(471)

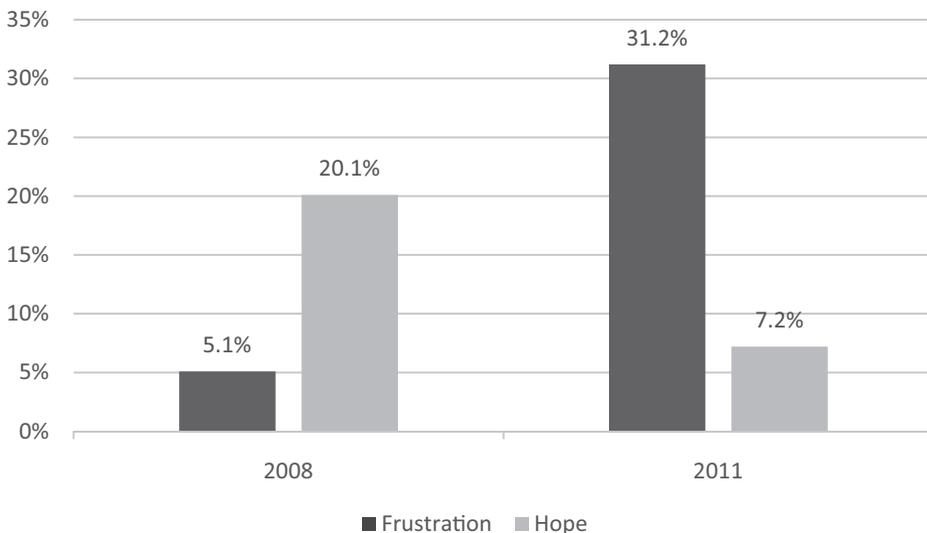*Note*: $\chi^2 = 219.654$, df $= 10$, $p = 0.000$.

Figure 1. Comparison Between Feelings of Frustration and Hope in 2008 and 2011 Forums of the Belo Horizonte e-PB.

There was a significant difference between the e-PB editions in terms of occurrence (yes or no) of feelings ($\chi^2 = 42.544$, df $= 1$, $p = 0.000$), occurrence of positive or negative feelings ($\chi^2 = 51.701$, df $= 1$, $p = 0.000$), and types of feelings ($\chi^2 = 219.654$, df $= 10$, $p = 0.000$).

Perceptions on Political Effectiveness

There is some consensus in the literature which evaluates instances of participation on the participants' need to feel that their contributions will be taken into consideration by those who promote the initiative and, ideally, that these contributions will have effects and practical consequences in the formulation of public policies (Åström & Grönlund, 2012; Coleman & Blumler, 2009; Culver & Howe, 2004; Fung, 2003; Smith, 2009). In this sense, we sought to assess whether the messages had textual markers to indicate citizens' perceptions of the effectiveness of their own participation in the decision-making process, even if the individuals were not asked about it. We began with little expectation of finding messages showing traces of perception of political effectiveness, since there was no questioning or encouragement for such expression in the forum. Comparing the years, the results presented in Table 5 are disparate.

In 2008, 35 percent of the messages showed some trace or reference to perceptions of effectiveness, showing that they felt more able to influence public policies. However in the 2011 edition, perceptions of effectiveness, both for greater and for lesser, dropped significantly to 22.6 percent of messages. Pearson's chi-square test highlights a significant difference between the years ($\chi^2 = 304.311$, df $= 2$, $p = 0.000$). In 2011, most messages showed a sense of reduced effectiveness. Within that total, we found 77 messages (6.7 percent) that explicitly addressed a loss of confidence in the process, due to the failure to carry out the work approved in the 2008 edition, as in the examples below.

> A shame the biased management of Belo Horizonte's municipality did not carry out the e-PB 2008's winning project, − São Vicente Square, and how resources were directed to Belvedere [a wealthy region]. The projects proposed in the 2011 e-PB do not justify a poll − they are all low impact and necessary for a better city (except for the video surveillance cameras, which require greater investment if they are for the whole city). (J.G., 11/29/2011, e-PB, 2011)

Table 5. Perceptions on Political Effectiveness in 2008 and 2011 Forums of the Belo Horizonte e-PB

Perceptions on Political Effectiveness	2008	2011
Greater	35%	7.7%
Lesser	3.7%	14.9%
There is no indication	61.3%	77.4%
Total	100.0%	100.0%
	(1,227)	(1,143)

Note: $\chi^2 = 304.311$, df $= 2$, $p = 0.000$.

Table 6. Comparison of Projects' Approbation Between 2008 and 2011 Edition of the Belo Horizonte e-PB

	Year	
Approval of the Projects	2008	2011
"I approve the project"	70.8%	37.1%
"I approve the project, but I would like to suggest a change or other project instead"	14%	24.1%
"I do not approve the project"	10.7%	27.6%
Does not mention the project	4.5%	11.3%
Total	100%	100%
	(1,227)	(1,143)

Note: $\chi^2 = 279.931$, df $= 3$, $p = 0.000$.

> I encouraged lots of people to support the São Vicente Square project, and where's the project????????????????????????? only disappointment .... Why should I vote again????????????????? (M.A., 11/28/2011, e-PB, 2011)

Findings indicate e-PB forums were often used to discuss and comment on the projects suggested by the municipality, which included alternative proposals and amendments. However, the trend changed from one edition to the next. In 2008, 70.8 percent of messages approved the suggested works without restrictions or changes, while in 2011 this number fell to 37.1 percent (see Table 6).

From 2008 to 2011, the number of messages proposing changes in proposals increased from 14 percent to 24.1 percent and messages that did not approve them increased from 10.7 percent to 27.6 percent. With regard to the 2011 edition, it is revealing to observe that, summing the number of messages proposing changes (24.1 percent) with those disapproving the project (27.6 percent), we come up with a total of 51.7 percent of the messages from people not fully satisfied with the projects. The difference between the years was not random ($\chi^2 = 279.931$, df $= 3$, $p = 0.000$).

However, qualitative evaluation of this issue made it very clear that requests for change were significantly different from 2008 to 2011. While in 2008 requests were centered on specific and minor changes in the projects, in 2011 most of the messages (27.6 percent) expressed dissatisfaction with the limited relevance of the projects or requested structural changes in the projects suggested by the municipality (24.1 percent), as in the examples below:

> The projects discouraged me a lot and do not represent well what really afflicts the people of Belo Horizonte. I looked at the partial results and I am in doubt about reaching a conclusion: Either people are really concerned about public safety, or the high specificity of some projects and a lack of knowledge about their usefulness/necessity forced us into a process of eliminating alternatives. (G.S., 11/21/2011, e-PB, 2011)

> How difficult it is with such mediocre projects! Installation of video cameras or mere sidewalk repair! I'm impressed. These two options should not even be called options... (D.M., 11/21/2011, e-PB, 2011)

Perceptions of the Quality of Representation

Similar to what was reported on other issues, there was a notable change between 2008 and 2011. In 2008, 16.6 percent of the messages posted by citizens expressed feelings of being well represented, while 11.5 percent of the messages expressed a more negative sentiment. In 2011, the tables turn and the discrepancy increases: only 6.7 percent felt well represented and 16.7 percent felt poorly so (see Table 7). This difference is significant ($\chi^2 = 62.057$, df $= 2$, $p = 0.000$).

The decrease in e-PB participants in 2011 may be directly related to citizen frustration over the quality of representation (Coleman & Sampaio, 2016). By offering an opportunity to participate, the municipality sought to improve perceptions of the quality of representation. Nonetheless, government failure to carry out the project that had been chosen in 2008 and lack of confidence in the voting mechanism itself may have contributed to producing the opposite effect.

Upon observing that the number of messages expressing feelings regarding the quality of representation was relatively low, we turned our analysis to messages directly addressed to local authorities, as shown in Table 8. In the two e-PBs we analyze here, the number of messages sent to the local authorities was relatively high, but we verified more in 2008 (45.1 percent) than in 2011 (39.5 percent). The difference between the years is significant ($\chi^2 = 7.729$, df $= 1$, $p = 0.005$).

Considering the results of previous studies which found 30 percent of messages addressed to other citizens in the 2008 edition (Sampaio et al., 2011) and 36 percent in the 2011 edition (Ferreira, 2012), it was verified that the number of messages addressed to the local authorities was higher than horizontal reciprocity (in terms of the online deliberation field) among the participants.

Table 7. Perceptions on the Quality of Representation in 2008 and 2011 Forums of the Belo Horizonte e-PB

Perceptions on the Quality of Representation	2008	2011
Better	16.6%	6.7%
Poorly	11.5%	16.7%
There is no indication	71.9%	76.6%
Total	100.0%	100.0%
	(1,227)	(1,143)

Note: $\chi^2 = 62.057$, df $= 2$, $p = 0.000$.

Table 8. Occurrence of Messages Addressed to the Local Authorities in 2008 and 2011 Forums of the Belo Horizonte e-PB

Addressed to the Local Authorities	2008	2011
Yes	45.1%	39.5%
No	54.9%	60.5%
Total	100%	100%
	(1,227)	(1,143)

Note: $\chi^2 = 7.729$, df $= 1$, $p = 0.005$.

Citizens were more interested in talking directly to city managers than discussing issues among themselves. The citizens used the forums to ask questions, criticize, and make suggestions, or to share stories and feelings. Participants expected to have their comments answered by city officials, although no promises of the sort had been made (they did not reply at any point).

> I wonder what streets, initially, will be involved if the project is approved. (M., 11/20/2008, e-PB, 2008)

> [...] why was the neighborhood of São Gabriel excluded? At José Toledo de Oliveira Street and the square there, muggings go on all the time and very suspicious-looking people approach residents. I would like to have one or more cameras were placed at strategic points of the neighborhood, on residents' behalf. Please get an answer to me as soon as possible. thanks. (L., 11/23/2011, e-PB, 2011)

Storytelling

We found that around 33.6 percent of the messages displayed narratives in 2008 and 36.2 percent in 2011. However, although the frequency of storytelling was similar, there was a significant difference in how the stories were used each year ($\chi^2 = 125.316$, df $= 3$, $p = 0.000$). In general, storytelling was more important in 2011 for the construction of arguments supporting rational justification (17 percent), as showed in Table 9.

As already reported in other studies (Steiner, 2012), stories and testimonies have been, to a large extent, related to rational arguments. It is remarkable how stories sought to serve as justification for the approval of certain projects, for the need to implement changes in the projects that were being voted on or to recommend another project. Good examples are to be found in the speech of citizens who have lived in certain regions of Belo Horizonte for a significant time, giving them more "authority" to analyze the real needs of the region. Therefore, an individual's connection to place is seen as qualifying the opinion that is expressed. The assumption is that knowledge, understood as practice, experience and expertise, awards credibility.

Table 9. Occurrence of Storytelling in 2008 and 2011 Forums of the Belo Horizonte e-PB

	Year	
Storytelling	2008	2011
Without narratives	66.3%	63.9%
Narratives were not related to the argument	0%	2.9%
Narratives were related to the argument, only one justification	27.2%	16.3%
Narratives were related to the argument, supporting rational justification	6.4%	17%
Total	100%	100%
	(1,227)	(1,143)

Note: $\chi^2 = 125.316$, df $= 3$, $p = 0.000$.

> When, last year, City Hall moved the St. Vincent statue to the side, I realized that City Hall engineers would make the proposal to build an underpass under the Ring Road linking Pará de Minas Street and Abilio Machado Avenue. It is incredible that never happened, what did happen was some repair work that 'partially improved' but it did not happen, what happened was a makeup that 'improved in part' the delay in access to neighborhoods that are after the Ring Road. I have several relatives who live in Inconfidentes and Alipio de Melo and have myself lived in these neighborhoods for a few years and it is really unbearable to see the traffic stopped because the work hasn't been done, obvious to any layman. I make my vote considering the millions of people who live in Laguna, Novo Progresso, Parque Recreio, and the access to many neighborhoods where millions of people who need to work in the city center live. If this work begins next year, it will greatly facilitate our lives. (T.J.M., 07/12/2008, e-PB, 2008)

> I was born and raised in the Alipio de Melo neighborhood and we were always isolated, along with those who live in the Gloria, Nacional, Jardim Laguna, Serrano, Pindorama, and Jardim Alvorada neighborhoods. Today it can be said that the situation is intolerable. There is no way out of the neighborhood through São Vincente Square. This is the opportunity for everybody living in these neighborhoods to vote so that this situation can be finally resolved. Let's vote, everyone! Talk to friends, neighbors, relatives, talk about it on the bus! (H.L., 11/13/2008, e-PB, 2008)

The narratives were used to relate citizens' specific experiences in the city, to give support to a particular argument or simply to tell one's own life story, to present oneself as a person entitled to speak. Storytelling may be a rhetorical strategy to express a personal point of view based on singular experiences. At the same time, the practice of reporting personal experience is indicative of how much people trust the forum as an enabling environment for the display of personal issues. The confidence is because people feel that the forum is an appropriate space for the processing of political demands related to personal experience.

Conclusions

In the 2008 e-PB, we were able to identify a positive environment in which 62.5 percent of all messages expressed positive feelings, and citizens seemed to trust in the participatory instrument and its promoters. Thirty-five percent of all messages expressed belief in greater political effectiveness and overall approval of works (84.8 percent). However, our study of the 2011 e-PB indicated a negative climate, (59 percent of the messages expressed negative feelings), reflected both in the expression of everyday feelings (e.g., frustration 31.2 percent and indignation

21.2 percent) and in the perception of being poorly represented (16.7 percent of all messages in 2011), as well as through perceptions of their own lack of political effectiveness (this value increased from 3.7 percent in 2008 to 14.9 percent in 2011).

Despite the limitations of our study, our joint evaluation of feelings, storytelling, and perceptions of political effectiveness and representation clearly indicates this context of change. In 2011, participants expressed frustration over the lack of options, work promised in 2008 that was not carried out, and lack of city hall responses in general. While our findings are not representative of e-PB participants, forum messages show a patent loss of citizen trust in both the e-PB process and in municipal representatives. Therefore, returning to our research questions, our study indicates that e-PB forums may be a way for evaluating the participation program and public works proposals. In this sense, narratives, feelings and perceptions of being well represented and of political effectiveness proved to be useful tools to assess the levels of trust that had been placed in the e-PB initiative.

While dissatisfaction is characteristic of democratic decision-making processes, citizen participation and inputs from earlier stages would be able to prevent major failures and promote more trust (Coleman & Blumler, 2009; Fung, 2003; Macintosh & Whyte, 2008; Smith, 2009). In the case of the Belo Horizonte e-PB, even in the positive climate that reigned in 2008, almost a quarter of the messages (24.7 percent) were requests for changes in projects or even requests for carrying out other projects. In particular, our research shows that, in general, citizens were dissatisfied with the 2011 e-PB projects; 51.7 percent of all messages disapproved of the work or suggested changes, considered them to be limited or insufficient, or merely as not really urgent or necessary for each region of Belo Horizonte. Thus, it may be that citizens decided not to participate because they believed that their efforts were not worthwhile, given the limited relevance of projects, something that could have been foreseen in early stages of the process.

We understand that e-participation initiatives that open channels to listening to citizens' voices should not coldly address (or ignore) their inputs. When a government sets up an official channel to "have your say," citizens tend to expect to interact with their representatives and to use this channel to explain their needs and desires, even if the rules do not specify how these messages will be taken into account. Therefore, messages may (and tend to) be filled with personal stories, narratives, perceptions, and feelings regarding their personal lives and expectations of government action. Certain projects or achievements might represent aspirations of great magnitude and accordingly be regarded as "dreams" of certain neighborhoods' residents. In this sense, it is remarkable how some projects can also be easily linked to issues not only of personal rights, but also to the idea of human dignity and local identity. Notwithstanding the limitations of a simple digital platform, these messages could have easily been used as a sort of collaborative public consultation, in which citizens point to various urban problems and possible solutions.

Moreover, feelings of frustration, perceptions of being poorly represented, and of low political effectiveness may indicate negative effects that are much greater than the positive outcomes of opening decision-making processes to citizens. By investing their time and expectations in participating in online forums, citizens may have become frustrated when ignored, thus reinforcing the perception that government is distant and not willing to listen (Coleman & Blumler, 2009). This in turn decreases trust in political processes and institutions (Tolbert & Mossberger, 2006). Public authority should not underestimate the impact of this kind of negative effect, and how this runs counter to all that obtained within the original e-PB project.

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Notes

1. There had been prior participatory experiences in Brazil regarding the budget, however, Porto Alegre's PB is the most famous and influential.
2. Using Tolbert and Mossberger's (2006, p. 356) definition, this articles deals more directly with *process-based trust*, which "is rooted in repeated exchanges or interactions with government. As a result of these interactions, individuals participate in instrumental exchanges and get what they need, but there are also symbolic exchanges. [...] One dimension of trust is based on perceptions that government cares about citizens, their needs, and their expectations—that is, perceptions that government is responsive."
3. Nevertheless, assessments of the Belo Horizonte e-PBs forums by Sampaio et al. (2011) and Ferreira (2012) have identified good levels of online deliberation.
4. Belo Horizonte is the capital of Minas Gerais State (Brazil); it has 2.5 million inhabitants and a gross domestic product of US$20 million.
5. According to the city hall, public works were selected based on a list of priorities chosen by face-to-face PB participants in previous editions.
6. While PB has many phases and representative features (Smith, 2009), e-PB was based on direct and single vote by citizens. The proposal with the most votes is supposed to be carried out by the municipality. With the exception of voting format, this logic was retained in the following e-PB editions.
7. In Brazil, voting is mandatory for citizens from 18 to 70. For persons between 16 and 17 and after the age of 70, voting is elective.
8. All projects aimed to improve the city's traffic and were pre-selected by the city hall.
9. In many Brazilian in-person PBs, people participate in discussing/changing rules yearly (Smith, 2009).
10. Also, in this process, citizens were not listed to somehow preselect the works. The city hall's employees allege that all options were old claims from citizens and associations.
11. Table 1 also indicates how Internet access increased from 2008 to 2011. Thus, the digital divide by itself is not the best explanation for waning participation.
12. There are some well-established measurements of political efficacy done by previous studies (usually based on surveys or experiments) and content analysis is not a reliable substitute for these techniques. This is the reason we opted for "trace or reference to perceptions" rather than directly using "perceptions of effectiveness." We are interested in verifying whether online participants spontaneously mention feeling better or worse represented, or more or less able to influence local

politics. While this could not be taken in the place of a political efficacy study, we strongly believe that comments in online forums can be a more spontaneous and natural expression of citizen perceptions about e-participation initiatives. Thus, we emphasize it as a helpful way for public servants and politicians to analyze the perceptions and feelings of the participants, especially when governments are not able to run or pay for surveys.

13. The *Discourse Quality Index* was created by Steenbergen, Bachtiger, Sporndli, and Steiner (2003) to assess the deliberative quality of debates in parliaments. It has been applied to study the deliberative quality in democratic innovations in-person, as well as online initiatives.

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