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Robert Krimmer, Rüdiger Grimm (Eds.): Electronic Voting 2008

# GI-Edition

## Lecture Notes in Informatics

**Robert Krimmer, Rüdiger Grimm (Eds.)**

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# Proceedings

# E-Voting in Brazil – Reinforcing Institutions While Diminishing Citizenship

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**Abstract:** Brazil became the first country in the world to conduct a large-scale national election using e-voting technology. What does it mean for democracy to hold an electronic election for millions of poor people, most of them living under the poverty line? Is the high investment in e-voting technologies designed to the benefit of millions of illiterate people? The discussions about the lack of security of e-voting in Brazil and in many other countries are based on a rather reductionist view that neglects both its social and political aspects. In this work, an attempt is made to expand the critique of the problems of e-voting beyond its lack of security and technological failures. It is argued that information technology in many parts of the world is reinforcing institutions and has done little to change our democracy. In its current form, e-voting technology in Brazil seems to be reinforcing some institutions while diminishing citizenship and democracy.

## 1 Introduction

There are numerous and conflicting interpretations in the concept of citizenship, but it is commonly understood in terms of a framework of rights and obligations [Ja98]. In many countries there are some core political rights and obligations normally associated with citizenship – voting, deliberation or participation in the political process, and the access or right to the provision of information. So, how to improve citizenship and political practices envisaged in these core political rights and obligations?

It is argued that while Information and Communication Technologies (ICTs) hold the potential to improve the democratic process, expand citizenship and empower the people, they have the ability to perpetuate or exacerbate existing inequalities and other divides. Commenting on the gap in access to ICTs, some authors have stated that “the information revolution could paradoxically become a cause of even greater inequality and worsening poverty” among developing countries [McO04]. In addition, there are comments about the dangers of digital opportunities pointing out that the “unequal diffusion of technology is likely to reinforce economic and social inequalities leading to a further weakening of social bonds and cultural cohesion” [UN05].

Little research has been conducted to answer questions related to the effects of ICTs on citizenship, the political process, and its opportunities and dangers. In addition, the literature has shown that answers to these questions have been rather extreme. They have either a sceptical view over-emphasizing the negative aspects of ICT, on the one hand, or, on the other hand, an optimistic or Utopian view, enthusiastically spelling out hope that new technologies would strengthen and enhance the democratic process [GI01].

It is stated that the influential political science research in modern democracy has narrowed citizenship and reduced it down to the right to vote in elections, turning democracy to be experienced at elections time and not between elections. In Brazil, voting is mandatory and the duty to vote is very much questioned by voters. E-Voting, as a political tool, was introduced as part of an electoral reform that seems to be reinforcing this very narrow concept of citizenship, especially taking into consideration that election turnout decreased in the last election and vote buying increased considerably. It seems that with the erosion of democracy, voter turnouts have declined in many countries, independent of the nature of voting as a right or as a duty.

There is a need of more empirical research surrounding citizenship and new technologies and not just theoretical discussions. Because Brazil was the first country in the world to conduct the biggest election in the planet using e-voting technologies, when more than 100 million voters cast their ballots on more than 406.000 touch-screen machines scattered all over the biggest country in South America, an attempt is made in this study to approach the topic of e-voting in the Brazilian citizenship subject, looking at the impact of the electoral reform (e-voting) on the realization of citizenship that should seek to empower people through the use of ICT. An electoral reform or a new technology may have a positive impact on democracy and citizenship, if developed and implemented from below and not from the top-down model of politics.

## **2 ICT and Citizenship**

There are diverse understandings of the term citizenship, which require a broad range of philosophical, sociological and political theory for its discussions and debate. In a less narrow view, citizenships consist of a compact of legal rights, protections and duties between government and individual members of society. In a broad sense, citizenship represents a framework of universal political, civil, social and participation rights. According to Janowski, citizenship comprises active and passive rights and obligations. "Citizenship is passive and active membership of individuals in a nation-state with certain universalistic rights and obligations at a specified level of equality" [Ja98]. In short, there is no universal definition of citizenship, and it is a contested concept with multiple definitions. Citizenship is "a peculiar and slippery concept with a long history [Ri92]."

According to Elliot (2000), two different theoretical perspectives to assess the roles of individuals and their interrelationships in the current debate of citizenship have been identified: traditional social liberal, and neo-liberal. The traditional social liberal approach, in which the Marshallian theory of citizenship have been extensively discussed for half a century, emphasizes the importance of civil, political and social rights as elements of citizenship [E100].

The neo-liberal approach, on the other hand, rejects the welfare state, as the social rights element of citizenship, and supports the free market. In short, it emphasizes individual obligation and denies the collective rights and responsibilities. Due to new relations between nation states and citizenship and democratic control, there has been reformulation of those traditional concepts of citizenship. Therefore, new notions of citizenship have come onto the recent academic agenda as follow:

- ecological citizenship concerned with the rights and responsibilities of the earth citizen [St94];
- cultural citizenship involving the right to cultural participation [Tu93];
- minority citizenship involving the rights to enter a society and to remain within it [E100];
- cosmopolitan citizenship concerned with how people may develop an orientation to many other citizens, societies and cultures across the globe [He95].
- technological citizenship is concerned with the ways in which citizenship norms, rights, obligations and practices are encoded in the design and structure of our increasingly digital surroundings [Lo05].

The expansion of Information and Communication Technologies (ICTs) in several countries has given rise to many e-government and e-democracy systems and initiatives very much based on an administrative-technological perspective. The information technological network infrastructure created from a nation-state perspective or from above is oriented more towards the provision of services into a network than towards the implementation and development of democracy or citizenship. It is recognized how crucial these services are, but in many instances they do not actually empower the citizen. The establishment of e-government and e-democracy, and the implications behind the initiatives of the cyber-state, promise to revolutionize many countries in terms of governance and democracy. However, it is mentioned that “while there is the political possibility of shaping the emerging cyber-state as a vehicle of empowerment,” especially for the marginalized others, “there is also the prospect that Internet-facilitated government will exacerbate inequalities” and diminish citizenship status [Mc04].

Under this nation-state perspective or top-down model, citizenship is constructed based on principles of the liberal tradition and “citizenship rights are being reconceptualized to reflect the neo-liberal agenda, in which citizens are expected to take care of themselves and those who fail to become self-sufficient are considered problematic and deviant” [Mc04]. In this case, an alternative society is a self-help society, based on morals of helping that can produce community services by voluntary work. In consequence, a so-called ‘new lower class’ is emerging, even in the richest OECD-countries. “These people are the long-term unemployed, permanently poor, badly-off ethnic groups and those who have fallen through all social safety nets.” In short, they are second class citizens that cannot realize the principles of good citizenship – autonomy, self-esteem, participation and influencing in their own reference community and society, challenging the traditional concept of citizenship.

With the expansion of ICTs there is a need to understand not only the opportunities created by new technologies but also the risks regarding the realization of citizenship and civil rights. Therefore, ICT and citizenship should not be separated, because ICT in itself does not guarantee the realization of the rights of the citizen. Despite the determinist view and the expanding literature favouring the use of ICTs in the information society, e-government and e-democracy, it is recognized that the citizenship is at risk. The problem is that the conditions of technology are emphasized, but it is not fully clear what exactly is meant by the concept of the citizens’ information society. It is recognized that many initiatives are necessary to turn computers and the Internet into a tool for civic participation. If, in the developed world, it is found that “mere presence of favourable conditions for making ICT a civic tool are not enough” [OI06], in developing countries the situation is too complex.

Unfortunately, in the developed world, most of the academic work produced does not seem to worry about the relationship between ICT and citizenship, making it difficult for people to believe that they make a difference in a local/national governing, because the agenda seems to be already set. On the other hand, in developing countries, in some instances, one may even fear making a critique on how badly resources are allocated in the field of information technology.

In a framework of citizenship rights and obligations comprising civil, political, social, and participation rights and obligations, underpinned by elements of ‘good society,’ such as freedom, equality and justice, the political rights and obligations of voting, participation in the democratic process and access to information were selected for further discussion. In short, what is the impact of the electoral reform that introduced e-voting technology in Brazil on the political rights and obligations normally associated with citizenship - voting, participation in the democratic process, and access to information?

### 3 E-Voting in Brazil

It is stated that both democracy and voting are processes much more complex than their electronic version and a secure voting system in itself is a basic element of a true democracy. The e-voting technology in Brazil consists of the so-called Direct Recording Electronic (DRE) devices, which allow voters to cast their ballots directly through touch-screen voting machines. In this case, voters have to go to the polling stations to cast their ballots after a conventional identification. In remote electronic voting systems voters cast their ballots remotely, using the full potential of ICT [RRB05]. In other words, the DRE is a kind of offline voting system and the Internet is the online voting system.

The modality of electronic voting in Brazil through machines of the type Direct Recording Electronic (DRE) Voting System or electronic ballot boxes (Urnas Eletrônicas - UR) does not seem to have modified the traditional ritual of elections. The great difference is that in the traditional voting system the voters could see the ballot papers fall into an urn bag, placed in it by themselves, surrounded by inspectors. With the electronic ballot box, the voters do not have the certainty that their votes were registered and no inspector or witness certifies this: the vote is registered electronically.

Therefore, in the current system of electronic voting (DRE), the voter does not see the ballot box, but a representation of it. In turn, the machine does not supply an independent and true registration of each individual vote that could be used for a count or verification of errors in the machine or some type of tampering. In this case, if the machine registers a result in its memory that is different from that chosen by the voter, neither the voter nor the inspectors will know about it. Because of this, some specialists in computer security believe that such machines are more vulnerable to tampering than any other form of voting system, especially through the use of malicious computer codes.

Some specialists argue that software can be modified in such a way that the results of an election can be modified, being very difficult to be detected [Fi03]. Consequently, the security of electronic voting is susceptible to failures and frauds and some Brazilian experts question our e-voting system and its security through Internet journals, forums, articles and books [BC06, Ma02, Si02]. Similarly, comments and reports of international scientists corroborate with what our academics and scientists say, such as reports that argue on the security and risks of this kind of system in the United States [BC06, CMIT01, Ko03, Ko03]. It is known that electronic voting has existed for a long time in developed countries such as the United States, Germany and Japan, among others [Ma00], but more recently there have been many concerns about e-voting insecurity, especially in the more traditional democracies.

Some authors have been in favour of a more reliable e-voting system that can have the so-called voter-verifiable trails and an open source code, and it is likely that this kind of system may appear with the advance of technology and its lower price, although it is alleged that e-voting will never be error-free. On the other hand, some authors have emphasized the importance of political and socio-technical approaches for the development of an e-voting system that can ensure public trust in the results of an election [RR05]. Thus, apart from the technical aspects, it has been mentioned already that e-voting in Brazil has exacerbated alienation and the digital divide [RG08].

Paradoxically, the Superior Electoral Court (Tribunal Superior Electoral – TSE), known as the Electoral Justice, is responsible for election administration in Brazil; it has unexpectedly and rapidly adopted one technological system that has not yet been sufficiently tested even in the developed world. According to the critics of electronic voting, the Electoral Justice has opened the doors for new and sophisticated frauds much more serious than the traditional ones [Ma05], once the ballot's verification became private and the Electoral Justice the owner of the ballot boxes [Fr02].

During the last ten years, the Electoral Justice in Brazil has developed an intensive campaign emphasizing the security of e-voting, and on how the citizens should be proud of this technology that is said to be made in Brazil. Consequently, through the use of an intense propaganda, the Electoral Justice was able to institutionalize e-voting, and most of the population is proud of e-voting machines, believing that they are more secure than the traditional system.

However, over the last few years, the complaints about e-voting machine failures, corruption, and all sort of other critiques have intensified both in Brazil and in other countries that held elections more recently, such as the United States, Holland and France. Early in 2007, for the first time, the Brazilian Congress created a Sub-Commission for Electronic Voting that opened some hearings to improve the security of e-voting in the country. In one of its first hearings, a famous Brazilian politician and one of the richest men in the country, confirmed that for several times, at election time, he was asked whether he would really want to be elected. In another hearing an expert in e-voting technology security stated that he trusted the banking system more than e-voting machines in Brazil. In other words, he stated that e-voting machines are not secure at all.

A few months latter the Sub-Commission for Electronic Voting recognized the e-voting system insecurity in Brazil and proposed e-voting machines with paper trail capabilities to enable voter verification during elections. Although the so called voter-verified paper trail is demanded as the essential requirement to mitigate the risks associated with software and hardware flaws, there have been questions as to whether voter-verified paper trails will provide a significant benefit, given the costs added to e-voting tools. It has been recognized that many of the problems associated with e-voting machines are caused by a lack of training for workers who sometimes do not even know how to change the paper in the machines with paper trail or administrative mistakes. Anyway, in the case of Brazil, a few hours after the Sub-Commission published its final report, the Electoral Justice in Brazil rebutted it.

## 4 Corruption, Vote Buying and Turnouts

One of the purposes to use e-voting technology in the developed world is to increase turnouts, due to the discredit of voters with politicians and political parties. So, the kind of electoral reforms proposed in many countries to make it easier for registered voters to cast their ballots tends to benefit politicians and their parties with perverse consequences towards political engagement [Be05].

In Brazil, many electoral reforms have been approved over the last few years, but none of them aiming at improving political engagement. Although we do not know about the true relationship between e-voting technology and turnout, during the last election turnouts have decreased in the Parliament election in Brazil. A decrease in turnout may be a reduction in citizenship, but its relationship with e-voting technology is not clear. In the last election there was an intensive campaign on the Internet from the young people proposing to make the vote null. How far this campaign has influenced the population is also not yet known.

It is necessary to make it clear that an increase in turnouts does not necessarily mean more political participation and civic engagement. In many countries there is some political participation at election time, but people need democracy between elections and not only at election time. People want to participate in the decision making process between elections, and this is not always the case. It is here that the use of ICTs may help voters to have a better engagement in the political process. In the case of Brazil, voters need government “of, by, and for the people.”

What is e-voting for, when money is choking our democracy to death? With the increase in the cost of getting elected, exploding beyond the reach of ordinary people, during the last election it was possible to register that our representatives in the Brazilian Parliament are richer than their predecessors. In this case, is the Brazilian Congress, the so called “People’s House,” really the place for the highest bidder, considering that some of our representatives are elected based on an empire of corruption, turning elections on auctions?

It is known that corruption in elections in Brazil and in many other countries is not an abstract thing. It is a crude and disgraceful reality. Electoral corruption is a kind of arrangement usually involving candidates, donors and voters who are bribed to sell their votes in a transaction in which the object can be cash, food, cloth, construction material, medicine, and the provision of other services. Since the year 2000, the NGO named “Transparência Brasil” has carried out surveys about vote buying in Brazil. According to the Transparência Brasil, the Electoral Justice in the country is responsible for neglecting the problem of vote buying [TB06]. It is very strange that the Electoral Justice is very much in favour of the e-voting technology system used in Brazil and is unable to enforce the law to combat vote buying. Is there a need of e-voting technology for the elections of corrupted politicians? Vote buying by itself is a sign of reduced citizenship.

So, e-voting in Brazil has not stopped vote buying which is increasing, and in 2006, during the last election, was twice as high than in the previous elections. What is surprising is that vote buying is higher among persons with secondary or higher education than voters with only primary education or below. It is expected that the poorer the voters, the more vulnerable they are to offers. The surveys from *Transparência Brasil* have shown that this is not true. More offers were made to the poorer, but vote buying is registered among the wealthier classes [TB06]. In order to give an idea of the magnitude of the problem of vote buying in Brazil, in 2006 it was found that about 8% of voters were asked to sell their votes for money [TB06]. Considering the number of voters in 2006, this corresponded to about 8.3 million voters, and represents more than the population in some European countries and in some Brazilian states.

## 5 Conclusion

Because voting is mandatory in Brazil, there is a need of a democratic tool for civic and effective participation in the democratic process, which is contingent upon political participation. Democracy means widespread involvement of ordinary people in matters of governance. In its current trend, e-voting technology does not seem especially hopeful. For those who endorse technologies enthusiastically as they emerge, such as e-voting, any criticisms or requests for wider debate about policy options in technology are often regarded as negative and unhelpful. Critical voices have often been labelled backward and obstructive, especially when they try to explore social and political consequences of technological choices.

Some electoral reforms may have perverse consequences on citizenship and democracy. By making it easier for all citizens to vote does not mean improvement in democracy and citizenship, especially when a top-down political tool is designed in ways that bring more power to the political elite. Can we combine an approach very much based on market-driven forces (e-voting) that suits existing political and bureaucratic elites with a real process of democratization (e-democracy)? In other words, can the state provide services to please the citizens without democratic engagement?

There is no doubt that e-voting facilitates the work of the Electoral Justice in Brazil when, a few hours after an election, the names of those elected are informed. This brings prestige to the Electoral Justice whose power is reinforced by e-voting technology. Over the last ten years there has been an official massive propaganda in Brazil about e-voting and its security, in addition to training and demos on how to vote electronically. As a consequence, the majority of the Brazilian society trusts our e-voting system and its security. In this situation, it is quite hard to comment against e-voting in the country.

In spite of this, it seems that democracy in Brazil is at risk: women's representation in the Brazilian parliament has decreased; our representatives in the Parliament are getting richer than their predecessors, and richer politicians get richer after their elections; turnouts decreased in the last election, and vote buying increased substantially. Corruption in the Brazilian Parliament has reached such a level that a recent edition of the Economist has made reference to it as a "Parliament or Pigsty?" thus, commenting on the sophisticated criminal organization to buy votes [Ec07].

The political elite has no interest in discussing e-voting in Brazil, let alone the poor that are excluded completely from the political life. However, if political participation and civic engagement do not improve, there are substantial arguments to discuss e-voting in Brazil. Due to the trust in the system and the official voice supporting it, there is no chance to question the technology just in terms of its security. However, when social and political issues are questioned, there are many things that people have not thought of, and it is time to start arguing about it. If people care about citizenship, the time is appropriate for the debate about the relationship between e-voting technology and citizenship.

How helpful would it be if the academic research work in the developed world could look not only at the technicalities of e-voting, but to its social and political issues and on how it should be designed in ways to reflect our best understanding of freedom, social justice and addressing the source of inequality and injustice. The technical problems of e-voting, especially in terms of security, can be solved in the near future, and people can easily understand it. However, when matters related to social and political problems are considered, it will take years for the poor voters, for example, to understand what is going to happen to them. This situation forces us to care about them and the future of democracy. We cannot survive without the help of technology, but we cannot let the market work and express our politics just by watching the TV screen.

The e-voting project in Brazil is an initiative that merely reproduces traditional and dominant forms by which power is exercised. This is a tool that exacerbates inequality, alienation, and exclusion, but it seems that it is not awakening the "consciousness of how men are deceived in a permanent way."

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