Arias / Garcia / Corpeño: Population as Auditor of an Election Process

**Population as Auditor of an Election Process in Honduras: The Case of the VotoSocial CrowdSourcing Platform**

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For a country to become fully democratic the majority of the population needs to be involved in the politics of that country. This involvement requires people to be aware of what is happening, and to be able to participate in the country’s political processes. Crowdsourcing systems penetrate the social media, and by doing so they allow the general population to actively participate in political life. VotoSocial is a crowdsourcing system that was born during the 2013 government elections in Honduras. It was used to retrieve the official digital records of the government elections authority (the Supreme Electoral Tribunal) and to then provide them to the Internet community to be digitized and their digitization verified. VotoSocial was thereby able to verify the accuracy of the official results as provided by the Supreme Electoral Tribunal. It was found that there was no fraud in the digitisation process, but further statistical analysis revealed a data behaviour that is usually seen when there is incremental fraud in an electoral process. VotoSocial as a system has proven that social media-powered crowdsourcing systems can provide a population with political awareness in a government elections, thus opening a clear opportunity to build similar platforms.

KEY WORDS: crowdsourcing, transparency, politics, elections, Honduras, VotoSocial

## Introduction

It is accepted among Hondurans that the government is corrupt. This is supported by evidence found by Transparency International that rates Honduras with a score of 26, with only 37 other countries considered to be more corrupt than Honduras (Transparency International, 2014). This fact is affecting Honduran society in many dimensions, one of which is the impact it has on the education—and thus the democratic maturity—of the general population. With 14.5 percent of the population above 15 years of age unable to read or write (Honduras Central Bank, 2014), and with 64.5 percent of the population living below the poverty line (World Bank, 2014b), this country’s educated people is in a minority.

However a minority can have a powerful impact on a country, when even a small group can shake the status quo of a government (Gardezi, 2014), as seen in the recent government elections held in October 2013. During this process VotoSocial crowdsourcing system was built (<http://votosocial.org>), in which 97 percent of the presidential polling records where reviewed by the people participating with the system.

In this electoral process eight political parties competed for the president position, one of the candidates being the former President of Congress. This fact, and the previous turmoil produced by the events of 2009 which lead to the deposing of former President Manuel “Mel” Zelaya, had the country in a state of tension. Despite the political stress, this past election proved to be representative, with participation by more than 60 percent of the registered voters. In addition to the high turnout, for these elections the official polling table records were digitized and made public by the Supreme Elections Tribunal (TSE) through their elections site SIEDE (<http://siede.tse.hn>). In Honduras the elections are organized as follows: the country has departments, each department has municipalities, each municipality has voting centers, and each voting center has polling tables. Voting centers are places that are located near the population to enable domiciliary voting, and to make the process more efficient in each voting center several polling tables serve as places where the citizens actually cast their vote. In each polling station there should be two representatives of each political party, and any problems that may occur during the vote counting (such as ambiguous votes, null votes, etc) are resolved by simple majority.

During the process there was a perception that the elections were fraudulent, specifically the process of digital input of the records that registered the votes count in each polling station to the TSE computer system. Most of this perception stemmed from the political power held by one of the candidates at the moment of the elections, as pictures of inconsistent polling records favoring this candidate appeared in social media, and partly because of the awareness of the general public of the corruption of the government. The lack of confidence in the Honduran election system can be seen in the infamous statement by former president Zelaya where he stated that it is necessary to have 10 percent fraud to be able to beat the system (Frente Morazanista, 2008). Studies have additionally shown that only 23 percent of Hondurans believe in the electoral process (Romero Ballivián, 2014).

Considering all these facts, some people started to organize procedures to check the official records, and to find a way to report this to the general public. Some used Facebook as their propagation method, and Google Docs as a way to register the potential anomalies found in the counting process of the official polling records. Some other people, among the authors of this paper, decided to take this a step further, and developed the VotoSocial platform, in order to allow the public to verify the government counting of the official polling records.

Democracy is not an easy feat, particularly in a developing country like Honduras, but crowdsourcing systems like VotoSocial can help a minority of a population have a deep impact on society, allowing more educated people to discover anomalies in the government proceedings, making this information public and explaining how this affects the general public. Furthermore, this initiative allowed users who would have otherwise have just complained about the government on Facebook, to use their energy in a positive and constructive way, and to involve them in the political life of their country; something that they would not have been able to do without VotoSocial.

These kinds of systems will help achieve higher participation in the governance of a country, because they allow people to be heard by their government, and increase general public awareness. In addition to these benefits, VotoSocial provides a path to a more transparent electoral process; so much so that it has served as an inspiration for other crowdsourcing systems like the one developed by Gonzalez (2014) in the neighboring country of El Salvador.

Following this introduction a brief background description of crowdsourcing and the political history of Honduras is presented. After this a panoramic view of the elections in 2013 is presented, followed by a statistical analysis allowed by the VotoSocial platform. Finally, future and potential work is described.

## Background

### *Crowdsourcing*

Cyberactivism is reshaping the way that politics has traditionally been conducted, whose perspectives are included, and how awareness is raised among the general public (Milan and Hintz, 2013). Cyberactivism activities include crowdsourcing, among others. Crowdsourcing is the process whereby an online community collaborates to reach a goal, where each participant contributes with a small portion, and these contributions are later integrated to provide a solution to a bigger problem. In a way, it builds a big solving machine using humans as computational components, thus enlisting people to solve a variety of problems (Doan et al., 2011).

According to Doan et al. (2011) crowdsourcing operations need to consider the amount of manual effort, the role of the human users and whether the system is going to be standalone or piggy-back on another system. The amount of manual effort refers to how much time and effort each human user is expected to give to the system. Most systems expect very little from users, and work with a considerable number of users. Additionally, the function of these users needs to be clearly established, in such a way that it is difficult for users to introduce noise to the solution of the problem at hand. Lastly, some systems rely on the existence of another system, for instance the reCAPTCHA system (<https://www.google.com/recaptcha/intro/index.html>) that piggy-backs on other systems to help digitize text, annotate images and help in the building of machine learning datasets; some other systems are standalone ones like SETI@Home (<http://setiathome.berkeley.edu/>). In addition to these considerations, there are several dimensions of crowdsourcing that establish how to recruit and retain users, what each user can do, how to combine their contributions and how to evaluate them. For instance in one crowdsourcing solution for disaster relief (Gao et al., 2011), users are recruited by widespread advertising of the system; in this instance Twitter is used to send information messages about incidents or needs during a disaster. User retention is achieved by the good will of the public in collaborating with emergency relief efforts; users only need to send their tweets indicating an event such as “there is no running water”, or “a bridge has collapsed”, or sending requests for resources such as food or medicines with an identifiable hash tag and location, and then the system combines these tweets to help relief agencies be able to visualize where help is needed the most, this is done by mining the tweets. In addition to Twitter another system that is used is Ushahidi an open source platform that allows the construction of a crowdsourcing site that recollects information about a disaster and helps relief workers evaluate needs to be able to provide help according to priorities. These systems were used in the Haiti’s 2010 earthquake and in Japan’s 2011 tsunami, in both cases annotated maps where created with layers of information about the disaster, showing requests for resources, incidents, and relief information like medical stations, supply stores, and the such. This particular system has the challenge of data validation, but it serves as a good example on how these dimensions need to be dealt with.

Crowdsourcing systems do not exist without problems and challenges. Among them there is the need to evaluate the correctness and validity of user contributions, how to reach enough users to result in a significant contribution to the system, and how to make people accountable for their participation. Each crowdsourcing system faces these challenges in its own way, depending on its specific goals and domain. Needless to say, however, thanks to social media, crowdsourcing offers a powerful tool to collect information and users can also be used to validate the data (Gao et al., 2011). Success stories on how crowdsourcing has been used can be found worldwide, such as its usage in disaster relief in Christchurch, New Zealand earthquake in 2012 (Yin et al., 2012), Haiti’s earthquake in 2010 and Japan’s tsunami in 2011 (Gao et al., 2011) and Kenya’s elections in 2007 (Jeffery, 2011) and 2014 (Caldwell, 2013) and its use in the electoral process of Honduras and El Salvador in 2013.

For crowdsourcing systems to be successful they need to keep their human users motivated. This can be achieved by convincing them of the necessity of the service, through instant gratification, social recognition and reputation (Doan et al., 2011). The latter two factors can be harnessed by attaching a social media component to the crowdsourcing system, so that users can show off their accomplishments with their peers. The use of social media also helps with the challenge of reaching more users (Yin et al., 2012), and helps political bodies gather support, mobilize people, and spread political messages (Map, 2014).

By involving social media, many crowdsourcing challenges are faced and solved. In addition, the systems gain a broader audience, so that results can be shared with more people, providing better situation awareness, new paths of communication, and opportunities for assistance (Gao et al., 2011). However, crowdsourcing systems need to provide appropriate and rapid response and results to keep active users engaged with the system, as well as passive and read-only users.

### *Honduran Political History*

The political history of Honduras is marked by bipartisanism between the Liberal Party and the National Party, and frequent military government in between. The longest, and most remembered, dictatorship was that of General Tiburcio Carías in 1932. When it finished in 1948 the country started its slow path to democracy.

Following the 1932-1948 dictatorship, General Carías called for elections. However the results of this process were arranged in such way that Juan Manuel Gálvez, from the National Party, won this election with 99.8 percent of the vote. Presidential elections were held again in 1954, being won by the opposition Liberal Party, but since the law required an absolute majority, the National Party’s Vice President took over the government. In 1956 the opposition of the ruling government was persecuted, a candidate was exiled and state resources were mobilized by the National Party to enable clientelism; that is, the exchange of services or goods for political favor. By means of fraud the government party achieved 89.4 percent of the vote and full representation in Congress (Romero Ballivián, 2014). This election was followed by a coup d’état led by the military, and after that a Constituent Assembly was brought, later called for elections, resulting in Ramon Villeda Morales, a Liberal Party militant, being elected President. He was later deposed by another coup from the military. This military government again called elections, and the elected President, Ramon Ernesto Cruz, from the National Party, was also deposed by the military a little more than a year later. During this military government a new Constituent Assembly was called, a new Constitution was written, and elections were called again in 1982.

So from 1948 until 1980 coups d’état, election fixing and fraud where the norm, until in the early 1980s a new National Constitution was written and an electoral process began again in 1982. Democracy was then restored, and elections have been held every four years since, without the interruption of the military seizing power.[[1]](#footnote-1) A factor affecting the political turmoil from 1948 to 1980 was that the few available media were unable to function well due to restrictions on freedom of speech, along with low education levels resulting in very low situation awareness. Table 1 shows a political overview to clarify to changes in government during the period of 1932 to 1982. During this latter democratic period, fraud has not been as crude as it was 30 years ago, and Honduras has been ahead of its immediate neighbors in terms of advances in the electoral process; for instance the introduction in 1997 of one ballot, domiciliary voting, and use of the national ID card as voter registration (Romero Ballivián, 2014).

Table 1. Political Overview of the Honduras Government from 1932 to 1982

|  |  |  |
| --- | --- | --- |
| **Year** | **Event** | **Outcome** |
| 1932 – 1948 | Tiburcio Carías Dictatorship |  |
| 1948 | Presidential Elections | National Party |
| 1954 | Presidential Elections | Liberal Party won, but due to technicality National Party Vice President took charge |
| 1956 | Presidential Elections | National Party |
| 1956 | Coup d’etat | Military Government |
| 1957 | Constituent Assembly | Liberal Party candidate elected President |
| 1963 | Coup d’etat | Military Government |
| 1971 | Presidential Elections | National Party |
| 1972 | Coup d’etat | Military Government |
| 1975 | Coup d’etat | Military Government |
| 1978 | Coup d’etat | Military Government |
| 1980 | Constituent Assembly | New National Constitution |
| 1981 | Presidential Elections | Liberal Party |

The events around the 2009 political crisis, when elected President Manuel Zelaya was deposed by Congress (and then exiled by the military), confirmed the fragile capacity of public action in Honduran society (Romero Ballivián, 2014). The following 2009 elections in Honduras had one of the lowest turnouts in recent history with 45.97% of voters participation. According to Gonzalez Ocantos et al. (2014) during the 2009 elections, 22 percent of the voters participated in one form or another of vote buying. Vote buying strategy was mostly oriented to loyal militants, in the form of targeted turnout and mobilization (Gonzalez Ocantos et al., 2014). Porfirio Lobo from the National Party won the 2009 election, ending the pattern from 1982 where two Liberal Party governments preceded a National Party government.

Survey results show that even though there is a periodicity to the democratic process, where elections are held regularly every four years, the public still does not trust the general process and transparency of the elections (Romero Ballivián, 2014). Other research shows that 48.3 percent of Hondurans believe that democracy is worse now, and only five percent are satisfied with the current democracy (Latinobarómetro, 2014). Even though Honduras is improving technically in its electoral process, there is a clear lack of confidence in the results; mostly due to the historical tendency to fraud and vote buying.

***Characteristics of the November 2013 Elections***

Elections were held in November 2013, and eight political parties participated with a total turnout of 61.16 percent; a significant increase from the previous elections. These elections were historically unique since they ended the usual bipartisanism that is usual around the world. In these elections the Liberal Party, traditionally one of the more powerful parties, only won in one department of the republic. Another particularity of these elections was that new political parties won whole departments, something that never happened before. A new party called PAC won one department, four departments were taken by LIBRE (a new party derived from the Liberal Party after the 2009 crisis), and the rest of the country was won by the National Party.

The PAC party presented for the first time a different proposal, filling a vacuum that traditional parties had not been able to fill, using social media and allowing people to participate in these forums. In general, people are coming to expect a top-down approach where politicians use more social media, reach out to the population, and listen to the public using this technology (Map, 2014). This was reflected in the election counts where PAC achieved good results in urban areas where there is greater development; the downside being little or no influence in the rural areas. An additional consequence of the use of social media is that this particular party attracted younger sectors that usually did not participate in the political process (Romero Ballivián, 2014).

The National Party, represented by Juan Orlando Hernández—at that time President of National Congress—mostly won in the western and southern parts of the country. In those regions there is a greater rural population; a population with less development that wanted to preserve the “Bono 10,000” program, a program that the candidate pledged to continue once elected. This program was created during the 2010-14 term of President Porfirio Lobo as a Presidential Program for Health, Education and Nutrition (Bono 10,000, 2011). It aims to transfer money to homes categorized as in a state of extreme poverty, with children properly enrolled in the public school system and regularly attending school. It forms part of the Millennium Development Goals (United Nations, 2006) to eradicate extreme poverty. The program shows consistency with the social policy in Latin America, which is characterized by “conditioned subsidies” (Romero Ballivián, 2014).

During the 2013 elections urban lower class turnout was lower than rural turnout, where rural people are more participative than urban lower class even though they both share poor social conditions. This difference is mainly due to traditional political parties’ networks that work very well in rural parts of the country (Romero Ballivián, 2014). As expected, the rural population influenced by traditional political parties’ networks, it is seen how low-income citizens respond positively to immediate benefit, like the Bono 10,000 (Kitschelt, 2000). Given the economic insecurity of the rural population, they become more susceptible to vote buying, where votes are bought using the social benefits as leverage.

Besides income, the other factor affecting the vote is the intensity of political sympathy, which may result in the mobilisation of followers. This form of vote buying takes the shape of electoral participation buying. This is characterized by gathering voters and taking them to the polling station to vote for a particular candidate.

**Electoral Process in Honduras**

The elections in Honduras are held every four years and domiciliary voting is enabled so that people can cast their vote near to their place of residence. For this purpose polling tables are placed in voting centers, such as public schools, and this is the place where each citizen is to cast their vote. In each polling station there are two representatives of each party, a main representative and an alternate to cover for the main when asked. Before the polling station is opened, representatives are responsible for the preparation of the station: prepare the place where the citizens will fill their vote, prepare all the votes and paperwork, and all the supplies needed for the process. Each representative then takes its place depending on the responsibility randomly assigned: revision of the citizen ID, checking the electoral roll, application of ink to the voter once the vote is cast. The president and secretary of the table are responsible to sign and seal each vote. When voting is finished, then, there is a representative selected to read aloud each of the votes, and the other representatives keep count using the forms provided by the national authority. Needless to say that each representative is looking out for the interests of its party, and every representative is allowed to verify the vote to check for anomalies. If a controversy arises, it is solved by simple majority of the representatives. This means that if a vote has ambiguous marks, then the representatives decide how to count that vote by majority. Once the count is done, the results are written by hand in the official polling station record, signed by each representative, and then digitally scanned and sent to the Supreme Electoral Tribunal for transcription and summarisation.

Another characteristic of the 2013 elections was the participation of eight political parties. Having so many political parties opened the door to polling stations credentials traffic, a form of electoral fraud where people from one political party hold the credentials of a different party, thus increasing party control over the polling tables, since ambiguous votes, null votes and blanks are resolved by simple majority of the polling station representatives. This was seen during the 2013 elections and documented in a TV interview of a representative of the National Party that was holding the credentials of another Party (Kirkconnell, 2013). In this interview is seen how the reporter asks a polling table representative “What party do you represent?”, and the representative answers “The National Party”, then the interviewer asks “How come you are holding a credential of a different party?”, for what the representative replies “I don’t know about that other party, I am here for the National Party”.

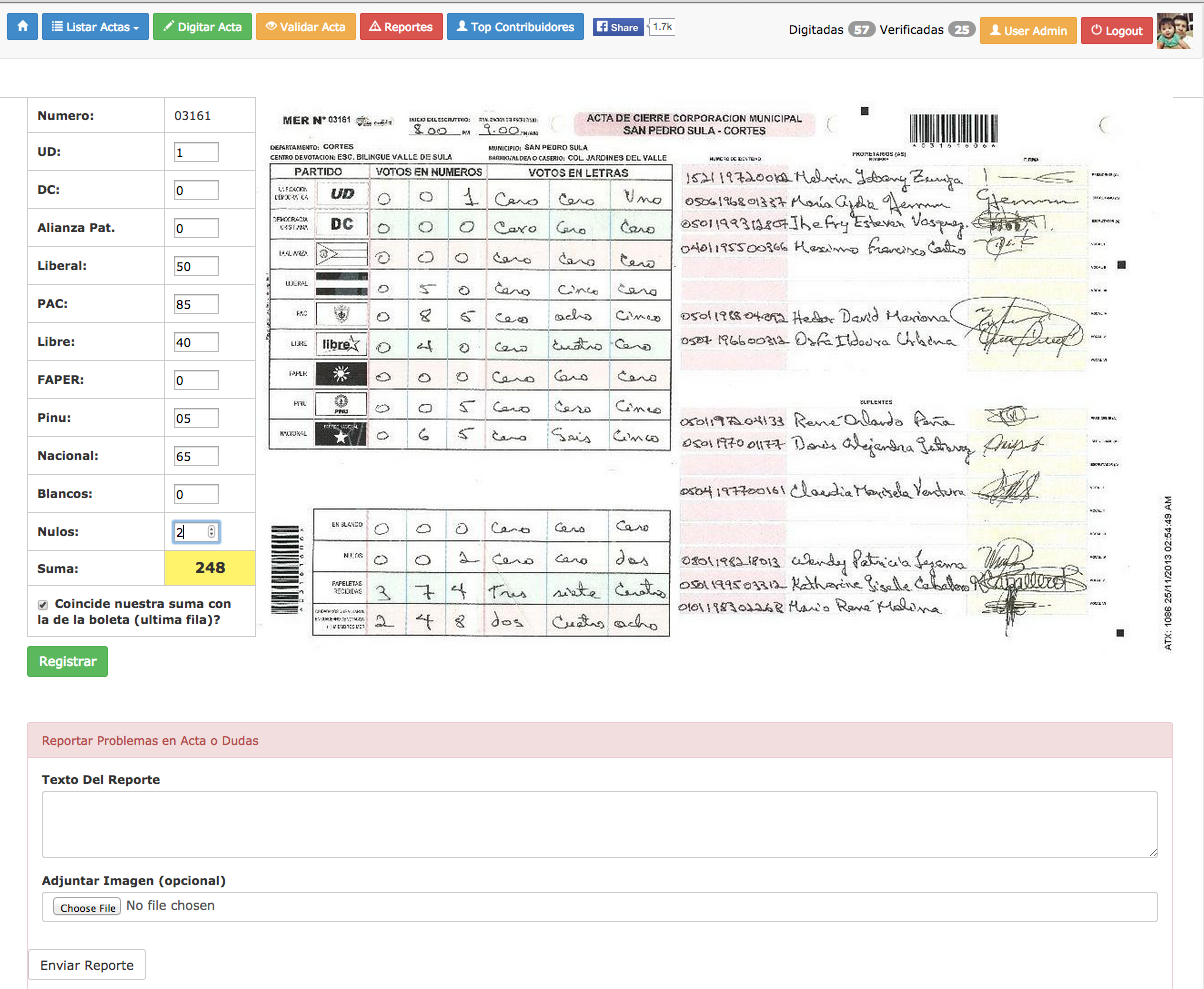
The polling table remains the weak link in the electoral process, as this is the least supervised spot (Romero Ballivián, 2014). Bigger and traditional parties usually possess resources and have a greater capacity to turn on the vote-buying machinery. To achieve this, it requires knowledge of the local population, budget, trust networks, and judicial protection (Gonzalez Ocantos et al., 2014). Judicial protection was achieved by current president of the National Party, at the time that he was president of Congress by dismissing four Supreme Court Justices, specifically the ones in charge of declaring violations to the National Constitution (La Tribuna, 2012), these four Supreme Court Justices were part of the five Justices that constitute the Constitutional Committee in charge of reviewing laws to check for their constitutionality.

The 2013 elections where characterized by the end of traditional bipartisanism, where new parties achieved control of whole departments something never before seen; the use of vote buying in the rural areas using the Bono 10,000 as leverage and by electoral participation buying. In addition, having so many political parties, allowed for polling stations credential traffic, letting political parties with more influence take control of the polling tables thus opening the door for further fraud in the weak link of the electoral process.

## Government Elections 2013: The Birth of VotoSocial

VotoSocial was launched at the time the official vote count by the Supreme Electoral Tribunal (TSE), the atmosphere of distrust towards the count contributing towards its creation. VotoSocial is a crowdsourcing platform that allows users to verify scanned digital polling table records, and to transcribe the values into a computational system. Figure 1 shows a screenshot of VotoSocial’s polling record digitalisation page.

Figure 1: VotoSocial Digitalisation Process Page.



The VotoSocial team retrieved all the digitized polling records as they were made available by the TSE. VotoSocial then allowed the system’s users to view the scanned record and to register the values, thereby digitizing the results of each of 15,637 polling tables, representing almost 97 percent of all the polling stations in the country. (The remaining three percent were not verified as the TSE never made these records public.) Users were also in charge of the validation of this process; every time a user digitized a record, three other users had to validate the transcription. There were 6,232 unique visitors to the site, 1,673 registered users, 710 users actively transcribing records, and 879 users reviewing the transcriptions. The whole process took six days. Programming and testing were done on the first day, together with processing of one percent of the records; over the next two days 88 percent of the records were processed (hours after being made available); and the rest of the records were processed in a few hours over the final three days.

According to Doan et al. (2011) VotoSocial’s architecture is explicit, since users explicitly collaborate with the platform, as opposed to implicit collaboration where users collaborate as a side effect of their actions in a system. Furthermore, VotoSocial assigns the users with task execution, all work is undertaken online, and unlike other systems that send tickets when a user finds a mistranscription (Haaf et al., 2013), the correction is done online and almost in real time. Still, users may send reports when they found suspicious records such as the one seen in Figure 3.

A triple verification process was used, allowing for user-controlled validation of the data. This is similar to a double-keying system (Haaf et al., 2013), but it was decided that triple validation would be more user friendly (requiring only a single click to register a transcription as accurate or not; as opposed to double keying systems where all users need to input the entire text that is being digitized) without compromising accuracy, and would also enable the community to automatically validate the digitization process. (See Figure 3, bottom left, showing the two buttons to register the transcription as either correct or incorrect.)

An improved system was implemented by the “Contemos Nosotros” (Let Us Count) (Gonzalez, 2014) system launched in El Salvador following the example of VotoSocial. In this system the user doesn’t know what party they are digitizing the values for (Figure 2), they just see an image of the numbers, allowing for a more unbiased system of digitization. (Unlike “Contemos Nosotros” VotoSocial requires users to log in using a Facebook or Google+ account, thus providing a level of accountability from the users.) VotoSocial users were recruited by word of mouth in social networks like Facebook and Google+. Vote count was integrated by simple addition, so integration was not actually a challenge of the VotoSocial platform.

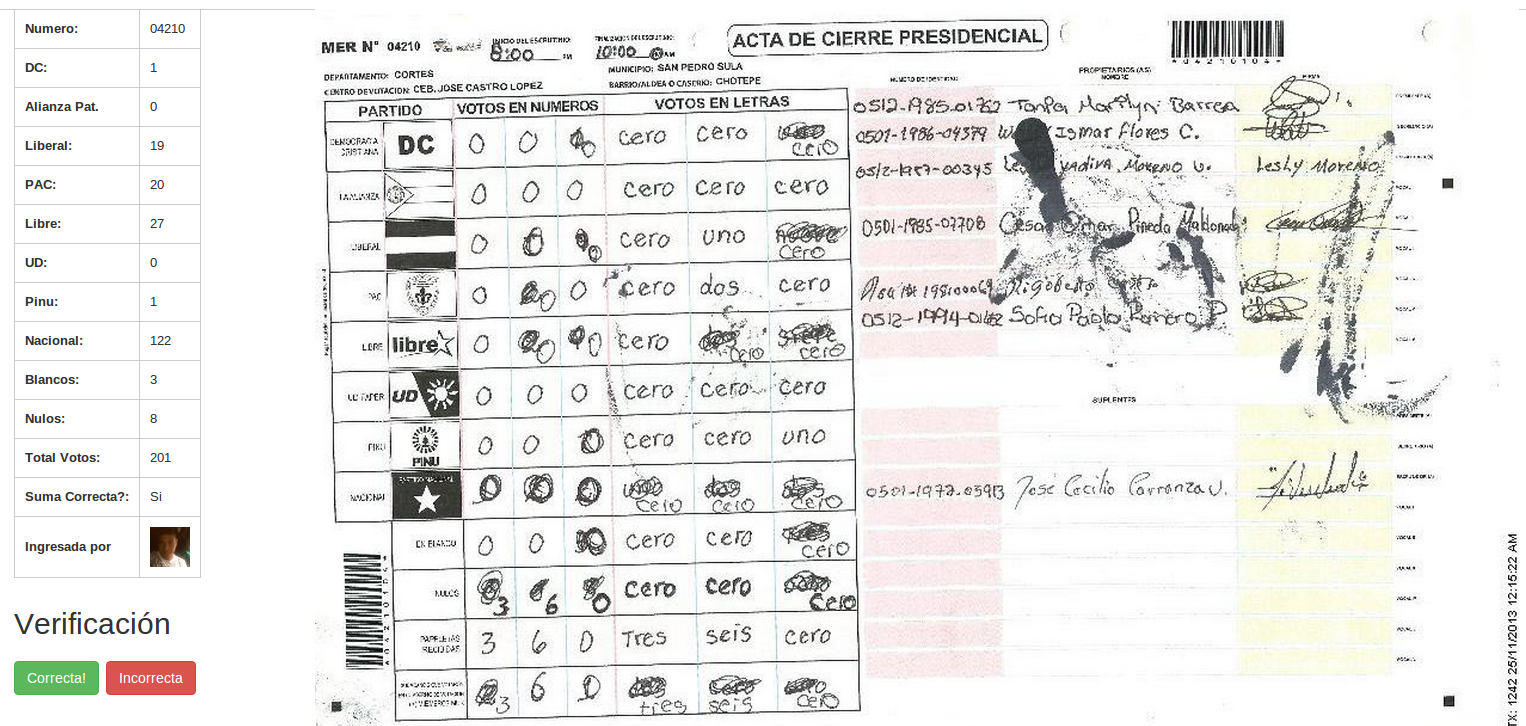
Unlike other crowdsourcing systems, VotoSocial did not form a community as such, since there was not explicit communication between the users. Decisions about system functionality and design were always made agilely by the system operators, taking into account user comments. The operations that users were allowed to do were as digitizers and reviewers, users could be either one or both. Digitizing consisted in transcribing the official record, and reviewing consisted in the validation of this transcription. Another difference between VotoSocial and other crowdsourcing and activism sites is that VotoSocial was not anonymous; this was decided to encourage accountability of the users and their actions within the system.

Figure 2: Digitisation of a Partial Record on the “Contemos Nosotros” Platform (El Salvador).



Gao et al. (2011) present several shortfalls of crowdsourcing systems, among them are that it can be difficult to coordinate collaboration between all the system’s users; information provided by users is sometimes unverified or inaccurate; and user security can be compromised. None of these shortfalls were encountered by VotoSocial; coordination and verification was undertaken automatically by the triple verification scheme, and user security was not compromised as this system was never seen as a threat to the government or its institutions. Even though VotoSocial had coverage by the international press, neither the developers of the platform nor the users where approached in any way by any government institution, and as the results later showed, the outcome of the platform confirmed the official results.

Figure 3: Suspicious Digital Polling Table Record, VotoSocial Platform.



Note: At lower left can be seen the buttons to verify that the record has been correctly (green button) or incorrectly (red button) digitized. The record is suspicious as it shows clearly that the numbers were changed, the transcription shows the original numbers as they can still be read.

## Analysis

In order to compare the VotoSocial results with the final official results, on 21 May 2014 the authors requested official detailed data from the Public Information Access Institute (<http://www.iaip.gob.hn/>), but recieved no response even after three months. Nevertheless, VotoSocial found no significant discrepancies between its own results and those of the overall official results of the TSE website, thus showing that at least as far as the TSE digitisation process if concerned, there was no foul play. However, further analysis of the data showed a correlation between the percentage of voter turnout in the polling tables and the percentage of the voters of the winning candidate, where there should have been none. Although the official count data was not released through the official channels, an independent count of the votes using the official polling records was achieved via the VotoSocial platform. This count allowed us to perform additional quantitative statistical analysis.

An initial statistical analysis using the methods proposed by Klimek et al. (2012) uncovered evidence of what they term incremental fraud, but no evidence of extreme fraud. Klimek et al. (2012) define incremental fraud as voting boxes that contain both valid ballots and additional fake ballots in support the winning party. Extreme fraud describes when voting stations or districts show a 100 percent turnout with a 100 percent count for the winning party. Figure 4 depicts the correlation between voter turnout and votes for the winning party for three different cases. Figures 4A and 4B are examples based on the results found by Klimek et al. (2012) for the Canada and Russian elections respectively, and Figure 4C is the actual result of the Honduras 2013 elections. Figure 4A shows what normal behavior should look like, with no smearing to either side. Figures 4B and 4C show a correlation with smearing to the right. Figure 4B depicts a fingerprint where there is extreme fraud with a concentration of points in the upper right corner, showing that some voting tables had 100 percent turnout and 100 percent votes for the winning party, and also shows some incremental fraud by the smearing of points to the upper right corner. Figure 4C, the fingerprint for the Honduras 2013 elections, shows a smearing to the upper right corner, an election result fingerprint associated with incremental fraud, the points on the bottom right represent a percentage of people that voted for other parties than the winning one on high turnout polling stations. It is worthy to note that while extreme fraud is not present in the data for the Honduras 2013 government elections collected by VotoSocial, the smearing clearly suggests the presence of incremental fraud, however these findings is not fully conclusive, this pattern is a necessary, but not sufficient, condition for fraud.

Figure 4: Statistical Correlation Between Election Turnout and Winner Votes.

|  |  |  |
| --- | --- | --- |
|  |  |  |
| 1. Correlation in absence of fraud | 1. Correlation in presence of extreme and incremental fraud | 1. Honduras 2013 Elections fingerprint |

Besides the statistical analysis that VotoSocial data enabled to do, there were other effects of the platform, people were able to politically participate through the platform in a systematic way, to measure this a survey of the VotoSocial participants was undertaken. According to this survey 42.54 percent of the participants said that they are more politically active thanks to VotoSocial, 87.31 percent believed that due to the internet they could be more politically active, and 82.09 percent agree that social networks have a positive influence on how politically active they are. In general, 91.04 percent of the surveyed people felt that thanks to crowdsourcing platforms like VotoSocial they could be more politically active.

## Future Work

Doan et al. (2011) presents three major directions for crowdsourcing systems: more generic platforms, more applications and structure, and more users and contributions. These challenges could be met by VotoSocial by making the platform readily available for other countries’ election processes, creating spin-off systems for government auditing, and by increasing the Internet penetration in developing countries to reach a higher number of people from the general public.

VotoSocial started out as an open source project and its source code is available via the VotoSocial website or GitHub repository (<https://github.com/corp/ActasCounter>). In the future the software development team wishes to enable the platform for real-time statistical analysis and to add more graphical reports to provide users with situation awareness about the election process as it happens. Further work could involve a deeper statistical analysis to check for further evidence of potential election fraud, using the fraud parameters computed by Klimek et al. (2012). An enhanced registration form would also allow research on the VotoSocial platform users, by collecting their demographic, socioeconomic and political data.

VotoSocial could also be a catalyst for the creation of a spin-off system for general government auditing. This crowdsourcing system would help the general public to audit government-funded projects at both local and national level. This evaluation system could incorporate the evaluation techniques presented by Morra Imas and Rist (2009) and become an independent, people-managed evaluation system; the counterpart of internal government evaluation systems like the Single System of Evaluation of Social Public Policy (Sistema Único de Evaluación de Políticas Públicas: SUEPPS; Arias et al. 2014). Such systems would need to be hosted by apolitical entities such as a university or an NGO, and would be fed and regulated by the community in a manner like Wikipedia, thus becoming a people managed system.

As with any research and development project the major challenge is to find funding to get the necessary infrastructure and personnel to build and develop and maintain these platforms. These challenges are particularly difficult in developing countries that do not have an established research funding mechanism. Ideally personnel for software development could be enlisted the way open source projects do, however so far it has been hard to recruit professionals to do so.

## Conclusions

In the 1948 elections there was an electoral scaffolding that far from helping a fair election used a mechanism that guaranteed the victory of the ruling party. 2013 was not much different, even with the technical advances that were supposed to boost confidence in a more transparent electoral process, the resemblance with the 1948 elections where the ruling party had electoral scaffolding and access to government resources produced a lack of confidence from the general public (Romero Ballivián, 2014).

Social media like Facebook and Twitter may gather people together, particularly around common interests. These social media platforms allow people to complain, suggest and comment, but all the information is lost in the sea of “social text” without structure or organization, so it cannot be used in a meaningful way. On the other hand, crowdsourcing platforms, in addition to bringing people together and allowing people to comment and collaborate, provide structure that allows summarizing and aggregation of data that can later be used to achieve community goals, as was done by VotoSocial.

Higher electoral turnout usually means a greater demand of the public for results (Macpherson, 2003); this is not true of Honduras, where abstention and comfort are not aligned, since even when there is high turnout people do not consistently demand results from the government (Romero Ballivián, 2014). Historically Hondurans have lacked the will to protest, and dissent has been limited and without proper organization, continuity or consistency. People just seem to forget. But VotoSocial has opened a window to allow people to participate in the political life of Honduras, and opened the door for further development of crowdsourcing and social media tools as environments for people, especially young people, to work towards a better country.

A high investment in information technology infrastructure and in education would create high penetration of social media (Gardezi, 2014) that in turn with systems like VotoSocial would increase the political participation of the population, even the sectors of society that traditionally did not or could not participate in politics. Just like South East Asian countries are betting on telecommunications infrastructure, Honduras should invest in this kind of technology. It is still a challenge to increase the Internet penetration in countries like Honduras, currently at 17.8 percent (World Bank, 2014a), however, by achieving higher penetration rates a higher proportion of the population could be reached, and this could find critical mass for real changes to occur in local policy making and politics.

There is a clear increase of people disappointed with the traditional forms of doing politics and political organization (Milan and Hintz, 2013), prompting civic action to take place in online forums. VotoSocial may be a precursor to this new way of making politics in countries like Honduras. VotoSocial may be a catalyst for forums of political discussion, and for the creation of additional crowdsourcing systems in this direction. The direct effect of the participation of the population would be an increase of the political situation awareness of the general public, particularly in the younger generations that would start to actively participate in the politics of their country.

Sartori (2003) states that apathetic citizens make governments rule without problems, so when people do not actively participate in the politics of their country, the ruling class are allowed to do as they please. This means that it is urgent for nations to become really democratic to get involvement of the most of the population. With a more involved population and support from social media and crowdsourcing, real public pressure could be exerted on governments in demand of real change.

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Appendix:

1. The only exception to this democratic continuity was the deposition of President Manuel Zelaya, from the Liberal Party, in 2009. [↑](#footnote-ref-1)