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Citizens and their bots that sniff corruption: Using digital technology to monitor and expose politicians who misuse public money

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Abstract

This article explores the advantages and constraints affecting anti-corruption grassroots initiatives that employ the “naming and shaming” strategy. It questions why activists choose such a confrontational approach while examining the cases of two Brazilian anti-corruption bottom-up initiatives. Both fight corruption by deploying bots to assist in auditing congressional members’ expenses, and then use social media to expose their suspicious findings. Findings, based on a qualitative analysis, show that publicly exposing those who misuse public money was a tactic adopted only when the expected response from law enforcement and anti-corruption authorities fell short. This study suggests that having a participatory accountability system is insufficient and considered disappointing if no inquiries and sanctions follow civic action. As an unforeseen effect, the digital exposure of officeholders garnered media attention and expanded the initiatives’ support base. Nevertheless, activists acknowledge the risks associated with their belligerent activities and the challenges of financing, maintaining engagement, and expanding the scope of their actions, despite the high expectations that digital technologies would reduce costs and support collective action.

Keywords: Accountability, anti-corruption, activism, civil society, technology

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Conflict of interests

There is no conflict of interest.

1. Introduction

Exposing malfeasance by blacklisting offenders or publicising their acts has been considered one of the strategies of many regulatory and anti-corruption agencies as well as of international organisations and media outlets (Rusina, 2020; Mulcahy et al., 2019; Paterson et al., 2019; Schauseil, 2019; Dixit, 2015; Gebel, 2012; Sampson, 2010; Sharman, 2009). Within this context, digital technology is seen as a force for good to promote transparency, accountability, and civic participation, mainly because it allows rapid data collection and access to information with reduced costs (Mattoni, 2020; Davies & Fumega, 2014; Chêne, 2016). In grassroots anti-corruption struggles, digital technology is believed to play two leading roles: assisting activists in enlarging the monitoring and denouncing capacity while increasing public awareness of how damaging corruption is (Mattoni, 2021; Odilla, 2023).

However, we still lack a better understanding of the agency and choice of anti-corruption activists as well as the role of digital technology in their strategic actions. In this paper, by asking what makes grassroots initiatives pursue the “naming and shaming” strategy using open data and social media against corruption, we explore the main constraints facing and benefits of this contentious approach for two anti-corruption bottom-up initiatives in Brazil. *Operação Política Supervisionada*, OPS (Operation Supervised Politics), and *Operação Serenata de Amor*, OSA (Operation Love Serenade) are both non-violent and exclusively online initiatives that audit congressional members’ expenses with the help of bots and then use social media to expose their suspicious findings by naming the politicians.

Overall, loose networks of activists, such as the two mentioned above, are thought to be better at contentious practices than negotiating with the government (Rich, 2020, p. 430). In Brazil, however, authors have already recognised that social movements cannot be seen as purely confrontational due to the close relationship between the state and social movements that comes in a wide range of forms, from hybrid to creative interactions, without necessarily resulting in co-optation or institutionalisation (Rich, 2019, 2020; Mattoni & Odilla, 2021). Therefore, one valid question is: Why have these two anti-corruption initiatives decided to adopt such an unusual strategy for Brazilian mobilisation standards, considering the possible risks and benefits of naming and shaming congressional members who misuse public money? To address this question, we combined several techniques of qualitative data collection, such as interviews, online participant observation and document analysis.

By examining the formation and main practices of OPS and OSA, we found that both are typical 21st-century activist networks (della Porta et al., 2006). They favour individual autonomy, have members

in faraway places, and exclusively use digital technologies to exchange information and ideas, develop tools, and share tasks to audit public expenditures and communicate their findings on the misuse of public money. The strategy of naming and shaming politicians was not the first option for the two initiatives. This more bellicose social accountability approach was only taken after they were not able to activate official horizontal accountability¹ mechanisms – i.e., official checks and balances within and across governmental agencies (O'Donnell, 1999) – to act regarding their auditing results. In other words, the two initiatives relied more heavily on social accountability strategies to improve institutional performance and pressure for public responsiveness by trying to create awareness of the misuse of public money and increase citizen engagement (Fox, 2015).

In the next section of this paper, we review the literature, focusing on the perils and promises of naming and shaming strategies in the digital age. Following that, the Brazilian context is presented in Section 3. Then, in Section 4, the two cases under analysis and the data collected are detailed. We report our key findings and analyse them in Sections 5 and 6. We conclude that digital technologies allow access to information and rapid data collection and, hence, offer low-cost tools to individual citizens, and bottom-up initiatives organise independent audits and publicise findings on corruption. Activists, however, recognise the risks and threats of naming and shaming. Their decision to pursue a more confrontational strategy shows that it is not enough to have a transparent accountability system that offers open data for citizens to oversee and investigate, and channels for reporting incidents and requesting specific actions. Activists consider the imposition of sanctions on those proven guilty to be an imperative component of the accountability framework, and naming and shaming from the bottom up emerges as an attempt to fill this gap in the horizontal accountability system.

2. Choices and actions in the anti-corruption struggle in the digital age

There is little doubt about the important role of civil society in raising awareness and providing oversight to curb corruption and how these tasks can be facilitated using digital technologies (Grimes, 2008; Fox, 2015; Rotberg, 2017; Mattoni & Odilla, 2021). Overall, digital technologies appear to have great potential to lower costs and expand initiatives by facilitating new alliances and mobilisations,

¹ Horizontal accountability is understood here as “the existence of state agencies that are legally enabled and empowered, and factually willing and able, to take actions that span from routine overseeing to criminal sanctions or impeachment in relation to actions or omissions by other agents or agencies of the state that may, presumably, be qualified as unlawful” (O'Donnell, 1998, p.11). Social accountability, in turn, is seen as “an evolving umbrella category that includes: citizen monitoring and oversight of public and/or private sector performance, user-centered public information access/dissemination systems, public complaint and grievance redress mechanisms, as well as citizen participation in actual resource allocation decision-making, such as participatory budgeting” (Fox, 2015, p. 346).

allowing new tactics and strategies and promoting more proactive collective actions that are not limited to public street demonstrations (Earl & Kimport, 2011; Savaget et al., 2019). Digital technologies also allow activists to engage in different data-related practices, such as data creation, usage, and transformation (Mattoni, 2020). In the anti-corruption fight, the use of big data and algorithmic automation in combination with other types of data and media might indeed be fruitfully merged “to denounce corruption and related crimes from the grassroots, through people’s intervention, and beyond the actions of institutional actors, like governments and their anti-corruption agencies” (Mattoni, 2020, p. 266).

We recognise, however, there are challenges that, to a great extent, constrain further and effective actions, such as poor technology infrastructures, lack of access to digital data and devices, security issues, and reluctance and a lack of incentives to engage in anti-corruption collective actions (Mullard & Aarvik, 2020). Very few initiatives that relate to corruption reporting manage to survive. They all seem to follow the same dismal narrative: there is an initial spike often followed by a great level of media attention upon their launch, and then, unfortunately, many of these tools go largely dormant or end up disappearing (Kukutschka, 2016, p. 3; Zinnbauer, 2015).

Hence, we still need a better understanding of what types of technologies work better and, mainly, under which circumstances citizens engage in anti-corruption actions and choose their actions. For example, instead of just activating horizontal accountability authorities or investing in more participatory initiatives related to street protests, advocacy, or deliberation to influence decision-making processes, as commonly happens (Grimes, 2008), we must consider what motivates citizens to fight corruption on their own. Moreover, we should ask why citizens rely on naming and shaming strategies to promote compliance with public expending norms. To approach these issues, we consider Jasper’s (2004) strategic approach to looking for agency in social-movement choices. To us, both organisers and participants in anti-corruption actions are seen as strategic actors who are constantly making choices and facing dilemmas in interactive and dynamic environments. In addition, we consider that once activists have relevant data in their hands, they use them to sustain different aspects of their campaigns, as noted by Mattoni (2017, 2020) when exploring digital data practices to curb corruption.

Perils and promises for more confrontational strategies

Lessons from international relations tell us that both activists and academics are likely to believe that naming and shaming tend to be meaningful and influential in the case of human rights violations, even if selective and highly politicised, or just used as the first step to later build up consensus (Sonnenberg & Cavallaro, 2012). However, as Terman (2021) highlighted, in international relations,

shamers do not necessarily act just to deter unwanted behaviour and reinforce a preferred norm; they may act driven by more individual goals, such as boosting their own reputation or even stigmatising targets. Therefore, defying public shaming is a possible reaction that can generate, for example, intragroup status, honour, or just self-protection (Terman, 2021).

When the topic is naming and shaming to curb corruption, there is still little evidence regarding its impact. Studies on tax havens, for example, suggest that shaming by international organisations and news media does matter to investors, but there is no consensus on its effects on tax havens themselves (Rusina, 2020; Sharman, 2009; Kudrle, 2009; Greene & Boehm, 2012). Still, some anti-corruption toolkits from international organisations list naming and shaming as a possible effective tactic to constrain authorities and push for reforms (Transparency International, 2002; Carr & Outhwaite, 2011).

Overall, the literature on corruption is not conclusive as to whether collective actions should be more or less confrontational. Wheatland and Chêne (2015) saw confrontation as often counterproductive; once dialogue is compromised, tensions may be amplified, and stakeholders who are not very interested in the anti-corruption agenda may be excluded from the debate. Zaum and Cheng (2012) also recommended non-confrontational approaches, although they recognised that it is not only possible to combine confrontational and non-confrontational actions, but also that there are contexts that require contentious actions to send stronger signals to governments and authorities and to push for change. Fox (2015) pointed out that for citizens' voices to both be heard and lead to state responsiveness, it is necessary to employ multiple and coordinated tactics.

Undoubtedly, there are risks for activists and their initiatives that openly and publicly challenge power holders and elite members. Among them are reputational risks, with chances of being sued, trolled online, or delegitimised. Anti-corruption collective actions already face constraints regarding mobilisation, representation, resources, and sustainability (Wheatland & Chêne, 2015). Therefore, if more confrontational actions result in higher costs and less support, it may not be the best strategy. Finally, there is also the risk of generating limited benefits. Activists may question, for example, what the odds are of naming and shaming resulting in politicians being sentenced, paying the money back, refraining from misusing public funding, or even attracting more citizens to audit public expenditures, or at least being more informed to vote in the next elections.

A much more optimistic view regarding more confrontational collective actions exists (Grimes, 2008; Zaum & Cheng, 2012). Naming and shaming from the grassroots can be seen as a means of deterring misconduct by reinforcing a preferred social norm and signalling that there is also oversight from the bottom up. It can raise awareness and call people's attention to hidden or unknown practices. When citizens audit, find illegalities related to politicians, and publicise their findings, for example, they

are more likely to attract media attention, thereby sending stronger signals to the authorities and public opinion. Additionally, naming and shaming may motivate the opening of investigations, inquiries, and trials and, if it is the case, can result in formal sanctions. It is also a way to gain visibility and, perhaps, increase legitimacy in pursuing other causes or even other strategies. With greater visibility and legitimacy, it also increases the chances of inspiring others to join or create similar initiatives.

The role of digital technologies is expected to be relevant, as it can potentially spread findings further and scale up reactions. Digital technologies, in particular social media, can also be seen as a channel for pursuing informal punitive mechanisms. Once misconduct is publicly exposed on, for example, social media, those whose corrupt acts were uncovered can have their image stained and careers damaged. This may also represent more risks to citizens who trigger name-and-shame strategies. This is so because such unofficial and informal mechanisms of sanctioning not only do not offer guarantees that formal punishment will necessarily be enforced, but also increase the odds of being exposed to intimidation, such as cyberbullying and court orders, from both public officials and their supporters.

Due to this cost-benefit analysis, we have reasons to believe activists engaged in non-violent actions and focused on oversight and investigative activities tend to be more inclined to first activate official accountability mechanisms to report incidents of corruption or even to advocate for better policies rather than expose the maleficence of powerful people online on their own and the mainstream media in the first place. This is particularly the case where citizens can audit governments and public officials by accessing and cross-checking a considerable amount of open and public data, and there is horizontal accountability in place to monitor, investigate and enforce penalties against corruption, with open channels to citizens to request specific actions.

3. The Brazilian context

Although Brazil has a long history of corruption scandals, weak rule of law, and impunity, a lot of progress has been made in the country in terms of access to information and transparency (Praça & Taylor, 2014; Lagunes et al., 2021). Since the 1988 constitution, Brazil has built web of accountability with public agencies from all powers whose attributes compete with and complement each other to monitor, investigate and enforce administrative sanctions (Power & Taylor, 2011) – but only the judiciary is entitled to enforce criminal sanctions. Brazil's "transparency infrastructure" has become one of Latin America's most sophisticated and extensive (Michener, 2015). The Brazilian transparency infrastructure was fostered mainly by the Office of the Comptroller General (*Controladoria Geral da União*, CGU), which not only launched a Transparency Portal in 2004 but also joined forces with civil society

organisations to pressure Congress to pass Brazil's Access to Information Law (*Lei de Acesso à Informação*, LAI) and release open, structured, and machine-readable data (Odilla & Rodriguez-Olivari, 2021).

Following up on these efforts, the federal legislative and judiciary also made progress regarding transparency. The Congress makes available on its website a wide range of information, from attendance and voting records and transcriptions of the voting sessions, to sums paid and receipts used to reimburse each politician. Regarding expenditures, congressional representatives can request a refund for expenses incurred while performing their parliamentary duties, including meals, car rentals, flights, and fuel, among others. Information on the companies that issued the receipts, such as data on ownership, the address and main activity, and whether they are operating or not, is also available on the federal and regional Revenue Service websites.

Within this scenario, many democratic innovations have emerged in Brazil aiming to improve political accountability and responsiveness, among them initiatives that have technology at their core or that are highly dependent on digital technologies, as is the case in the two initiatives under analysis. As Pogrebinski (2021) highlighted, Latin America, particularly Brazil, stands out as a laboratory for citizen participation and democratic innovations in comparison to other regions in the world. Another strong feature of the region is the fact that this experimentation, often materialised in diverse forms and institutional designs for citizen participation, has, characteristically, been state-driven.

In Brazil, scholarship on social movements and civil society initiatives has already stressed the existence of a model of state-society relations that is neither contentious nor corporatist. This does not mean that civil society has been captured as well. Rich (2019) introduced the concept of "state-sponsored activism" as a new institutional design in which the process of re-democratisation in Latin America produced new state actors motivated to support civic organisation and mobilisation and created incentives and resources for state actors to build bargains with actors in society (Rich, 2019).

4. Case studies and data

Next, we present the two exclusively online initiatives that emerged and operate because of the extensive amount of open information that allows anyone with access to the internet to cross-check data to hold many public officials accountable in the country. In the case of the initiatives under analysis, the skills and knowledge of their creators and volunteers are used to develop their own technological applications. They also deploy existing digital platforms, mainly social media, to help them expose politicians who misuse public money.

Operation Supervised Politics, OPS

In 2013, a Brazilian seller decided to publish a tutorial on how to access the expenses of congressional representatives and cross-check the data on the Revenue Service website on his YouTube channel. This occurred a couple of months before Brazil erupted in huge street protests against corruption, poor public services, and excessive spending on major sporting events. Immediately after this, in another video, the presenter asked volunteers to go to the headquarters of companies hired by politicians to take pictures and certify that they were not shell companies. This “operation” mobilised dozens of people and was named *Operação Pega Safado* (Catch a Crook), the same name as the YouTube tutorial and its sequel. The work resulted in a list of 20 politicians with suspicious expenses and became news. Since then, the initials “OPS” were kept, but the name changed to *Operação Política Supervisionada* (Operation Supervised Political), and the initiative has attracted over 250 volunteers interested in donating money or in auditing legislature receipts to help in holding politicians accountable. They interact on Telegram and use their own skills to contribute to the initiative. Tech-savvy volunteers, for example, developed different online tools, among them a website for the initiative, a bot that automated data collection, and a mobile app, but still employ collaborators in civic auditing. In June 2022, a collaborator created an automated Twitter account to signal every time congressional members spent more than a certain amount by posting the type and value of the expenditure and their photograph. In 2018, OPS officially became an NGO as an attempt to formalise the still-then informal organisation and, eventually, get more funding.

Operation Love Serenade, OSA

In 2016, another similar initiative emerged just after the impeachment of Dilma Rousseff². Three friends decided to use their IT knowledge to create an artificial intelligence system named Rosie, able to do what the OPS volunteers were initially doing mainly by hand when looking for suspicious use of public money by congressmen (Odilla, 2023). They launched a crowdfunding campaign and received donations from 1,286 people, exceeding by 30% their initial goal of BRL 61,280 (around USD 17,000).³ The money was used to pay a team of eight people, among them the initiators, for three months to develop a bot named Rosie, which can identify suspicious expenditures of congressional members (Odilla & Mattoni, 2023). The campaign also attracted around 600 hundred volunteers and collaborators on a

² President Dilma Rousseff was impeached by the Brazilian Senate on August 31, 2016, accused of irregular budgetary manoeuvres, or “fiscal pedalling” (*pedaladas fiscais*) (Villaverde 2016).

³ See <https://www.catarse.me/serenata> [last accessed on July 1, 2021].

Telegram group. The initiative was named *Operação Serenata de Amor* (Operation Love Serenade) because, according to its creators, it would be “cool” to have an initiative that sounds as nonsensical as the police anti-corruption investigations. They were also inspired by the “Toblerone affair” in Sweden, where a politician lost her party leader position in the mid-1990s after she was accused of using her party credit card to buy personal items, including the famous chocolate bar (Simpson, 2010) (Serenata de Amor is a popular chocolate candy in Brazil.) In 2018, OSA joined forces with the Brazilian chapter of the international organisation Open Knowledge (Odilla & Mattoni, 2023).

Although the OSA creators contacted the OPS before starting the project to get information and share ideas, they have never worked together. The two cases were selected based on their relevance and similarities, especially for being non-violent, nonpartisan, and exclusively online grassroots initiatives that developed technologies while at the same time using an ensemble of existing platforms for social control — in both cases, to hold the federal legislature accountable for public expenditures. More importantly, both use naming and shaming mechanisms. Apart from listing congressional members who spend the most, OPS uses YouTube and Facebook to publicise their findings. In turn, OSA created an automated Twitter account for Rosie, the bot, to request human’s assistance in verifying each suspicious finding. In each post, the bot mentions the politician’s name and the state they represent, while also offering a link to a dashboard named Jarbas, where the identified suspicious expenditures are stored (Odilla & Mattoni, 2023).

The self-declared overall goals of both initiatives are not the same. OPS defines itself on its website⁴ as a network of volunteers that carries out civic auditing and offers assistance and training to civil society to monitor public spending and fight against the misuse of public money. OSA, in turn, says on its website⁵ that it uses artificial intelligence for social control of public administration because it aims to empower citizens with data by focusing on accountability and open knowledge.

Data collection and analysis

To better understand these two initiatives’ strategies, we combined different techniques of qualitative data collection and analysis, as follows:

1. In-depth semi-structured interviews (n = 27) with the OSA (18) and OPS (9) creators and collaborators, including civil servants and users;
2. Participant observation of OSA’s and OPS’s Telegram groups, where around 600 and 300 members, respectively, interact, discuss, and exchange ideas;

⁴ See <https://institutoops.org.br/> [last accessed on July 26, 2021].

⁵ See <https://serenata.ai/> [last accessed on July 26, 2021].

3. Document analysis based on open-source materials, most of them available on GitHub and the initiatives' websites;
4. Observations of the initiatives and main supporters' Twitter, Facebook, and YouTube accounts;
5. News articles, including TV reports, published or aired on the mainstream media.

The 27 semi-structured online interviews were conducted in Portuguese from July 2020 to March 2021. Interviewees' names were converted into numbers to anonymise the participants. The interviewed creators talked about their perceptions, expectations, goals, motives, and the origin of their ideas at the beginning of the initiative, as well as its implementation process encompassing infrastructure, technology, funding and highlighting challenges, achievements, communication strategies, and outcomes. Developers and other collaborators were asked about their reasons for joining the initiative and the roles they have played in its activities. All interviewees shared their views and opinions on corruption, civil society engagement and the use of technology to fight corruption in Brazil.

To support, complement, illustrate, and even contrast what the interviewees mentioned, we added an analysis of documents and interactions of both initiatives on social media and message apps. This combined analysis of different sources of data allowed us to better understand and keep up with the initiatives' *modus operandi*, internal and external dynamics, and main strategies used throughout time. For example, we had access to all the content exchanged among the participants on Telegram and GitHub, since the profiles were created and when interactions happened, including more technical discussions on the use of data and algorithms. The online observation on GitHub and Telegram was conducted until April 2021. This allowed observation of interactions among initiators and volunteers, their participation and decision-making processes.

Videos on YouTube and text published on Medium and on the initiatives' websites allowed us to assess their communication strategies, especially those related to the content shared. The observation of Facebook and Twitter accounts offered the opportunity to see how findings on the misuse of public money are shared. It also allowed observation of the reactions of both followers and political elites when interacting with the bots on Twitter or when interacting with content posted on Facebook. In addition, news articles and TV reports on both initiatives were searched online and then reviewed after several interviewees addressed the role that mainstream media played in OPS and OSA's actions, as we will demonstrate in the upcoming section. Data analysis was initially conducted through deductive and inductive coding (Boyatzis, 1998). Themes that emerged from these analyses are explored in detail in the next section.

5. Findings

The analysis of OPS and OSA's trajectories and strategies over time showed that digital technologies play a prominent role, not only in pursuing their anti-corruption goals but also in their organisation. Also, three other important themes emerged from the data: the challenges of organising collective actions for social accountability on a volunteer basis; issues in exposing findings to public authorities; and the necessity to redefine strategies relying on both social and mainstream media to promote answerability. These four emerging themes are presented in detail in the following subsections.

The role of technologies media in fighting corruption

Both the OPS and OSA emphasise uncovering certain misuses of the Quota for Performing Parliamentary Action (CEAP is the acronym in Portuguese)⁶ by members of the Brazilian Congress. Both initiatives currently use bots to automate data collection and speed up analysis aimed at signalling suspicious cases, such as exorbitant amounts of money and payments to companies with inactive tax codes. RobOps is a bot that does web scraping and cross-checking and sends its daily findings by email. The app OPS Fiscalize (OPS Inspect) allows people to classify expenditures as suspicious or not by using their mobile phones. Rosie is a bot created by OSA. It autonomously checks Brazilian Congress members' public expenses and engages citizens in a discussion about the politicians' suspicious spending on Twitter by posting its findings and asking people to check them. As mentioned, OSA has also developed a dashboard where anyone with access to the internet can browse the updated Congress members' expenses and get more details on their spending (Odilla & Mattoni, 2023; Odilla, 2023).

While OSA relies only on Twitter followers and concerned citizens to check suspicious expenses without offering any support or training, OPS counts on their human volunteers to analyse receipts, request information and investigate Congress members' misuse of public money⁷. In 2022, OPS launched a Twitter bot to share expenditures over a certain value as a way of attracting public attention. Although OPS's creator recognises the importance of technology, he deliberately resists automating all the steps of civic auditing:

⁶ CEAP (Cota para o Exercício da Atividade Parlamentar) is a monthly amount that varies from BRL 30,788 to BRL 45,612, depending on the state of the representative at the Lower Chamber that the elected politician is entitled to reimbursement for expenses that are not fit for public bidding, such as consultancy, lunch, taxi, or fuel. See https://www2.camara.leg.br/transparencia/acesso-a-informacao/copy_of_perguntas-frequentes/cota-para-o-exercicio-da-atividade-parlamentar [last accessed on July 7, 2021].

⁷ The accountability actions of the OPS are not limited to the Congress. They also oversee and investigate the misuse of public money in municipalities and state assemblies.

“There must be human action. My main goal is not to diagnose irregularities, but to raise possible irregularities while engaging citizens in that task. So, I can’t have everything 100% automated, everything ready to go like that. I must leave something for the citizens to do. So, I think that’s the main difference. They [OSA] think a lot about employing technology to do everything. And the citizen remains as a mere spectator. In my case, no. I want the spectator to be on the field for the match to help kick the ball.” (GG_CS02_INT001_INIACT, Feb 3, 2021)

Both initiatives use open public data available on websites – mainly governmental – and, in the case of public data, they also make requests through the Access to Information Law to get information that is not available online. However, interviewees of both initiatives highlighted that, despite the amount of data available, social accountability initiatives still lack data related to individuals to, for example, check degrees of kinship and to eliminate namesakes when analysing the relationship between campaign donors, advisers, and business owners and politicians.

In terms of organisation, digital technology is crucial, as the initiatives do not have headquarters or physical meetings. Neither the core contributors of OSA nor OPS have ever met all together in person. They have always worked remotely. Internally, OPS uses Telegram to share tasks and discuss findings and operations. Most of their technological developments are available on GitHub. They have three different groups on Telegram where they interact: a technical one, where programmers and developers try to find solutions to automate certain tasks, such as accessing specific sites multiple times; one for general collaborators that has 251 members and where partisanship posts are not allowed; and a “coffee room” for chatting about any topic of interest. Externally, they use mainly the OPS blog and the creator’s accounts on YouTube, Facebook, and Twitter, as well as coverage by the mainstream media, to publicise their findings and attract new members. In 2019, the demographic profile of the 328 OPS volunteers was: male (90.5%), young (53% were 19-45 years old), and with a university degree (69.2%).⁸ Despite the collective action, OPS is led by one person, its creator, who centralises the key actions and the distribution of tasks and who is paid by the donations of supporters.

Although the OSA Telegram group is still available for technical discussion, a group on Discord was opened, and OSA currently focuses more on a new project named *Querido Diário* (Dear Diary)⁹. All the codes are open on GitHub, another platform used to engage with the IT community. Twitter is

⁹ *Querido Diário* aims to use artificial intelligence to unify in one single platform the official gazettes of all municipalities, allowing the users to conduct searches and cross check information on, for example, public procurement and nominations.

used to engage with potential contributors who may check the bot's findings. With almost 40,000 followers, Rosie's account on Twitter, as mentioned, invites people to check suspicious cases by citing the name and the state of the politician and posting the link to the details of the expenditure available on the Jarbas dashboard. Externally, the group used to communicate using social media, such as Facebook, Instagram, and a blog (hosted on Medium until December 2020, but currently on the OKBR page). Although there are no measured demographics of OSA, they mainly attracted collaborators interested in programming and journalists, according to participants.

Challenges of overseeing and investigating voluntarily

Although interviewees recognise that technology reduces the cost of organisation and facilitates engagement from different parts of Brazil, overall OSA and OPS initiators and collaborators admit that they face issues over keeping the community of volunteers active and participative. Nevertheless, finding volunteers with IT skills has not been an issue for either initiative, as stressed by participants. Some developers may be interested in using their knowledge to fight corruption, while others look for opportunities to develop their careers, according to one of the OSA creators:

“If you are a developer and volunteer for Serenata or for any open project, this is recorded in your GitHub history. When you go to apply for a job, most likely the people handling the recruitment will look at that. [...] There is a big but, though. Because these developers aren't necessarily interested in the future of the projects they help with. Their main concern is having their contribution on their GitHub profile.” (GG_CS01_INT004_INIACT, November 16, 2020).

OPS's creator goes along with this view but argues that volunteers, no matter what roles they play, come and go, seeing oscillations as a characteristic of initiatives based on voluntarism. Either way, conducting a collective action for accountability solely voluntarily is seen not only as a challenge but also as a major constraint to growth and a limitation to their impact by the creators of both initiatives. Volunteers not only come and go, but do not necessarily observe deadlines or participate in medium- and long-term projects.

Lack of funding is another relevant constraint, even when operating only online. After the impressive start of the project, OSA established a modest monthly contribution income to have someone responsible for maintaining the initiative. Almost five years after the project started, in July 2021, it had 155 individual donors, but reached only 62% of the BRL 4,500 (USD 868) needed to maintain its

operations¹⁰. OPS also receives monthly donations that, in the first semester of 2021, ranged from BRL 534 (\$102) in January to around BRL 1,700 (\$328) in June¹¹. While the creator of OPS sold an apartment to show his dedication to the project and decided to convert the project into an NGO to financially survive, the initiators of OSA joined forces with Open Knowledge Brazil (OKBR) to exploit its expertise in getting funding. After the transition, the OSA initiators left to pursue individual projects not necessarily related to social accountability, and since then, Rosie has not been treated as a priority by OKBR. These problems raise questions about the sustainability of social accountability actions based on voluntary work. In addition, both initiatives suffer from a lack of resources and the lack of capacity to mobilise broader coalitions, including anti-corruption officials, governments, and stakeholders, as we will explore next.

Exposing findings and redefining strategies: naming and shaming as “Plan B”

Interviews and participant observation revealed that the name and shame strategy was both OPS and OSA’s initial “Plan B”. Their first option was to report their auditing findings to authorities and only publicise them when any official action was taken. Unexpected reactions coming from the horizontal accountability system led them to redefine their strategies.

In 2013, after finding out about a senator’s irregular expenditures, the OPS creator formally submitted a report to the Federal Court of Accounts (*Tribunal de Contas da União*, TCU) detailing the case. A civil servant from the TCU who had access to the report contacted him and advised him he should file more complaints at once, because single cases like the one presented were likely to be shelved. Following the advice given, the OPS reported incidents of misuse of public money involving 20 congressional representatives at the TCU. In addition, with the help of the civil servant, who knew a journalist, the OPS findings were featured on *Fantástico*, a journalism and entertainment show broadcast on Sunday night by the largest commercial television network in Brazil. That was how naming and shaming became one of the strategies adopted by the OPS. It also prompted recognition of the relevance of the mainstream media in amplifying efforts and pressure to hold politicians accountable and attract more volunteers¹².

In *Fantástico*’s report, politicians who were involved in irregularities had their names, political parties, and states shown. After specifying the reason for which each politician was named – mainly linked to suspicious car rentals and, in most cases, involving shell companies – and the amount spent,

¹⁰ See <https://apoia.se/serenata> [last accessed on July 22, 2021].

¹¹ See <https://institutoops.org.br/transparencia/> [last accessed on July 22, 2021].

¹² For a list of videos of OPS on television, see: <https://institutoops.org.br/ops-na-tv/> [last accessed on July 22, 2021].

the report exposed how the parliamentarians justified their actions when they were contacted by the TV station staff. At the end of the report, information was given about how the cases were forwarded to the TCU by an organisation of volunteers. The OPS creator briefly appeared, saying there was information available that allowed citizens to oversee and investigate the expenditure of public money without the need to wait for official agencies to do so. At that time, OPS did not formally exist, but it was from there that the path of the organisation was paved, according to its founder.

Since then, all big operations conducted by OPS have followed a similar strategy, whereby they report the findings to the public authorities using official channels but also expose them not only on social media but also on the mainstream media. This happened in April 2021 with Operation Leaky Fuel Tank (*Operação Tanque Furado*), in which OPS identified over BRL 27 million of suspicious expenditures related to fuel by the Lower Chamber representatives between 2019 and 2020, as highlighted by participant GG_CS02_INT001_INIACT. The OPS investigation and findings were covered in a 13-minute report on the same TV show. Politicians were named one by one, along with their spurious expenditures.

In the case of OSA, in January 2017, after Rosie identified thousands of suspicious expenditures, a 5-day joint effort to check them one by one was organised. The group submitted a total of 587 requests questioning 971 reimbursements using the Access to Information Law. Without realising it, said the three interviewees who created the initiative, they overloaded the understaffed department of the Lower Chamber, responsible for manually controlling the reimbursements. Instead of speeding up the analysis, the Lower Chamber decided to send standardised responses asking the OSA to contact the politicians directly. In the end, they received only 62 answers¹³.

Then, they decided to go after the Court of Accounts and the Prosecution Service to demand an investigation of congressional members' expenditures. According to a report by OSA published on Medium, the initiative "found out that there are rules that do not allow us to do so freely. The damage to the public purse must be greater than BRL 10,000 or BRL 76,000, depending on the case, to justify the costs of an official procedure, for example. This means that members of Congress are informally 'permitted' to steal if the damage caused is less than these amounts. They will not be investigated for anything less than that" (report published on Medium, 17 June 2017). The issues faced to activate official control units through formal mechanisms made OSA redefine its strategies.

Due to the small number of responses and the frustration of not only being ignored but also of not having their findings lead to official investigations or punishments, one of the creators of OSA

¹³ See <https://medium.com/serenata/um-m%C3%AAs-depois-do-primeiro-mutir%C3%A3o-369975af4bb5> [last accessed on July 22, 2021]

decided to develop a Twitter bot to highlight Rosie's findings and call for action. He remembers that he broke OSA's "code of conduct" to not publicise the name of politicians until the requests for clarification were officially addressed. It was part of their strategies to avoid controversies that were difficult to handle. He was abroad in Italy with two other members of OSA when the Twitter bot was created:

"I said, look, I'll create an automated Twitter account. Neither of them was against it. They were a little afraid because until then we weren't publicising names, and they didn't know what impact it could have. It could have a million different outcomes. But I was out of Brazil, reducing the number of (bad) things that can happen related to this (...). It took one or two days after people realised that Twitter existed. We had a big discussion. I was criticised (...) But it worked out. I think the discussion ended in a short time because everyone saw the potential it had and that it was giving cool results."

(GG_CS01_INT003_INIACT, November 13, 2020)

OSA's creators remember that this resulted in immediate responses from politicians whose names were mentioned, some of them paying back the money they had received as irregular refunds. When their findings were published or broadcast on mainstream media, the number of followers and volunteers always increased, exactly as happened with the OPS.

6. Data exposure: Pros and cons of "naming and shaming" and its role in the accountability system

It is worth noting that OPS and OSA's data practices reveal creativity and expectations regarding active citizenship, data transparency and governmental answerability in their fight against corruption. Both initiatives extract public data, tailor them to hold public officials accountable, and, finally, transform data into information that can be more accessible to the wider public, showing a high level of agency exerted by activists towards data, although the level of automation varies between the two. As defined by Mattoni (2017, p. 736), these practices are data creation, data usage, and data transformation, respectively. The cases under scrutiny here expand the view that these three data-related practices always allow activists to make a difference and obtain recognition by exposing activists' choices and dilemmas regarding their strategies. The remainder of this analytical section explores the pros and cons of the bottom-up "name and shaming" approach in the form of data exposure practices, based on the analysis of the OPS and OSA initiatives.

Considering the pros, when analysing the tactical and strategic approaches of OPS and OSA, we observed technology enabling their work and scaling their voices. This could be seen as an incentive for adopting the “name and shaming” strategy, especially when horizontal accountability mechanisms (O’Donnell, 1998, 1999) do not work as expected by grassroots movements. In fact, the motivation to promote *digital data exposure* came when they realised that their individual agency and collective efforts allowed them to oversee and investigate but did not ensure the punishment of those proven to be engaging in misconduct. To OSA and OPS creators and collaborators, exposing politicians’ names and wrongdoings was a way to circumvent the lack of interest of public authorities in converting the initiatives’ findings into investigative procedures and eventually in punishment.

Social and horizontal accountability can be parallel processes that include monitoring, investigating, and punishment as key actions (Prado & Carson, 2015). As mentioned in the introduction, horizontal accountability (O’Donnell, 1998, 1999) includes public organisations and officials, among them inspectors, court members, and even elected officials. Social accountability, in turn, encompasses citizens as individuals, organised in collective actions or organisations such as interest groups, charities, and other stakeholders (Fox, 2015). Social and horizontal accountability may be vertically integrated when there is available and accessible data to audit governments and public officials, and official channels to communicate with authorities. While horizontal accountability mechanisms have forums to discuss cases of misconduct and to impose administrative or judicial punishment if they are confirmed, civil society has fewer instruments to impose sanctions.

Naming and shaming, therefore, attempts to create public embarrassment and to constrain authorities to react using data exposure. There is a belief among interviewees that this strategy is more efficient than reporting and waiting for public authorities to take action. In the case of OPS and OSA initiatives, “naming and shaming” may, for example, encourage politicians to pay back misused money and may encourage control agents to take official action to recover public funds and impose sanctions when necessary. For instance, OPS calculated that their civic audits had already saved over BRL 6.22 million (the amount politicians had paid back after irregular expenditures were spotted by its volunteers). Some of OPS’s findings resulted in politicians being sentenced, with one of them serving time in jail. OSA also managed to make representatives pay the money back, such as the one who claimed BRL 727 for 13 meals on the same day (Luiz, 2016).

In addition, the analysis supports the belief among activists that making their findings public encourages other citizens to oversee and investigate politicians or, at least, to spread relevant information related to their audits on the misuse of public money. Some interviewees said that every time they name a politician and expose their findings publicly on social media, they are creating a record of wrongdoings,

and it could eventually inform voters when choosing their candidates. The participants also recognised that when their audit findings were publicised, mainly by the mainstream media, but also on social media, particularly by YouTubers and digital influencers, they reached people who may be willing to engage but do not know about this type of collective action for accountability. In this sense, both initiatives' name and shame strategies not only worked as a punishment/answerability mechanism within the social accountability framework, but also helped the organisations to attract more collaborators.

Table 1 summarises the direct and indirect positive and negative aspects of the “name and shame” approach. Based on the OSA and OPS findings, Table 1 considers the aspects of choosing digital data exposure as the main tactic for fighting corruption from the grassroots.

Table 1 – Pros and cons of “naming and shaming” in the bottom-up fight against corruption

	Pros	Cons
Direct / Primary	Politicians paying money back/being sentenced More efficient than reporting and waiting for the response of regulatory instances Giving citizens direct agency without dependence on governmental regulatory institutions	Risk for own safety, with various sorts of threats Could be seen as riskier for grant funds
Indirect / Secondary	Getting more followers and media attention Getting more volunteers Influencing the decisions in elections	Decreasing attention over time as people get used to it and it loses its initial attraction Politicians may use the initiative for their campaigns

The name and shame approach proved to have direct and indirect pitfalls, as shown in Table 1. First, there is also the risk of all sorts of threats. Although both initiatives rely on legal counselling to avoid being criminally accused of defamation and are extra careful when exposing their findings, many participants fear retaliation and threats. Some interviewees revealed that OSA's initial core members decided to keep their passports at hand and memorised a list of countries, as well as escape routes, in case they felt threatened or in any dangerous situations. One OSA interviewee remembered that they had received unexpected warnings, and one day he thought he was being followed. OPS members, in turn,

recognised that there might be many risks, especially for those living in small towns and investigating corruption there.

Second, there is a decrease in attention over time. OSA and OPS struggle with the overall low level of engagement from the general public – on Twitter, Rosie’s posts always get a small number of likes, retweets or comments. In this regard, it is worth mentioning that the bot was used to tag the politicians, but Twitter’s policy on automated actions blocked Rosie. The solution to this was to stop tagging politicians, which, according to its creators, reduced the level of engagement. On November 10, 2022, Rosie stopped tweeting. This time, few followers noticed and left comments, asking about Rosie’s well-being and why the bot had ceased verifying public expenditures. One follower suggested that the initiative may have been compromised by the new Twitter terms of agreement that charge for maintaining a bot like Rosie.¹⁴ OPS also struggled to increase its audience. Its YouTube channel had 53,900 subscriptions, but the videos rarely reached over 3,000 views. Some politicians who were investigated by OPS volunteers and whose names were mentioned also made public their dissatisfaction. On Twitter, one of these politicians accused the OPS creator of acting on behalf of his opponent, while others sent formal complaints. Addressing this was time-consuming for him and may have scared others away from doing the same, as it increased the costs of engaging in social accountability. “Ops Fiscalize”, the bot’s Twitter profile, last published a tweet on June 13, 2023¹⁵. Meanwhile, Instituto OPS remains active on Twitter but continues to attract a small number of interactions. It is worth noting that heavy reliance on social media may create issues for automated practices and limit civic action when policy and terms of use change on these social networks.

Third, OSA’s and OPS’s suggest that having active transparency measures in place, along with an accountability system that provides open data for citizens to monitor public expenditures and channels for reporting incidents and requesting specific actions, is not sufficient. Their more confrontational strategies, for example, exposed the low level of effectiveness of reporting the wrongdoings of politicians on social media in the long term. Public reactions to both initiatives’ posts became scarce over the years. Politicians rarely replied to the content made available online, and followers also stopped paying attention to it, making OSA and OPS lose their initial attraction. This also calls attention to a fourth disadvantage: the high costs of judicial investment compromise bottom-up anti-corruption initiatives. The participants interviewed did not hide their disappointment with the inability of public authorities to

¹⁴ See <https://twitter.com/RosieDaSerenata/status/1590751229528915968>. We inquired Open Knowledge Brazil on its Discord channel dedicated to OSA about why Rosie stopped tweeting. They promised to investigate, but the bot remained inactive by the time this monograph was being finalized in October 2023. A similar issue had occurred in 2021, and a volunteer had resolved a memory problem at that time.

¹⁵ See <https://twitter.com/NFiscais>

react by investigating and, if proven to be the case, punishing all the cases they exposed. Sometimes procedures are not even open, or cases are rapidly archived with, according to them, insufficient justification. Imposing sanctions on those proven guilty is considered by activists to be an imperative component of the accountability framework. Although naming and shaming emerged as an attempt to fill this gap in the horizontal web of accountability, it proved to be a fragile strategy in the long run for activists and concerned citizens who are part of OSA and OPS.

7. Conclusion

This paper aimed to contribute to the literature on accountability and corruption studies by exploring contentious approaches to fighting corruption from the bottom up, using digital technologies. The findings confirm that social accountability can complement horizontal accountability to counter the misuse of public money. This is particularly the case in places where there are favourable bottom-up accountability conditions, such as clear rules for spending public money and transparency in the form of accessible open governmental data. This should preferably be machine-readable data to facilitate more digital initiatives and the right to access information. However, the case of OSA and OPS also suggests that corruption may become resistant even to more aggressive societal strategies, such as the “name and shame” approach, in places where there are no complementary bottom-up and top-down efforts. The findings analysed here, therefore, may bring insights for anti-corruption reformers, law enforcers and anti-corruption initiatives on how to build up resilience to counter corruption.

Coalitions and partnerships between civil society organisations and other anti-corruption actors are expected in the literature on corruption studies to strengthen anti-corruption and integrity. What we saw by assessing the key actions of OPS and OSA was that instead of combining efforts, citizens change strategies and choose to adopt their own mechanisms to ensure social punishment and answerability. This occurred because of the lack of expected official responses and actions. Brazil has on paper a well-designed multi-institutional accountability system with different agencies performing the roles of monitoring, investigating, and punishing and channels open for civil society report incidents. However, the interviewees leading the two initiatives point out how the horizontal accountability system does not work properly in the case of misuse of congressional expenditures. Naming and shaming in OSA and OPS cases was the “Plan B”, to make politicians answerable and, to a certain extent, to exert pressure for any official reaction. As an unexpected effect for the initiators, they ended up attracting media attention and more supporters willing to be part of the initiatives, although both have struggled to keep volunteers and donors active and participative. Still, a permanent dilemma was observed among activists who

wanted to publicise anti-corruption cases but feared retaliation, being sued, or even getting cancelled online.

Contrary to what the literature on international relations shows, naming and shaming as an anti-corruption strategy may be less likely to be used as the preferred tactic by bottom-up initiatives, and it has not been seen as a possible first step to building up consensus in the cases of OSA and OPS. These findings serve as a reminder for anti-corruption reformers advocating for open governmental data and transparency. These conventional anti-corruption approaches to empowering collective action are not enough. Law enforcers and anti-corruption agencies must not only facilitate but prioritise the response to responsible collective anti-corruption efforts. In addition, combining bottom-up and top-down strategies may reduce the perceived risks for those engaging in collective anti-corruption actions.

Findings also shed light on the great difficulties encountered in financing these civic tech initiatives, in keeping both activists and ordinary citizens engaged, and in expanding the scope of their actions, despite the often high expectations on digital technologies to lower costs and support collective action. In addition, technology can be used as a supporting tool to speed up auditing procedures, but it does not completely replace human participation in anti-corruption collective action. This is not to say that digital technology does not play different and important roles. As expected, digital technologies enlarged both initiatives' oversight and denunciatory capacities at the same time and was used to create public awareness. OSA and OPS used digital technologies to collect data and speed up auditing procedures as well as to organise collective action and to crowd-sourced voices as drivers for punishment and answerability. In the case of the latter, we recognise its limited capacity over time. *Digital data exposure* as a tactical data-related practice, deployed along with data creation, usage, and transformation to sustain different aspects of the initiatives' anti-corruption campaigns, cannot be used on its own.

Building resilience should also be seen as building a more diversified and easily adaptable repertoire of actions. In the anti-corruption field, even the more belligerent strategies may lose traction over time if people get used to them and not much happens apart from some damage to reputation. Information can easily get lost in a datafied society overloaded with all types of (mis)information. For example, relying only on Twitter bots to call for action seems insufficient. One lesson learned from the cases of OSA and OPS that seems to be valid for anti-corruption activists and concerned citizens is the need to be innovative to keep volunteers engaged, attract newcomers and provoke public official reactions. Politicians tend to be more likely to respond to new types of pressure with which they are not familiar. Developing new digital tools and practices and updating existing ones to make them more interactive and creative may help to overcome funding issues, as many funders have been looking for tech for social good projects.

Although the article explored the struggles of collective action for promoting social accountability, further research is still necessary to better understand how citizens and public officials can effectively combine efforts and reduce the risks and costs of social accountability initiatives. Social empowerment in anti-corruption needs to be seen as a two-way street. Without both “voice and teeth” (Fox, 2015), citizens’ actions risk losing traction, engagement, and even credibility. Instead of raising awareness, they risk increasing tolerance towards corruption.

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