



Analysis of the disinformation campaign in Brazil's 2022 Elections

Análisis de la campaña de desinformación en las Elecciones Brasileñas de 2022




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Abstract:

Disinformation during the 2022 Brazilian elections peaked on January 8, 2023, coinciding with an attempted assault on key state institutions. Previously, a wave of false information and conspiracy theories with the clear objective of delegitimizing the electoral system and attacking the main candidates was the scenario that distinguished the presidential elections. This study examines hoaxes related to the 2022 Brazilian elections through verifications conducted by two leading fact-checking organizations: Agência Lupa and Aos Fatos. The sample comprises 219 pieces of verification published between August 29 and October 31, 2022. The results reveal an electoral campaign characterised by hoaxes in viral audiovisual format, particularly spread on Facebook and WhatsApp, with a higher flow of disinformation in the second round. Likewise, deceptive content about voting processes and electoral fraud predominates. Additionally, the main targets of false narratives were the presidential candidates Lula da Silva and Jair Bolsonaro.

Keywords:

Disinformation; fake news; Brazil; elections; fact-checking.

Resumen:

La desinformación durante las elecciones brasileñas de 2022 alcanzó su momento de mayor intensidad el 8 de enero de 2023, coincidiendo con un intento de asalto a las instituciones estatales. Previamente, una ola de informaciones falsas y teorías conspirativas con el claro objetivo de deslegitimar el sistema electoral y atacar a los principales candidatos fue el escenario digital que marcó las elecciones presidenciales. Este estudio examina los bulos relacionados con los comicios presidenciales de 2022 a través de las verificaciones realizadas por dos de las principales organizaciones de verificación de datos del país: Agência Lupa y Aos Fatos. La muestra comprende 219 piezas de verificación publicadas entre el 29 de agosto y el 31 de octubre de 2022. Los resultados revelan una campaña electoral marcada por bulos en formato audiovisual viralizados especialmente Facebook y WhatsApp, destacando un mayor flujo desinformador en la segunda vuelta. Asimismo, predominan los contenidos engañosos sobre los procesos de votación y el fraude electoral. Por su parte, los principales objetivos desinformadores fueron los candidatos presidenciales Lula da Silva y Jair Bolsonaro.

Palabras clave:

Desinformación; noticias falsas; Brasil; elecciones; verificación de datos.

1. Introduction

Prior to the attempted assault on Brazilian institutions on January 8, 2023, a wave of false information characterised the 2022 presidential elections in Brazil. This disinformation, primarily based on conspiracy theories, aimed to delegitimise the electoral system and attack the two main candidates, Jair Bolsonaro and Luiz Inácio Lula da Silva.

Ultimately, after a very close result, the leader of the Workers' Party won with 50.9% of the votes, becoming president of the country for the third time, following his two terms between 2003 and 2010. Meanwhile, the outgoing president, Jair Bolsonaro, trailed by only 1.8 points, with 49.1% of the votes.

However, it is important to note that an intense disinformative environment had already been experienced at the polls in 2018. At that time, false content played a crucial role in mobilising the electorate and boosting Bolsonaro's victory, with the events even being investigated by the Superior Electoral Court (TSE, by its acronym in Portuguese) (Gilbert, 2018). Faced with the challenge posed by the new electoral process, various institutions sought solutions to prevent a repeat of the 2018 scenario. Notably, the TSE promoted agreements with Google, Meta, TikTok, and Telegram –among other platforms– with the intention of curbing the spread of false content during these elections (Biescas, 2022).

Despite these joint efforts, the chaos and uncertainty generated by disinformation strategies also dominated the 2022 electoral campaign. An investigation by O Globo revealed that among the most viral posts on Facebook and Instagram, lies and falsehoods garnered more interactions (9.8 million) than truthful content. Simultaneously, the Palver company recorded a 238% increase in false narratives targeting the candidate Lula (Gutiérrez, 2022).

It is in this context that this research aimed to analyse the falsehoods related to the 2022 Brazilian elections based on the verifications labelled as false by two of the main Brazilian fact-checking organisations: Agência Lupa and Aos Fatos. This allowed for a comparison with the 2018 elections, an analysis of populist profiles such as Bolsonaro's and their relationship with the phenomenon of disinformation, along with a study of the elections from the perspective of the resilience of democratic institutions.

2. Literature review

2.1. Disinformation, fake news, and fact-checking in electoral processes

In recent years, the world has faced intense fluxes of disinformation surrounding current international and political events. In this regard, the 2016 United States elections and the Brexit referendum in the United Kingdom (Tuñón-Navarro, 2021a) initiated a process of institutional awareness regarding disinformation as a threat to the health of democratic processes such as elections and referenda (European Commission, 2018).

Although propaganda and information manipulation are not novel phenomena, the rise of digital platforms and technological professionalisation have exponentially increased their impact (Garriga et al., 2024). These disinformative strategies have been consolidated during the COVID-19 pandemic, the Russia-Ukraine war (Ballesteros-Aguayo et al., 2024), the Israel-Gaza conflict (Tuñón-Navarro et al., 2024; López-Martín y Córdoba-Cabús, 2024), and the recent European Parliament elections.

Efforts to combat disinformation at both national and international levels converge in various initiatives, ranging from fact-checking and media and digital literacy (Kuś & Barczyszyn-Madziarz, 2020; Çömlekçi, 2022) to regulation (Tuñón-Navarro et al., 2023), where the European Union is attempting to establish digital soft power policies that extend beyond its borders. Moreover, various actors converge, including data verifiers, journalists, universities, NGOs, and think tanks, all of whom play a significant role in shaping collective responses (Arcos & Smith, 2021).

One of the main initiatives to counter the mass dissemination of falsehoods is fact-checking. According to the Cambridge Dictionary, fact-checking is defined as the process of verifying the accuracy of all data in a written work, news, speech, etc.

This practice originated in journalism (Graves, 2018) as a means to reform the sector (Amazeen, 2020), addressing some of the deficiencies of traditional journalism (Rodríguez-Pérez et al., 2023).

In recent years, however, fact-checking organisations have gained prominence and relevance, establishing themselves as a global movement (Tuñón-Navarro & Sánchez-del-Vas, 2022) through alliances and collaborations that lend them legitimacy and identity (Lauer & Graves, 2024).

The proliferation of studies on the relationship between disinformation and electoral processes reveals some common structures. Firstly, it is essential to note that various political leaders –Donald Trump and Jair Bolsonaro being prime examples– currently exploit the multifaceted nature of the concept of fake news to delegitimise the electoral system and the journalistic information that appears against them (Tible, 2018). Furthermore, false information seeking to legitimise such discourses primarily appears in contexts where opinions are more polarised (Magallón-Rosa, 2019a; García-Acosta & Gómez-Masjuán, 2022).

In Brazil, over twenty media outlets joined the Comprova project to collaboratively verify viral content during the 2018 presidential elections. Similarly, national courts compelled candidates to remove false and misleading information from their social media (Smalley, 2022).

2.2. *Social networks as platforms for disinformation in electoral campaigns*

Traditional media are losing their relevance and role as social agents. They no longer act as the sole “gatekeepers” of information (Parisi & Rega, 2011), having to compete with social networks not only for advertising but also for audience attention.

These new digital spaces have become user favourites, where individuals seek content aligning with their own ideological views (Pariser, 2017). Consequently, journalism and media, in general, face the hegemony of automated algorithms while observing a general loss of authority in the post-truth era. This phenomenon, known as media disintermediation, favours the rise of disinformation, as social networks decentralise information production, leading to the deconstruction of information and potentially endangering truth and objectivity (Alonso, 2021).

In this context, social networks have emerged as the premier information showcase and the public space where people tend to consume content reflecting their own ideologies, creating an environment where dissent and negotiation are reduced (Pariser, 2017; Waisbord, 2020). This environment leads many individuals to accept falsehoods and conspiracy theories that align with their viewpoints (Weeks & Garrett, 2014), and social networks become powerful sources of false content dissemination (Sharma et al., 2019; Shu et al., 2017).

Compounding the issue, artificial intelligence techniques used to deceive people by creating and disseminating false content have been proliferating with increasing impact (Aïmeur et al., 2023). It is also crucial to consider the role of algorithmic recommendation structures in spreading disinformation as these are essential in organising content on social networks and understanding the scale and speed of contemporary disinformation dissemination.

In algorithm-controlled bubbles, which tend to keep users within echo chambers, users are constantly exposed to biased and repetitive content, further reinforcing their misconceptions and pre-existing prejudices (Ahmed & Gil López, 2022). Empirical

research has shown that social networks like YouTube reinforce disinformation (Tang et al., 2021) and contribute to increased political polarisation (Cho et al., 2020).

Moreover, a key factor in this phenomenon is the financial interest linked to user attention on these digital platforms (Feezell et al., 2021). This premise helps explain why recommendation systems are designed to maximise the time users spend on platforms, offering a constant flow of content tailored to their tastes and preferences. Previous studies have shown that these personalised flows can strengthen pre-existing beliefs and increase the impact of disinformation (Ahmed & Gil-López, 2022).

In particular, personalised algorithmic recommendations that align with users' individual perspectives tend to reinforce their attitudes and increase opinion polarisation (Cho et al., 2020; Ohme, 2021; Ahmed & Gil-López, 2022).

In this context of discussion and mobilisation of the public sphere, election candidates' communication teams closely study which platforms are most used by users in their country to focus their digital campaign efforts on them (Braga & Carlomagno, 2018).

This is exemplified in several Latin American countries such as Argentina, Brazil, Colombia, Ecuador, Mexico, and Venezuela (Santana & Cánepa, 2019). In these countries, a political party or affiliated groups have directed such propagandistic practices, aiming to manipulate public opinion, demobilise opponents, or generate false support for certain positions (Howard, 2015).

However, interference is not always generated within the same country. Indeed, such actions have been publicly linked to the Russian government, accused of interfering in the US, French, and even Catalanian crisis elections (Calero, 2018).

As analysed by Cristina Tardáguila, Fabrício Benevenuto, and Pablo Ortellado in the 2018 Brazilian elections, up to 44 percent of Brazilian voters used WhatsApp to read political and electoral information. Their analysis found that "56 percent of the most shared images in the analysed WhatsApp groups –open and political in nature– were misleading. Only 8 percent of the 50 most shared images were considered entirely truthful" (Magallón-Rosa, 2019b).

2.3. Disinformation and populism in the Brazilian context

The erosion of traditional political structures, widespread scepticism towards the media and institutions, and the rise of populist tactics collectively laid the groundwork for the initial wave of disinformation witnessed during the 2018 elections in Brazil. Facebook played a key role in this scenario, helping to construct sometimes distorted images of the candidates. An analysis by The Guardian showed that the vast majority of false content shared on WhatsApp during the elections favoured the then-candidate Jair Bolsonaro (Avelar, 2019). This messaging app was one of the main channels for spreading disinformation designed to align with Bolsonaro's campaign narratives (Eleotério-Gama, 2020).

The Brazilian Federal Police conducted an investigation and identified Bolsonaro as a direct and significant user of false information to attack democratic institutions during the 2018 elections. Additionally, the Brazilian Superior Electoral Court required the removal of hundreds of links containing false data and information, as well as hundreds of thousands of posts that reached millions of views (Gilbert, 2018).

The Brazilian fact-checking agency Aos Fatos highlighted that during the 2018 election period, 1.17 million pieces of false information were exchanged via WhatsApp (Eleotério-Gama, 2020), and Avaaz (2020) revealed that 83.7% of Bolsonaro voters

believed the supposed information that the then Workers' Party candidate, Fernando Haddad, was distributing the so-called "gay kit" to children in schools.

Marked by a strong populist shift, the alleged information aligned with the defence of religious conservatism, the so-called traditional family, the fight against gender ideology, and the denial and distortion of traditionally progressive policies' achievements (García-Acosta & Gómez-Masjuán, 2022). A marked predominance of hate speech often accompanied these narratives.

According to Tible (2018), Bolsonaro's discourse was based on "we are the majority, we are the true Brazil." On this basis, falsehoods sought to reiterate the declaration of equality among all Brazilians in opposition to what would be divisiveness, whether it be class struggle (between rich/poor), racial issues (black/white), generational (parents/children), regional (south/northeast), or gender and sexual orientation (heterosexual/LGBTQIA+).

In general, it was a discourse aimed at instilling fear, starting from the existing contradictions in society, often resorting to the imaginary references of the consumers of these contents: prejudices and stereotypes that, as negative symbols, sought to provoke a conditioned response (García-Acosta & Gómez-Masjuán, 2022: 99).

3. Objectives, research questions, and methodologies

3.1. Objectives

The general objective of this research is to analyse the disinformation related to the 2022 Brazilian elections through the verification of pieces labelled as false information by two major Brazilian fact-checking organisations: Agência Lupa and Aos Fatos. The specific objectives are as follows:

O1: To characterise the disinformation based on its theme, format, and typology.

O2: To identify the protagonists of the disinformation and the attributes conveyed about them.

O3: To determine the differences or similarities between the narratives of the disinformation spread during the first and second rounds of the electoral period.

3.2. Research questions

Based on the aforementioned objectives, the following research questions have been formulated:

Q1: What is the predominant channel for the viral spread of the disinformation verified by the selected organisations?

Q2: What format is most commonly used for the viral spread of the analysed content?

Q3: Does the frequency of disinformation vary between the first and second electoral rounds?

Q4: What is the predominant theme in the verified pieces studied?

Q5: Which candidate is the primary focus of disinformation during the electoral period?

3.3. Content analysis

For this research, content analysis was employed as the main methodology, considered the quintessential research technique in communication studies (Wimmer et al., 1996). This methodology has also been previously used in recent studies on fact-checking and disinformation, such as Salaverría, R. et al. (2020); Aguado-Guadalupe & Bernaola-Serrano (2020); Gálvez-Caja (2020); García-Marín (2020); Naeem et al. (2020); Brennen et al. (2020); Alonso-González (2021); Ruiz-Incertis et al. (2024); López-Martín and Córdoba-Cabús (2024); Sánchez-del-Vas and Tuñón-Navarro (2024).

For this research, a content analysis was conducted on the publications of two Brazilian fact-checking outlets: Agência Lupa and Aos Fatos. Both belong to the International Fact-Checking Network (IFCN), ensuring the formal deontological quality of their content. Thus, they present a significant number of verifications published within the selected time frame on the topic under study.

The sample consists of content published by both fact-checking outlets between 29 August 2022 and 31 October 2022, the day Lula Da Silva was declared the winner of the presidential elections. In total, two months of the electoral campaign were studied. Additionally, all publications related to the elections were selected –for example, those referring to the candidates or Brazilian institutions during periods preceding the electoral campaign itself– filtering out those unrelated to the study topic. This resulted in an initial sample of 319 publications.

However, since this research focuses on disinformation during the electoral campaign and not exclusively on the work of fact-checkers, only publications debunking false content or disinformation were filtered. True verifications, fact-checking of politicians, or explanations of events were not included, as the aim is to analyse the nature of the disinformation itself, with the verification pieces merely serving as a means to access the false content.

This second filter yielded a sample of 233 publications. Finally, manually removing duplicate news items verified by both fact-checkers resulted in a final sample of 219 publications. In this respect, 6% of the total publications verified by both fact-checkers were duplicates.

To conduct the content analysis of the selected media, a coding framework was developed based on a series of analysis variables tailored to each sample. These selections were guided by the variables previously coded by researchers in the aforementioned studies. The variables and categories analysed are detailed below.

- Variable 1 (V1): The platform of false information. This variable studies the networks where the verified false information was found. Categories: Facebook; WhatsApp; Instagram; TikTok; Telegram; Twitter; Kwai; YouTube; Helo.
- Variable 2 (V2): Format of the false information. This refers to the communicative code used to spread the false information. Categories and subcategories: Combined (text + image; text + video; text + audio); Video; Text; Image; Audio; No specified.
- Variable 3 (V3): The frequency of fact-checking. This quantifies the number of disinformation cases debunked daily by the fact-checkers.
- Variable 4 (V4): The theme of the false information. This constitutes the main narrative around which each piece of false information revolves. Categories and subcategories: Electoral campaign (rallies; debates/interviews; publicity and propaganda; media; other); Electoral program (social issues; other); Voting and electoral fraud (other; candidates; Bolsonaro supporters;

Lula supporters); Election polls; Social issues (housing; religion; women; drugs; poverty; other); Electoral candidates (support for political leaders; boos for political leaders; candidates' personal lives; other; Lula's criminal record); Demonstrations and confrontations; Third countries; Other; Electoral propaganda; Public discourses.

- Variable 5 (V5): The typology of the false information. This refers to the different types of problematic content found in the informational ecosystem. The categories are based on the classification by Wardle (2017). Categories: Fabricated content; Manipulated content; False context; Impostor content; Misleading content; False connection; Satire.
- Variable 6 (V6): The protagonist of a piece of false information. This is the central figure within the fabricated narrative, often reflecting the subject at the centre of the disinformation being spread. Categories: Lula da Silva; Jair Bolsonaro; Workers' Party (PT); Liberal Party (PL); Journalists or media outlets; Superior Electoral Court; Other.

It is worth noting that, on some occasions, more than one category was assigned per verification, as some false information had more than one protagonist and was spread through various networks.

To ensure the validity and reliability of the research, a systematic and coordinated approach was adopted among the four coders, dividing the sample and performing parallel coding, thus engaging in discussion to reach consensus on cases that presented greater doubts or complexities in their categorisation.

The analysed content was obtained using web scraping techniques with the Octoparse tool, which allowed the download of data published on the websites of the two fact-checkers. The data was also coded using advanced functions available in Microsoft Excel and processed using the statistical software IBM SPSS.

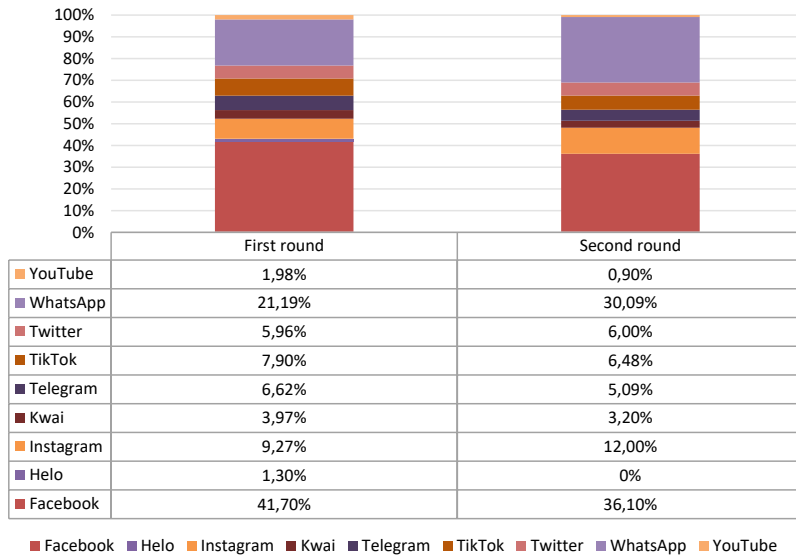
4. Results

4.1. Platform

Within social networks and messaging systems, in both the first and second rounds, false information verified on Facebook predominated, with 41.7% and 36.1%, respectively. Following this, the messaging network WhatsApp was the most utilised, with 21.2% and 30.1% during each period.

In the case of the fact-checking site Lupa, the social network through which they received content from users for verification via direct message was mentioned most frequently. Therefore, the prevalence of WhatsApp and Facebook could be determined by this bias, although these platforms are also mentioned as the main channels for the dissemination of false information.

Figure 1. Social networks through which false information circulated by round



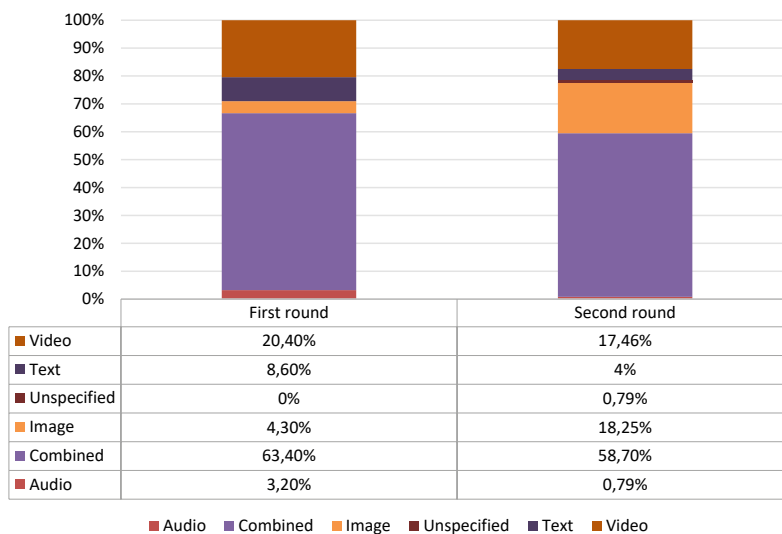
Source: created by the authors

Other social networks used for the dissemination of false information in the first round were Instagram (9.3%), TikTok (7.9%), Telegram (6.6%), Twitter (6%), and to a much lesser extent, some such as Kwai (4.0%), YouTube (2%), and Helo (1.3%). In the second round, Instagram (12%), TikTok (6.5%), Twitter (6%), Telegram (5.1%), Kwai (3.2%), and YouTube (0.9%) stood out.

4.2. Format

Overall, throughout the analysed period, the combined format prevailed (60.7%), and within this, false information in the “text + video” format stood out with 62.4% of the total of this format, followed by the “text + image” binomial (34.5%).

Figure 2. Format of false information by round



Source: created by the authors

Regarding the formats of false information, during the first round, the combined format predominated (63.4%), followed by video (20.4%). A smaller percentage of false information was disseminated only in text format (8.6%), image (4.3%), and audio (3.2%). It is noteworthy that within the combined format, the use of the “text + video” binomial reached 71.6%, while “text + image” was used by 26.6%. The “text + audio” combination was used to a much lesser extent, with only 1.6% of the total.

In the second round of elections, a similar pattern was observed in terms of the combined format (58.7%). Video and image, on the other hand, were used in almost the same proportion, with 17.5% and 18.3%, respectively. As in the first round, the “text + video” binomial prevailed (53.3%), and in second and third place the “text + image” and “text + audio” combinations (40%) and (6.6%), respectively.

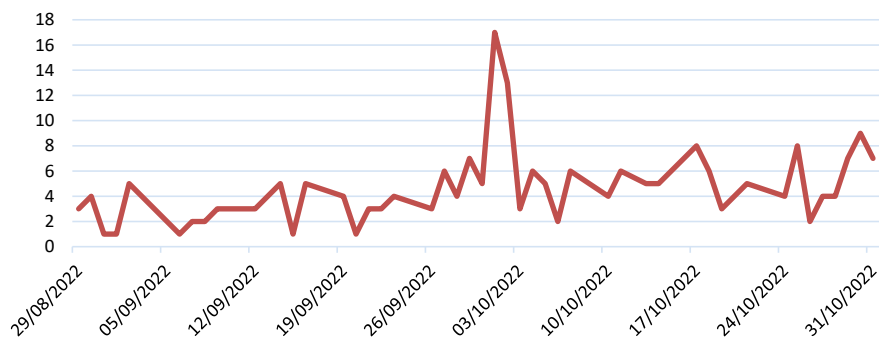
4.3. Verification frequency

Regarding the frequency of verifications, despite the linear trend observed in the results over the timeframe of the research, there were some peaks of disinformation in both the first and second rounds. In the first electoral period, the days with the highest number of false information checks by both Brazilian agencies were 1 October (18.3%), 29 September (7.5%), and 27 September (6.5%).

In contrast, in the second period, notable dates include 2 October (10.3%), followed by 30 October (7.1%), and 17 and 25 of the same month, sharing the third position with 6.3%, where a higher number of disinformation contents went viral.

Furthermore, the total sample of verifications in the second round (N=126) exceeded the first round (N=93) by nearly thirty. Therefore, the selected fact-checking organisations detected a greater flow of disinformation during the second round, and, despite being concentrated mainly on key days, the frequency of verifications was higher.

Figure 3. Verification frequency by day

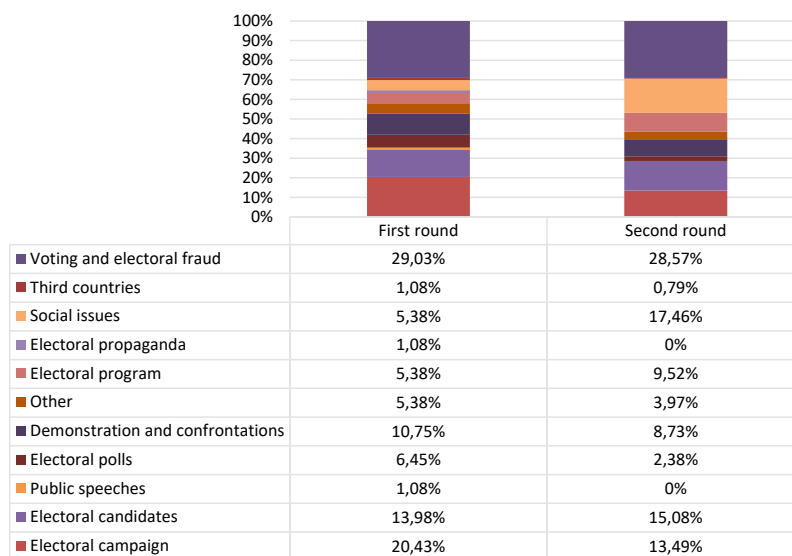


Source: created by the authors

4.4. Theme

In general, throughout the entire campaign, the most viralised theme was related to voting and electoral fraud (28.8%), followed by disinformation about the electoral campaign (16.4%) and the candidates (14.6%).

Figure 4. Theme of false information by round



Source: created by the authors

Regarding the thematic variable, we observed that in the first round of the elections, the main theme of viralised false information was voting and electoral fraud (29.03%). Following this, false information about the electoral campaign (20.43%) was prominent, particularly those referring to debates and interviews as well as electoral publicity.

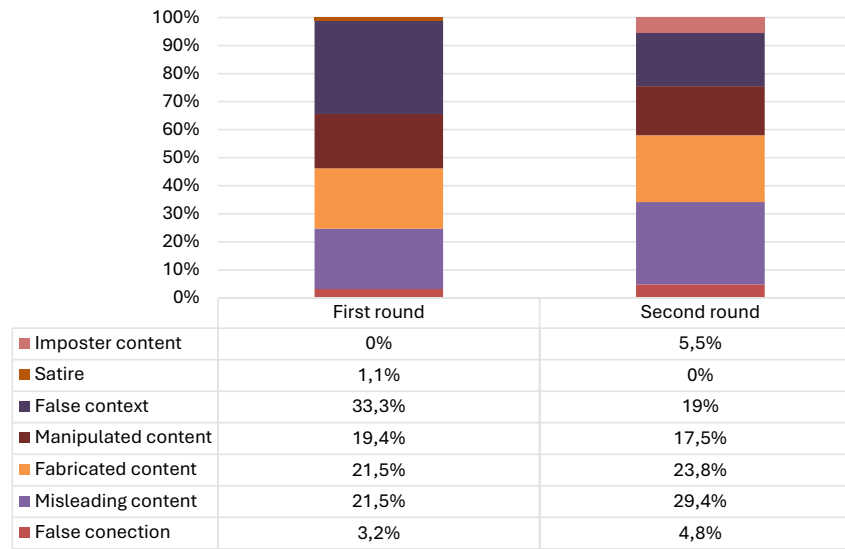
In third place, the most shared theme of disinformation was related to the electoral candidates (13.98%), specifically those referring to boos for political leaders and support for them.

In the second round, as in the first, voting and electoral fraud (28.57%) were the predominant themes of most false information. Additionally, the relevance of social issues (17.46%), specifically religion, drugs, and poverty, stood out. The third most viralised narrative was related to the candidates (15.08%), specifically those mentioning support for political leaders and their personal lives.

4.5. Typology

In general terms, during the entire period studied, misleading content predominated (26.03%), followed by information presenting a false context (25.11%), while fabricated content occupied third place (22.83%).

Figure 5. Typology of false information in each round



Source: created by the authors

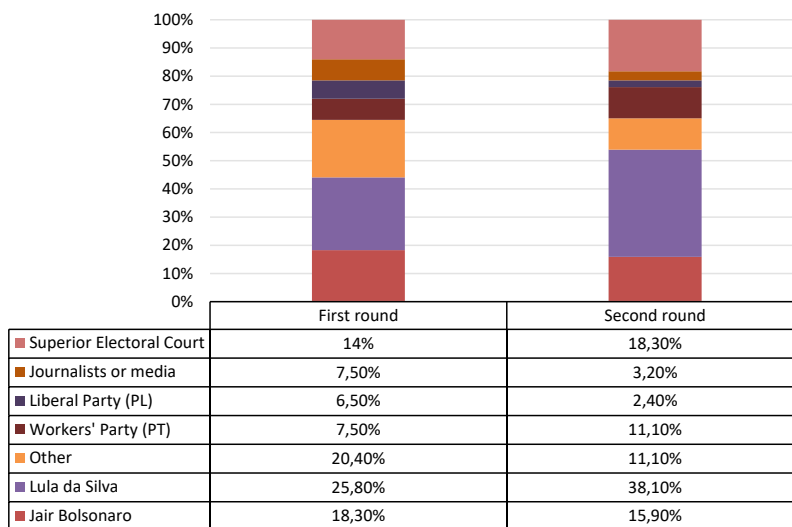
During the first round of the Brazilian elections (N=93), the predominant type of false information disseminated was, with one-third of the results, false context (33.3%). This was followed by misleading and fabricated content (both 21.5%) and manipulated content (19.4%).

Regarding the second round of elections (N=126), misleading content rose to the top position with 29.4%, followed by fabricated content (23%). The false connection of headlines and content, which was rather residual during the first round, ranked third with 19%. It should also be noted that, while in the first round fact-checkers did not detect impostor content and did identify some satirical pieces, the opposite occurred during the second round.

4.6. Protagonist

Each time a democratic process such as an election takes place, hundreds of falsehoods are disseminated with the aim of delegitimising the electoral systems and the institutions responsible for overseeing them, which are directly accused of facilitating fraud. In this context, throughout the studied period, da Silva was the protagonist of one-third of the sample of false information (33%), with the Superior Electoral Court and Bolsonaro vying for second and third place at close distances (17% and 16%, respectively).

Figure 6. Protagonists of false information by round



Source: created by the authors

During the first round, a greater number of false contents were disseminated around the figure of the candidate Lula da Silva (25.8%). In second place were falsehoods with an unidentified collective protagonist or voter, categorised as “other” (20.4%). Upon detecting unusual cases that did not correspond to any of the assigned protagonists and differed significantly in nature from each other, the “others” category was established. This category grouped together falsehoods with unidentified collective protagonists or voters, namely: institutions/administrations, famous artists, demonstrators, social platforms, or Brazilian government ministers. For example, this category included a falsehood referring directly to Silas Malafaia (friend and advisor to President Bolsonaro), as well as another concerning the ministers of the Supreme Federal Court of Brazil. Finally, in third place in the first round, the liberal candidate Jair Bolsonaro stands out (18.3%).

On the other hand, Lula da Silva again consolidated himself as the main protagonist of the falsehoods in the second round, with 38.1%, followed at a significant distance by the Superior Electoral Court (18.3%) and the candidate Jair Bolsonaro (15.9%), who once again occupied the third position.

5. Discussion of results

5.1. *The role of social media and the prevalence of audiovisual formats*

As evidenced in the results, the prevalence of videos, almost always combined with brief texts, confirms that electoral disinformation appears to have evolved since the 2018 presidential elections into short, unsophisticated videos consumed rapidly to reinforce voters' preconceived notions (Biescas, 2022). Simultaneously, platforms like TikTok, Kwai, Instagram, and YouTube have gained prominence, circulating these types of viral contents that users receive on their feeds, devoid of context and mixed with all kinds of information, making it even more challenging to discern what is real or false.

As Vázquez and Pulido (2020) observed, social media is also the public space where disinformation is most widely disseminated. Indeed, a study conducted by the agency Aos Fatos on TikTok found that almost half of the posts supporting Jair Bolsonaro's re-election contained attacks or disinformation, compared to a quarter of those favouring Luiz Inácio Lula da Silva (PT) (Barbosa and Rudnitzki, 2022).

Thus, to disinform, it is no longer necessary to present false data or statements; sometimes, a mere clip of a real video with a misleading description that reaffirms voters' beliefs suffices. This has created a much more complex scenario than in 2018 (Biescas, 2022).

Although the most frequently used platforms remain Facebook and WhatsApp, these elections were marked by the rise of new networks like TikTok and Telegram, where many traditional media outlets still do not reach large audiences or have not yet entered.

In spaces where the impact of false information on political topics is much greater than on other areas of general interest (Vosoughi et al., 2018), we observe, once again, that the potential of social media to spread false content increases, especially during electoral campaigns, where disinformation benefits from an increasingly polarised public opinion (Lewandowsky et al., 2017).

5.2. *Flows of disinformation during the electoral rounds*

This study has revealed peaks of disinformation that occurred both in the first and second rounds. In this regard, in the final days of September and the early days of October –coinciding with the end of the first electoral round and the beginning of the second– there was a significant number of fact-checking verifications. In fact, the analysed fact-checkers verified three times more disinformation on October 1st and 2nd than on other days during the campaign. There was also a noticeable increase in verifications of false content during the week leading up to the final election results, including October 30th, the date when candidate Lula da Silva was declared president of Brazil with 51% of the votes.

In the case of Brazilian elections, it appears evident that disinformation spread more extensively both in the final days of the first round –preceding the start of the second round (September 27th and 29th; October 1st and 2nd)– and in the days leading up to its conclusion –coinciding with electoral debates– as well as on the day of the president's proclamation (October 17th and 25th; October 30th).

According to Magallón-Rosa (2019b), two specific moments accelerate fact-checking during electoral campaigns: candidate debates and election day. From an informational intensity perspective, days featuring candidate debates, alongside the voting day, become pivotal dates, evidenced by the fact that activity on social media platforms such as Twitter (now X) during these days typically doubles or triples compared to the rest of the campaign.

It is worth noting that the quantity of false content verified by fact-checking organisations during the study period is significantly higher in the second electoral round than in the first. This leads us to infer that as the electoral process approaches its final day, more disinformation is disseminated on the topic.

In this regard, Congosto (2015) warns in their research that electoral processes, such as the reflection day, can be challenging to control on social media because they always have activity circulating beneath the radar of the traditional public sphere. Whether in the form of memes, misleading headlines, or manipulated images and videos, this content circulates indiscriminately on WhatsApp, Facebook, or Instagram with the political objective of trying to convince or dissuade undecided voters according to their interests.

5.3. Topics of viral electoral disinformation: electoral fraud and voting irregularities

Voting and electoral fraud have constituted the primary theme of viral hoaxes both in the first and second rounds, as well as throughout the entire timeframe studied. These topics were followed by others of a related nature, such as the course of the electoral campaign or references to the personal and/or professional lives of the candidates.

This observation is consistent with the findings of Magallón-Rosa (2019c:246), who notes that disinformation during electoral periods typically centres on themes related to legislation, particularly “electoral fraud, fake polls, and false information or statements by candidates.”

Contemporary works in a similar vein, such as that of Paniagua-Rojano et al. (2020) on the 2019 Spanish general elections or Noain-Sánchez's (2019) study on the 2018 Mexican elections, corroborate this, indicating that electoral irregularities, the National Electoral Institute (INE), and other actors linked to the electoral process were a hot topic for hoaxes.

It is therefore coherent that the Superior Electoral Court (TSE) emerges as one of the indisputable protagonists of the disinformation campaign surrounding the Brazilian elections, as will be discussed below.

Whenever a democratic process like elections takes place, hundreds of hoaxes are disseminated aiming to delegitimize electoral systems and the institutions responsible for overseeing them (Spanish Department of Homeland Security, 2022), which are directly accused of facilitating fraud. Natália Leal, CEO of Agência Lupa, explained to Maldita fact-checkers that “this content creates the idea that there is a lack of transparency in the Brazilian electoral process and leads to challenges to the results, which is extremely damaging to Brazilian democracy” (Maldito Bulo, 2022). For instance, after the first round of elections, disinformation was spread about irregularities in the use of electronic voting machines in Brazil.

This contrasts with previous research, which reveals that hoaxes in earlier Brazilian elections were primarily centred on social issues, particularly Catholic religion or the defence of the traditional family by candidate Jair Bolsonaro (García-Acosta and Gómez-Masjuán, 2022). However, it was also possible to identify issues related to controversial information –such as familial or

business ties of the candidates– and false statements made during the campaign, as well as ambiguous references to Brazilian legislation.

5.4. The protagonists of the hoaxes: Lula da Silva and Jair Bolsonaro

In Latin America, the main targets of disinformation during electoral periods are primarily the candidates (Ojeda-Copa and Peredo-Rodríguez, 2020). Indeed, in light of the results obtained, it is apparent that Lula da Silva has been the central figure in a significant portion of the disseminated falsehoods. The narrative of “Lula as the Antichrist” was one of the most prominent throughout the campaign (Dénis-Cruz, 2022).

In 2018, the virality of false information benefitted one candidate at the expense of others (Canavilhas et al., 2019). However, in this case, da Silva, despite being the target of the primary disinformation strategies, ended up being elected president of the country. In this regard, some researchers report that the candidate with the greatest likelihood of winning tends to be the focus of disinformation (Paniagua-Rojano et al., 2020).

Secondly, there were direct attacks on the Superior Electoral Court (TSE). This is the highest court in Electoral Justice, which, among other functions, is responsible for investigating electoral crimes, overseeing electoral propaganda, and addressing candidate registration challenges (Tribunal Superior de Justiça, 2022). Although the most widely circulated disinformation theme was electoral fraud, it is not surprising that the official body responsible for conducting the elections was also targeted by rumours.

Indeed, Pablo Ortellado, a Public Policy lecturer at the University of São Paulo, explained to Newtral (Dénis-Cruz, 2022) that one of the major concerns throughout the 2022 elections has been the attacks on the electoral system. This was also observed in the United States with Trump, “but in Brazil with more fervour.” Moreover, these findings are not unique to this electoral process, as they resemble those detected in the Spanish case by Paniagua-Rojano et al. (2020), which found that the electoral system itself was the most affected by rumours.

Similarly, although to a lesser extent, former President Bolsonaro has also been subjected to disinformation attacks, despite being one of the main sources of such disinformation during the electoral campaign. This is not a novel phenomenon, as his figure had previously been embroiled in controversy due to his false and anti-vaccine statements disseminated during the COVID-19 pandemic (Koch, 2021).

5.5. Types of disinformation in electoral contexts: distortion of truth as the main phenomenon

As in the 2018 Brazilian elections, where contents classified as “false information” outnumbered those containing true information (Canavilhas et al., 2019), various types of disinformation have also found their place in the 2022 elections. In this regard, as addressed in the results section, the predominant types of disinformation throughout the studied timeframe have been misleading content and false context.

This observation aligns with the findings of Brennen et al. (2020) and Sánchez-del-Vas and Tuñón-Navarro (2024), showing that fabricated information (where the truth is distorted or reworked) has had a substantially decisive role in the disinformation

campaign. Thus, the results also resemble those obtained by Paniagua-Rojano et al. (2020), who detected that a significant portion of the rumours spread during the 2019 Spanish general elections were falsely attributed to actions and statements.

Furthermore, it is noteworthy that fabricated content has also had a significant presence within the analysed sample. Wardle (2017) classifies this type as the most harmful, given its greater intent to deceive. However, this could be due to the editorial decisions of fact-checkers when discrediting false information, who may have prioritised verifying information that could potentially cause more harm to the public.

Despite the various types of disinformation detected, Marlos Ápyus, an audience analyst at the newspaper O Estado de São Paulo, noted to Newtral (Dénis-Cruz, 2022) that, unlike the 2018 Brazilian elections, the 2022 electoral process has been more controlled in terms of disinformation.

6. Conclusions

Considering the attempted assault on the main institutions of the Brazilian state on 8 January 2023, this study on disinformation surrounding the electoral campaign acquires greater relevance for understanding subsequent events.

Through the analysis conducted, this research has confirmed the prevalence of videos accompanied by succinct texts as the primary format for the viral spread of hoaxes. Additionally, the dominance of social media as the main channel for the dissemination of disinformation has been established. These findings address the first and second research questions.

Moreover, the results reveal that while disinformation increased during both the initial and second electoral rounds, the volume of false content analysed by the fact-checking media significantly surged during the latter phase. In this context, specific events such as electoral debates and the election day itself catalysed fact-checking efforts. All these findings address the third research question.

Regarding the themes of the hoaxes, voting procedures and alleged electoral malpractices emerged as the main disinformation narrative during the two electoral rounds and throughout the entire study period. These themes were closely followed by discussions about the electoral campaign trajectory and references to the personal or professional lives of the candidates. This elucidates the fourth research question.

Furthermore, throughout the study period, the dominant forms of disinformation were misleading content, false context, and fabricated content. Lastly, concerning the key figures involved in the spread of erroneous information, a larger proportion of hoaxes was propagated about the Workers' Party candidate, Lula da Silva, in contrast to his rival in the presidential race, Jair Bolsonaro. Notably, there were prominent cases of direct attacks against the Superior Electoral Court (TSE). This addresses the fifth and final research question.

In conclusion, it is important to highlight that one of the main limitations of this research is that it is confined to a single informative event, namely the 2022 Brazilian elections. Furthermore, although the selected fact-checkers hold a quality seal of ethical standards, another limitation of this study lies in the fact that the research is based on the hoaxes previously selected by them, as they are subject to their own journalistic criteria in selecting the hoaxes to analyse. Nevertheless, this is a widely used methodological decision in the academic study of disinformation.

Regarding future lines of research, it would be highly beneficial to study different time periods based on the discovered evidence while also considering alternative study topics. This approach would facilitate the expansion of knowledge about political processes and the growing strategies of disinformation.

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Data collection and analysis	Rocío Sánchez del Vas; Raquel Ruiz Incertis; Dinella García Acosta; Raúl Magallón Rosa
Discussion and conclusions	Rocío Sánchez del Vas; Raquel Ruiz Incertis; Dinella García Acosta; Raúl Magallón Rosa
Drafting, formatting, version review and approval	Rocío Sánchez del Vas; Raquel Ruiz Incertis; Dinella García Acosta; Raúl Magallón Rosa

9. Conflict of interest

The authors declare that there is no conflict of interest contained in this article.

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