EDICIONES COMPLUTENSE

Teknokultura. Revista de Cultura Digital y Movimientos Sociales **KARPETA**
e-ISSN: 1549-2230

Digital partisans: An inquiry on the use of bots for political propaganda in Mexico

David Ramírez Plascencia
Universidad de Guadalajara (México)
Álvaro Ochoa Zuno
Universidad de Guadalajara (México)
Rosa María Alonzo González
Universidad Autónoma de Baja California (México)

https://dx.doi.org/10.5209/TEKN.97497 Recibido: 17 de agosto de 2024 • Aceptado: 02 de febrero de 2025 • Avance en línea: 28 de febrero de 2025, **OPR**

Abstract. In 2025, due to the popularization of AI applications such as ChatGPT, there has been a renewed interest in Artificial Intelligence. Politics have not been immune to this tendency. The presence of AI is seen as a promising tool to promote candidates and parties on social media, but also as a potential weapon that may be used to instigate misinformation and to deceive. This article is founded on the interception of artificial intelligence, disinformation, and media coverage. It covers a timeline of eight years, from 2016 to 2023. We focuse on AI bots in Mexico and its use in politics. Its objectives are to analyze how Mexican newspapers have portrayed the use of bots in national politics through content analysis techniques and framing theory, and to examine the evidence provided by media coverage regarding the existence of a bot market for politics in Mexico.

Keywords: bots; disinformation; elections; social media; Mexican politics.

Partisanos digitales: Una indagación sobre el uso de bots para propaganda política en México

Resumen. En 2025, debido a la popularización de aplicaciones de IA como ChatGPT, se ha renovado el interés por la Inteligencia Artificial. La política no ha sido inmune a esta tendencia. La IA se presenta como una gran herramienta para promover la popularidad de candidatos y partidos en las redes sociales, pero también como un arma arrojadiza para difundir información errónea y engañar. Este artículo se fundamenta en la interceptación de la inteligencia artificial, la desinformación y la cobertura mediática. Abarca un período de ocho años, de 2016 a 2023. El trabajo se centra en los bots de IA en México y su uso en política. Este estudio tiene como objetivo analizar, a través de técnicas de análisis de contenido y la teoría del encuadre, cómo los periódicos mexicanos han representado el uso de bots en la política nacional, así como examinar la evidencia que aporta la cobertura mediática sobre la existencia de un mercado de bots en la política mexicana.

Palabras clave: bots; desinformación; elecciones; medios sociales; política mexicana.

Summary. 1. Introduction. 2. Literature review. 3. Methods and research design. 4. Outcomes and discussion. 5. Conclusions. 6. LLM Use Statement. 7. Declaration of contribution by authorship. 8. Data availability. 9. References.

How to cite: Ramírez Plascencia, David, Ochoa Zuno, Álvaro and Alonzo González, Rosa María (2025). Digital partisans: An inquiry on the use of bots for political propaganda in Mexico. *Teknokultura. Revista de Cultura Digital y Movimientos Sociales*, avance en línea, 1-9. https://dx.doi.org/10.5209/tekn.97497

1. Introduction

In July 2023, Xóchitl Gálvez (PAN, National Action Party - Right), candidate for the past 2024 election in Mexico, made some statements against her political adversaries. At first glance, this appears to be an ordinary event in Mexican politics, but what was remarkable about the incident is that those declarations were made by a 'false' Xóchitl Gálvez created by Artificial Intelligence (AI). Some anonymous Gálvez supporters used an AI system that employed images and voices to create a fake video of the politician. This case well illustrates, not just the great capacities of AI to produce content that deceives public opinion, but how the employment of AI and bots to sponsor politicians and attack opponents has permeated politics in Mexico. This article is founded on the interception of AI, disinformation, and media coverage. It covers a timeline of eight years, from 2016 and 2023, before the 2024 presidential election (celebrated in Mexico on June 2, Claudia Sheinbaum was elected President), focusing on AI bots in Mexico and its use in politics. Its objectives are to analyze how Mexican newspapers have portrayed the use of bots in national

politics through content analysis techniques and framing theory, and to examine the evidence provided by media coverage regarding the existence of a bot market for politics in Mexico.

1.1. Press coverage on AI and bots within the political communication arena

In 2024, presidential elections in the United States, Mexico and India captured national and international attention, particularly regarding the impact of information technology in the outcome. There were expectations on how AI presented a potential threat to electoral processes in those countries. The press has echoed some of these concerns such as the use of bots to attack political adversaries, the employment of automated social media accounts to artificially raise candidates' popularity, or AI's ability to produce deepfakes that could deceive the electorate (Birnbaum & Davison, 2023; Hsu & Myers, 2023). In fact, actual AI apps can clone voices and generate images and videos that portray famous politicians, artists, and celebrities in controversial attitudes, committing crimes or making provocative statements. As these apps continue improving, their content will become more convincing. Because electoral victories -at a local and federal level- are depending more on social media to raise contenders' popularity, parties and candidates are more willing to use any strategy, unethical or not, that enhances their possibilities to win. This includes, of course, the use of deepfake material and bots.

An exploratory analysis of bots' media coverage highlights some key elements that explains their growing impact in politics, particularly regarding electoral campaigns: (a) the automation of the (dis)information campaigns, where the employment of human 'trolls': people that manage ten to fifteen accounts (Alameda & Peinado, 2018) has been eventually replaced by the systematization of thousands of bots that publish posts, popularize hashtags and react to publications (Silverberg, 2023); (b) The normalization of bots in political communication: It is not the case that the employment of bots is no longer a controversial topic, but the mobilization of bots to boost public approval and gain electoral preferences has become a usual communication strategy. Some countries such as Russia have been accused of using an army of bots to subvert political stability and gain support in other countries and regions, as in the United States, Latin America, or Africa (APP, 2019), or to influence the public opinion about the Russo-Ukrainian war (The Guardian, 2022). The presence of bots has erupted in the US (Stringhini & Zannettou, 2020) and the Latin American political landscape (Campos Mello, 2020; Sputnik, 2021); (c) The irruption of a bot market, that is, a supply and demand system regarding the employment of automated accounts based on AI. Accusations of paying bots to attack political adversaries are not new, it happened for example during the US presidential electoral contest between Donald Trump and Hillary Clinton, but these claims have become more recurrent. The troll farming market is buoyant (Kinosian, 2022). There are several companies that under the label of 'marketing consultants' (Peralta, 2021), offer their 'virtual agents' for diverse objectives: from helping influencers to gain followers to disperse fake news (Montesinos, 2022; Alconada Mon, 2023); And (d) the improvement of AI application capacities that create and spread content across social media, that is the ability to write opinions, images and videos that deceive people on the Internet. There are reasonable assumptions that those applications will have a huge impact on the production of fake content that will circulate on the Internet during the forthcoming presidential elections (Silverberg, 2023; Robins-Early, 2023).

1.2 Bots, media, and politics in Mexico

Latin America faced the 2024 presidential voting contests amid a complex social landscape (Malamud & Núñez Castellano, 2024) shaped by the distrust towards traditional media and democratic institutions. Mexico, Venezuela, and El Salvador along with the United States, whose election outcomes have a deep impact in the region, affronted electoral processes where social media, influencers and bots played a key role. In fact, at least since 2016, the main events and movements in these countries have been shaped by the growing influence of digital content-generators such as Youtubers, Instagrammers and Tiktokers. Influencers have taken advantage of the popularization of social platforms to gain millions of followers who are greedy consumers of their videos, photos, and posts, and pay attention to their opinions and preferences. Along with the presence of influencers, the employment of bots has become a popular tactic to create trending topics and disseminate hashtags. The lack of a legal framework that limits the potential abuse of AI applications triggers concerns about how political parties are using bots to spread misinformation particularly during elections. Over the years, the media has gathered evidence on how Latin American politics have recruited bot armies to influence the electorate since the 2017 presidential contests in Argentina, Brazil, and Mexico (Allen, 2018; Alconada Mon, 2023). These cases indicate the presence of 'digital partisans', not just among presidents who used them to gain social approval as in the case of Nicaragua or El Salvador (Kinosian, 2022), but to organize disinformation campaigns to subvert electoral preferences in Argentina, or arguably used by foreign governments such as Russia or China to gain political influence in Latin America (Hernandez-Roy et al., 2023; Brands, 2022).

The 2018 election in Mexico marked a turning point in the country's traditional politics, driven largely by the growing influence of social media in the electoral process. It also demonstrated that a candidate could win the presidency without the backing of a major traditional party like the PRI (Partido Revolucionario Institucional – Institutional Revolutionary Party) or the PAN (Partido Acción Nacional – National Action Party), and without the support of mainstream media giants such as Televisa or TV Azteca. Andrés Manuel López Obrador exemplified this shift, securing victory with his own party, MORENA (Movimiento Regeneración Nacional – National Regeneration Movement). López Obrador based his communication strategy on social media. He took advantage of a rising rate of Internet users in Mexico, a media consumer market shift from analogical formats - print newspapers, radio, or television - into social platforms and streaming services such as Netflix or YouTube. Politics were not unsusceptible to this shift, since social media has become the main sphere for politics in the country. The 2018 election was relevant also because of the influx of bots as a communication weapon to influence electoral preferences (Barredo-Ibáñez et al., 2021). There were accusations of using bots to spread false information that backed electoral contenders and diminished the influence of their political opponents. The importance of social media in the political arena has endured and consolidated throughout López

Obrador's presidential term, but among a context shaped by social polarization, disinformation, and the use of fake news to harass government critics and political adversaries (Montesinos, 2022).

2. Literature review

2.1 Disinformation, technology, and elections

In a traditional definition of disinformation, James H. Fetzer (2004) points out the intention of the source to make «deliberate efforts to mislead, deceive, or confuse an audience in order to promote their personal, religious, or ideological objectives» (p. 231). This, continuing with Fetzer, implies «having an agenda» (p. 231). Therefore, misinformation constitutes a tool to attain political or ideological agenda objectives. Don Fallis (2014) reinforces the notion of intention as a key element of disinformation, that is intentionally misleading» (p. 137). Then intentionality is a crucial factor that distinguishes disinformation from an unintended mistake or having a wrong misconception of the facts. Therefore, there is not any «nonaccidental misleading information» (Fallis, 2015), but individuals or groups that promote disinformation following specific objectives. Now with the popularization of AI apps such as ChatGPT, the possibilities of organizing disinformation campaigns have exponentially risen.

Despite AI has been around for decades, it was not until recent years that it came under the global public spotlight. AI has been the subject of praise and concerns about the potential benefits and misuses as well. Besides this global mediatic spotlight, it is difficult to find a universal conception of AI. According to the European Commission (2018), AI could be defined as «Systems that display intelligent behavior by analyzing their environment and taking actions – with some degree of autonomy – to achieve specific goals» (p. 16). Following the OECD (2019) definition of the AI system, «as a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments». AI could be incorporated in public administration, for example for planning, policy outcome prediction or providing decisions on complex tasks that involve the processes of huge amounts of data. As Tshilidzi Marwala (2023) states, AI could be a valuable tool in a challenging field such as politics where actors should deal with problems associated with «shifting power, conflict, and cooperative dynamics» (p. 1). But as it happens with the introduction of disruptive technologies into the political sphere, such as the case of social media for political marketing or electronic voting, the quick development of AI in recent years has raised diverse debates around the potential risk of not regulating the practices of this technology.

Besides the rising impact of bots in political marketing, particularly considering the spread of fake news to create political polarization and influence in electoral outcomes, there have only been a few attempts to set legal barriers to the operation of these automated accounts. One of the most significant efforts was implemented by the State of California through the SB 1001-CHAPTERED (2019) or The Bolstering Online Transparency, as it was widely known. This regulation compels corporations to disclose to the user if they are using bots or not. In addition, this regulation forbids the employment of bots to deceive people regarding commercial or electoral votes (Art. 17941. a). Though, the application of the SB 1001 regulation withstands some critics, such as to exonerate platforms from the duty to detect and shutdown these automated accounts or systems: «This chapter does not impose a duty on service providers of online platforms, including, but not limited to, Web hosting and Internet service providers». (Art. 17942.c). Other cases, such as in Germany and France, show how countries combat the illegal employment of bots by using existing regulations. The German normativity The Network Enforcement Act (Netzwerkdurchsetzungsgesetz, NetzDG), compelled big social media platforms to remove the digital content that promotes hate speech and misinformation (NetzDG - Gesetz Zur Verbesserung Der Rechtsdurchsetzung in Sozialen Netzwerken, 2017). France has a similar approach with the LOI n° 2018-1202 (LOI N° 2018-1202, 2018) which sets the responsibility of social media platforms to implement measures to combat the spread of false information (Art. 11). Finally, it is possible to mention the recent-approved regulation on AI by the European Union that, following the criteria of the SB 1001- CHAPTERED, compels developers to notify users when they are interacting with bots and when content was created using AI (Artificial Intelligence Act, 2024). Despite these regulatory efforts, some authors have pointed out the complexities to establish efficient norms that supervise the employment of bots. One of them is technical, it is difficult to detect all bots that are conducting a malicious activity on social media (Hoehn, 2022), and the other is ethical since some of these regulations may restrict other rights such as free speech (Soto Martínez, 2022).

2.2 Bots, social media and their impact on politics

The 2016 presidential election in the US represents a milestone in the development of political communication strategy. It was the first election of a global power where disinformation campaigns, bots and fake news occurred during the campaign (Howard et al., 2018). As we are entering into the second decade of the new millennium, social platforms have become a crucial public arena for politics. Virtual spaces such as X (formerly Twitter), YouTube, Facebook, and apps such as WhatsApp and Telegram have consolidated as main sources of information. Mobile devices are now an inherent element of people's daily lives. In this race for mesmerizing public attention, politicians have not been reluctant to employ unethical and even illegal methods. Interest groups and superpowers have targeted these platforms as ideal spaces to organize disinformation campaigns using fake news to attack adversaries and strengthen their agenda.

A series of studies confirm the growing popularization of bots as a political weapon in later years after the triumph of Donald Trump and their influence in national political contents: in the French presidential elections in 2017 (Desigaud et al., 2017), Mexico in 2018 (Magallón Rosa, 2019) and once again in USA in 2020 (Ferrara, 2020). Bots played a key role in influencing public opinion in major social movements and events such as in the Brexit (Bruno et al., 2022), the Catalonia independence movement (Aparici et al., 2019) and definitely, during the COVID-19 pandemic (Himelein-Wachowiak et al., 2021) and in the actual Russo-Ukrainian war, where the use of bots has acquired a relevant role in the strategy of a hybrid war, spreading false information about battle outcomes, attempting to influence people's morale in both countries and that of their allies (Li et al., 2023).

Some authors have pointed out how bots have been successful in flooding social media with false information, particularly in elections, that overlap verified facts (Lazer et al., 2018). Jesús Miguel Flores Vivar (2019) underlines the importance of establishing mechanisms to combat the spread of fake news particularly related to candidate facts and actions. Regarding this problem, recent publications have studied the use of AI to develop systems that can trace and detect fake news and the bots that publish that false information and express opinions and react to candidate profiles (Al-Asadi & Tasdemir, 2022). However, despite the efforts to create efficient ways to detect bots, the same advances that focus on combating disinformation, are used, paradoxically, to deceive these systems (Paavola et al., 2016; Martini, 2023). Over the years, the bot strategy has consolidated, and the design and interoperability in the social media ecosystem has improved thanks to the improvement of the 'deepfake' and its ability to produce fallacious content that deceives people and eventually influences their judgment (Bontridder & Poullet, 2021). Considering the employment of bots for political marketing, the analysis of news coverage is important not only to understand how the media portrays the presence of bots in Mexico, but as a secondary source of information that could bring light to the clandestine activity of using bots as a political weapon in Mexican politics.

3. Methods and research design

This article centers on content analysis technique and the framing theory. Content analysis (CA) focuses on making valid inferences from documents (Krippendorff, 2004) and aims to develop a systematic arrangement of information into categories, with the objective of creating deep analysis on the relation of categories (Neuendorf, 2017; Riffe et al., 2019). Framing, for his part, bases on how media «select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation» (Entman, 1993, p. 52). The aim is trying to influence public judgements on determinate controversial issues (Becker & Scheufele, 2009; Rowling et al., 2011). To undertake this research, we follow previous works on media coverage of technology: Weishan Miao et al. (2023) analyzed 363 news articles from three different newspapers to study the public opinion on TikToK in India and China, and Leila Ouchchy et al. (2020) analyzed 479 news articles to understand the public perception on AI ethical issues. CA allows us to study media, newspapers in Mexico, and highlight the main topics associated with the use of bots in the political sphere. The employment of the framing theory will help us to understand the influence of newspapers' ideology on how they portray the use of bots. We set the following research questions: how the Mexican newspapers have portrayed the use of bots in national politics, and (b) what evidence does the media coverage provide about the existence of a bot market for politics in Mexico. It is important to recall that we are studying an activity that is considered clandestine. The use of bots for political marketing is still an uncomfortable fact. Most of the companies which create and rent bots do not want to admit to the existence of this activity. Candidates or celebrities will not confess that many of their supporters are, indeed, bots, automated accounts that artificially react and praise their content on social media.

Fieldwork centered on analyzing 475 news (Unit of Analysis) published in four main newspapers in Mexico. To avoid bias and to analyze special patterns depending on the media editorial line, we selected four sources to cover a wider ideological spectrum: *Reforma* (Right), *Milenio* (Center), *El Universal* (Center) and *La Jornada* (Left). The time range is from 2016 to November 2023. We started in 2016, the year of Donald Trump's electoral win, two years before the 2018 presidential election in Mexico. The year 2016 represents a key turning point regarding the use of bots in presidential elections and the spread of fake news in social media to influence electoral outcomes, a tendency that now permeates actual political content. Sampling criteria focus on selecting news about the use of bots in politics, therefore we exclude other entries related to the employment of social media bots to increase artists' popularity on social media or for e-commerce purposes. To find the articles, we employed newspaper internal search engines using the following terms in Spanish: 'bots', 'political bots' (*bots políticos*), and 'social media bots' (*bots de redes sociales*).

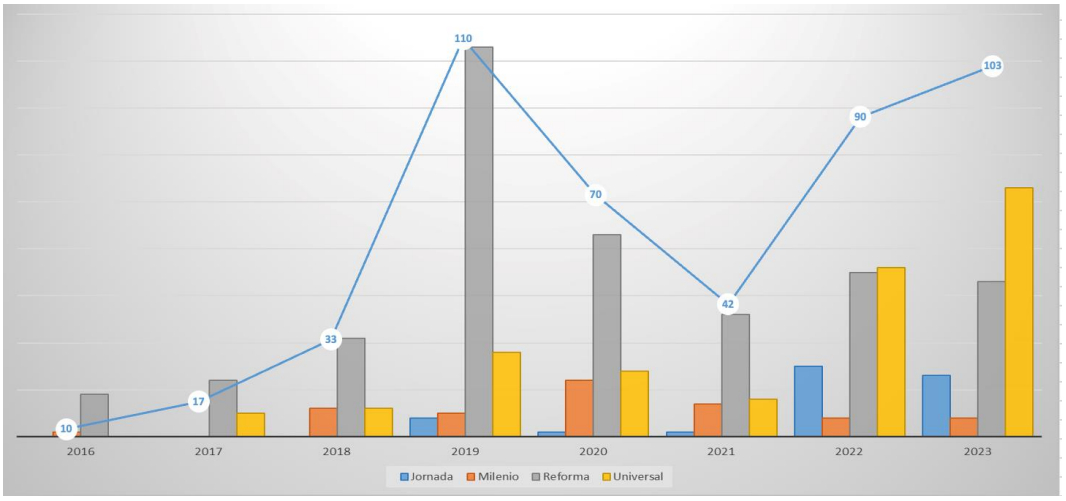
We used a matrix to register the news. The matrix contained the following fields: source of the news (newspaper), headline, author, date, the news body, URL, and characterization. The characterization field served to arrange the unit of analysis into different categories (a) the use of bots for political marketing (to attack adversaries or increase popularity; 372 news), (b) labor market (supply and demand of bots, enterprises or countries that control the bot armies; 95 news), and (c) AI with only eight notes that was not considered because of the scarce number of registers. We consider the two main categories to help us to comprehend this issue. The first category supports the asset that there is, at least as it shows the media coverage on the subject, a profuse use of bots to influence Mexican politics, and the second category provides evidence on the functioning of a bots' market (that is the exchange of good and services under an offer-demand logic).

4. Outcomes and discussion

4.1 The employment of bots in Mexican politics from 2016 through 2023

It is possible to observe in the media coverage the process of the arrival and spread of bots in Mexican politics. In 2018, a presidential election year, for example, there was a significant growth of news related to bots compared to 2017. It ranges from seventeen incidents in 2017 (news) up to thirty three in 2018. In 2019, however, the media reports that included the term 'bots' skyrocketed during the first year of López Obrador's presidency. Nearly 25% of the sample belongs to the year 2019 (See Figure 1). This tendency reflects the post-electoral atmosphere, consisting in mutual accusations of using bots to influence the elections by seeding false information in social media about candidates, and to artificially raise electoral preferences favoring a determinate candidate.

Figure 1. Media coverture of bots from 2016 – 2023 according to the media source. Source: Own production



This could be explained because of the media editorial line. While newspapers such as *La Jornada* (left), *Milenio* (center), and *El Universal* (center) provided a more moderate coverture about the use of bots in politics, *Reforma* (Right) gave extensive exposure to this issue. This intense coverage about bots from *Reforma* (Right) is not unusual, since this media has been very critical about the role of bots in López Obrador's electoral victory, and his later employment of automated and false accounts to harass his critics on social media. In fact, during this term (2018-2024), López Obrador maintain a mediatic confrontation with political opposition, but also with newspapers from a right editorial line, mainly *Reforma*, a newspaper that was accused in Obrador's dairy conference press 'La Mañanera', of serving to the economic and political elite, to whom the president usually embraced under the label 'Fifis', a derogatory term used to name the political opposition, and López Obrador' critics. These mutual accusations overstep traditional media and trespassed social platforms. It is in this context that both sides started accusing each other of using bots to attack their social media profiles with inflammatory commentaries.

This confrontation could be also appreciated in how the media, mainly *Reforma* (Right), implies a strong association amid the term bots and the figure of president López Obrador. Between the years 2017 and 2018, 27 out of 50 of the news (54%) are related to the hypothetical employment of bots to attack Obrador's opponents or, on the contrary, the use of bots by the political opposition to antagonize him. There were accusations that his supporters used automated social media accounts to back him during the elections and across the first year of this presidency. This association amid bots and the president continued in the following years. About 341 units of analysis from 2018 and 2023 refer to a negative vision about Obrador's presidency.

In fact, over the years there has been a growing negative media frame that associated the term bots with unethical political practices. The mere mention of the term implies a questionable act. Many news outlets mentioned how Obrador uses bots to increase his popularity on social media, to the detriment of his political adversaries, who are constantly verbally confronted online. From the 475 units of analysis of our sample, 76.84% relates to supposed attacks committed by bots against political adversaries. While 41.4% of the sample suggests that these attacks directly benefit a particular politician. This tendency complies with academic literature that points out the apprehensions about the potential use of bots as destabilization elements in national politics, particularly during elections (Knuutila et al., 2020).

4.2 The use of bots for political marketing. A new economic activity in Mexico

Considering the existence of a bot market in Mexican politics is difficult since the direct sources are scarce. However, indirect data such as news give some clues about the public interest on the subject, and the numerous cases registered in the press bring some light on the existence of an underground market and the imperative need for political parties and corporations to count with a specialist in AI, particularly regarding the use of bots to set digital marketing campaigns. The rising presence of bots for commercial and political purposes in Mexico should be understood as part of a wider technological trend where traditional communication and informational media such as print press, analogic radio and television have lost popularity before the massive process of digital media adoption around the world. The diversification and cheapening of smart gadgets and the access to mobile connectivity have allowed every day for more Mexicans to read and listen to the news on the Internet and stay in contact with their relatives and friends using digital media. Political participation and civic engagement are not the exceptions to this trend. Social media stands as the main forum to mesmerize public attention, spread political agendas, and promote digital and street mobilization. Therefore, having a solid presence in these spaces is imperative for any candidate that wants to consolidate his/her aspirations. It is in the chasing of followers and the pursuit of generating traffic into their profiles that the role of bots has gained relevance due to the efficiency of triggering popularity and visits to client accounts, spreading true or false laudatory comments, that generate a positive and charismatic public image of the customer.

Pondering the dimensions of the bot market in Mexico is complex since, for understandable reasons, the labor relation is clandestine. It is hard to find a genuine troll farmer openly announcing its services on LinkedIn, some use the label of 'marketing services', and it is equally intricate that a politician accepts an implication with a company that offers these services. Conversely, it is possible to review indirect evidence about the growing popularity of these virtual partisans in the public opinion's imaginary. In 102 units of analysis, about 21.47% of the entire sample, there are mentions of the Spanish words *contratar*, *empleos*, *comprar*, *pagar, pago, paga*, *alquilar*, *vende* y *renta* bots (to contract, employments, buy, pay, payment, salary, hire, sell and rent). A direct allusion to a market in which virtual partisans are offered and sold. Other news implies the hiring of farm trolls established in countries such as Russia or China, or the reporter offers testimonies of people that worked for those companies or gives some numbers about the cost of hiring these virtual followers.

In spite, the use of bots is still controversial, since the 2018 presidential elections in Mexico, the discussion about bots, particularly their use as a political marketing tool has grown in the national media coverage. But this tendency is not absent from debate. Even the mere mention of the term 'bots' implies a negative vision about this technology. The most common accusation among politicians or political parties, as it was possible to observe, is related to an improper use of bots to artificially increase their presence in social media, and therefore their popularity among electors, and as a surreptitious form to attack political adversaries or movements on the Internet, by invading their profiles with negative reactions and comments. Besides the lack of exact numbers about the companies and the transactions, the recurrent mention of the term 'hiring bots' in the national coverage provides clues about the public concerns on the impact of these digital partisans in the forthcoming electoral processes. The capabilities of bots to spread information, fake or not, to create trending topics and raise prospective candidates are crucial, particularly in countries with social polarization and high levels of digital media use. It is not circumstantial that professions such as fact-checkers, social media profile managers, influencers and, of course, bots are now inherent elements of the electoral processes in many countries.

Data provided by the outcomes regarding the Mexican case reinforces academic assertions about bots. Bots are becoming a major subject in public discussion. There is evidence, through the analysis of media coverage, of the growing interest in the public discussion about their use and potential influence (Bruno et al., 2022), mostly negative, in the electoral outcomes, or as factors that promote disinformation and social polarization. The analysis of Mexican media coverage about bots in Mexico echoed the concerns about the spread of disinformation in social platforms. About 29.47% of the sample shows a sort of worry about the tolerance of X (Twitter) towards messages that disperse fake news inside this network. Other numbers, 95 from 475 (20%) urge the need to count with IT specialists that work with bots - that is to create bots to spread information or to help to detect them. Less than one year before the celebration of the 2024 presidential election, the bots were a source of public interest, particularly regarding some concerns about their potential influence in the 2024 electoral outcome. This negative frame about bots' presence in the Mexican media parallel with other studies (Schmuck & von Sikorski 2020), where the coverage of bots nourishes the public's interest on the topic, but this tendency to highlight only the negative aspects of its use obscures and discourages the considerations on other potential benefits of using AI applications. In this context, it is mandatory to set legal frameworks that diminish negative effects of employing bots to spread fake news. This not only implies negative impacts regarding the trust on electoral final outcomes, but it also erodes citizen belief in public institutions such as free media and separation of powers. Disinformation also promotes intolerance and social polarization towards critical issues such as free speech and the protection of ethnic minorities and migrants.

Forthcoming elections across the globe presents a challenging electoral landscape where the improvement of artificial intelligence will play a key role on both sides of the equation, to misinform and to verify facts. For one side, apps such ChatGPT or DeepSeek could potentially increase the impact of bots to alter the election outcomes by distributing false information that deceives the electorate. On the other hand, there have been novel efforts to develop systems that detect bot farms that spread false information (Nimmo, 2022). However, far beyond the impact of these actions, what is uncontested about AI bots is that they have consolidated as an important element of the actual political landscape and a source of public debate, particularly regarding its potential role in threatening democratic institutions by deceiving public opinion. In this context, the press and academia have echoed the importance of establishing systems using AI, to combat disinformation and detect automated accounts that spread false data on social media, and the consolidation of ethical and legal frameworks that regulate the development of AI applications, particularly those related with chatbots (Park et al., 2021).

5. Conclusions

In this article we focused on the Mexican media coverage to study the employment of bots for political marketing in the country. We focused on understanding, by using indirect data, how the use of bots has popularized in national politics and in what way it represents a new labor, a clandestine one, but no less important. By now, most of the political marketing not just in Mexico, but across the globe, materialized on the Internet, particularly on social media. It is not then surprising that interest groups and superpowers have found these virtual platforms as ideal spaces to organize and share disinformation campaigns. In this battle to gain popularity and efficiently spread a political agenda or an ideology the employment of automated social media accounts has been positioned as an excellent tool employed to seduce the electorate. This dependency on digital media has brought also negative effects for traditional media such as big television corporations such as Televisa and TV Azteca which have not only lost the predominance as factual powers that could influence in the national politics, but they are now in financial crisis due to the arrival and proliferation of the streaming services such as Netflix and Disney (Gutiérrez, 2024).

Approaching the study of bots in politics involved some limitations. One of them is the clandestine nature of the activity. Employing bots to increase popularity is not a fact that political actors would like to admit. For that reason, there is little direct evidence to analyze. Recurring secondary sources such as news convey some limits such as that many facts are arranged under

the political and editorial scope of the media (media framing). In this case, it is possible to observe a preponderant negative vision about the use of bots. Under this frame, the media implied a strong association amid bots and illegal actions. This negative vision darkens other positive cases related with the use of bots such as developing digital literacy competencies, detecting fake accounts on social media, assisting people in online stores or in virtual governmental offices and serving smartphone application chats.

The analysis of media coverage, despite the lack of direct data, provides key information on how these digital partisans are used in two contradicted forms in Mexican politics. (a) It increases candidates and parties' popularity on social media, and (b) attacks and exposes political adversaries and critics. Many times, these two undertakings are developed seeding false news to create polarization and raise the flow of visits and reactions to particular social media profiles and posts. Besides the glitches, this article provides evidence of the growing popularity of bots in the public discourse in Mexico. People are fascinated by AI chatbots and their potential impact on the educational and economics sectors, but there are serious concerns about how bots' abilities are employed in the political arena, particularly during elections. The Mexican case shows that besides the moral reservations and fears, the presence of bots is no longer a hypothesis but a reality that permeates diverse economic activities, not just to assist potential buyers but as efficient nodes that spread information and gather data about the political preferences of a candidate, this is particularly important considering the crucial role of social media in the political sphere.

The clandestine nature of bots as political partisans does not exclude, however, that there is a genuine concern, at least in discourse, about the proliferation of these digital *condottieri*, that labor is among the limit of what is considered ethical or legal, and their impact on national and international politics. These worries are justifiable in a political landscape where visibility on social media and the positioning of the agenda on the Internet are imperative actions to increase the possibilities of winning an election. This research's outcomes and the recent literature on the subject coincide on the potential negative impact of bots on elections as agents that spread disinformation to create polarization and mislead people's opinions, and the urgency of establishing technical and legal mechanisms to trace and stop the dispersion of fake news.

6. LLM Use Statement

This article has not used any text generated by an LLM (ChatGPT or other) for its writing.

7. Statement of contribution by authorship

David Ramírez Plascencia: conceptualization, research, methodology, project administration, supervision, visualization, writing - original draft, writing - review and editing.
Álvaro Ochoa Zuno: data curation, formal analysis, research, methodology, visualization, writing – original draft.
Rosa María Alonzo González: methodology, validation, visualization, writing – original draft, writing – review and editing.

8. Availability of deposited data

Ramírez Plascencia, D. D., Ochoa Zuno, Á. & Alonzo González, R. M. (2025). Dataset Media coverage of bots for politics in Mexico [Data set]. Zenodo. https://doi.org/10.5281/zenodo.14813949

9. References

Alameda, David & Peinado, Fernando (2018, March 21). Así fabrican los partidos políticos un 'trending topic'. *El País*. https://elpais.com/internacional/2018/03/20/actualidad/1521549696_430359.html

Al-Asadi, Mustafa A. & Tasdemir, Sakir (2022). Using artificial intelligence against the phenomenon of fake news: A systematic literature review. In Mohamed Lahby, Al-Sakib Khan Pathan, Yassine Maleh & Wael Mohamed Shaher Yafooz (Eds.), *Combating fake news with computational intelligence techniques* (pp. 39–54). Springer International Publishing. https://doi.org/10.1007/978-3-030-90087-8_2

Alconada Mon, Hugo (2023, May 6). Así funcionan las granjas de trolls que promueven a Milei y atacan a sus críticos. *La Nación*. https://www.lanacion.com.ar/politica/elecciones-2023-asi-funcionan-las-granjas-de-trolls-que-promueven-a-javier-milei-y-atacan-a-sus-nid06052023/

Allen, Andrew (2018). *Bots in Brazil: The activity of social media bots in Brazilian elections*. Wilson Center. https://www.wilsoncenter.org/blog-post/bots-brazil-the-activity-social-media-bots-brazilian-elections

Aparici, Roberto, García-Marín, David & Rincón-Manzano, Laura (2019). Noticias falsas, bulos y trending topics. Anatomía y estrategias de la desinformación en el conflicto catalán. *Profesional de la Información*, *28*(3). *https://doi.org/10.3145/epi.2019.may.13*

APP (2019, August 6). Granjas de 'trolls', la estrategia rusa para controlar la región. *El Tiempo*. https://www.eltiempo.com/mundo/asia/que-son-y-como-funcionan-las-granjas-de-trolls-rusos-397716

Barredo-Ibáñez, Daniel, De-la-Garza-Montemayor, Daniel-Javier, Torres-Toukoumidis, Ángel & López-López, Paulo-Carlos (2021). Artificial intelligence, communication, and democracy in Latin America: A review of the cases of Colombia, Ecuador, and Mexico. *El Profesional de La Información*, *30*(6), 1–15. https://doi.org/10.3145/epi.2021.nov.16

Becker, Amy B. & Scheufele, Dietram A (2009). Moral politicking public attitudes toward gay marriage in an election context. *The International Journal of Press/Politics*, *14*(2), Article 2. https://doi.org/10.1177/1940161208330905

Birnbaum, Emily & Davison, Laura (2023, July 12). AI is making politics easier, cheaper and more dangerous. *The Japan Times*. https://www.japantimes.co.jp/news/2023/07/12/world/politics-diplomacy-world/ai-deepfakes-politics-danger/

Bontridder, Noémi & Poullet, Yves (2021). The role of artificial intelligence in disinformation. *Data & Policy*, *3*, e32. https://doi.org/10.1017/dap.2021.20

Brands, Hal (2022, September 8). China and Russia's lies are winning over the Global South. *Bloomberg*. https://www.bloomberg.com/opinion/articles/2022-09-08/china-and-russia-s-lies-are-winning-over-the-global-south#xj4y7vzkg

Bruno, Matteo, Lambiotte, Renaud & Saracco, Fabio (2022). Brexit and bots: Characterizing the behaviour of automated accounts on Twitter during the UK election. *EPJ Data Science*, *11*(1). https://doi.org/10.1140/epjds/s13688-022-00330-0

Campos Mello, Patrícia (2020, August 4). Opinion | Brazil's troll army moves into the streets. *The New York Times*. https://www.nytimes.com/2020/08/04/opinion/bolsonaro-office-of-hate-brazil.html

Desigaud, Clementine, Howard, Philip N. & Bradshaw, Samantha (2017). *Junk news and bots during the French Presidential Election (Round II)*. University of Oxford. https://www.oii.ox.ac.uk/news-events/news/junk-news-and-bots-during-the-french-presidential-election-round-ii

Entman, Robert M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, *43*(4), 51–58. https://doi.org/10.1111/j.1460-2466.1993.tb01304.x

European Commission (2024). *Artificial Intelligence Act*. http://data.europa.eu/eli/reg/2024/1689/oj/eng

European Commission (2018). *Artificial Intelligence Draft Ethics Guidelines for Trustworthy AI*. European Commission.

Fallis, Don (2014). The Varieties of Disinformation. In Luciano Floridi & Phyllis Illari (Eds.), *The philosophy of information quality* (pp. 135–161). Springer International Publishing. https://doi.org/10.1007/978-3-319-07121-3_8

Fallis, Don (2015). What is disinformation? *Library Trends*, *63*(3), 401–426. https://doi.org/10.1007/10.1353/lib.2015.0014

Ferrara, Emilio (2020). Bots, elections, and social media: A brief overview. In Kai Shu, Suhang Wang, Dongwon Lee & Huan Liu (Eds.), *Disinformation, misinformation, and fake news in social media: Emerging research challenges and opportunities* (pp. 95–114). Springer International Publishing. https://doi.org/10.1007/978-3-030-42699-6_6

Fetzer, James H (2004). Disinformation: The use of false information. *Minds and Machines*, *14*(2), 231–240. https://doi.org/10.1023/B:MIND.0000021683.28604.5b

Flores Vivar, Jesús Miguel (2019). Inteligencia artificial y periodismo: Diluyendo el impacto de la desinformación y las noticias falsas a través de los bots. *Doxa Comunicación. Revista Interdisciplinar de Estudios de Comunicación y Ciencias Sociales*, *29*, 197–212. https://doi.org/10.31921/doxacom.n29a10

Gutiérrez, Ana Luisa (2024, April 5). Televisa y TV Azteca perderán ingresos de propaganda política a causa del streaming. *Expansión*. https://expansion.mx/empresas/2024/04/05/streaming-quitara-ventas-de-propaganda-a-televisa-tv-azteca

Hernandez-Roy, Christopher, Bledsoe, Rubi & Marma-Gutierrez, Gabriela (2023). Ensuring information integrity in electoral processes in the Americas. *CSIS*. https://www.csis.org/analysis/ensuring-information-integrity-electoral-processes-americas

Himelein-Wachowiak, McKenzie, Giorgi, Salvatore, Devoto, Amanda, Rahman, Muhammad, Ungar, Lyle, Schwartz, H. Andrew, Epstein, David H., Leggio, Lorenzo & Curtis, Brenda (2021). Bots and misinformation spread on social media: implications for COVID-19. *Journal of Medical Internet Research*, *23*(5), e26933. https://doi.org/10.2196/26933

Hoehn, Marek (2022). *Los Bots en las redes sociales y los riesgos para la democracia* (Serie Minutas No 84-22). Congreso Nacional de Chile. https://obtienearchivo.bcn.cl/obtienearchivo?id=repositorio/10221/33854/1/Informe_31_22_Social_Bots.pdf

Howard, Philip N., Woolley, Samuel & Calo, Ryan (2018). Algorithms, bots, and political communication in the US 2016 election: The challenge of automated political communication for election law and administration. *Journal of Information Technology & Politics*, *15*(2), 81–93. https://doi.org/10.1080/19331681.2018.1448735

Hsu, Tiffany & Myers, Steven Lee (2023, June 25). A.I.'s use in elections sets off a scramble for guardrails. *The New York Times*. https://www.nytimes.com/2023/06/25/technology/ai-elections-disinformation-guardrails.html

Kinosian, Sarah (2022, November 29). Trolls, propaganda & fear stoke Bukele's media machine in El Salvador. *Reuters*. https://www.reuters.com/investigates/special-report/el-salvador-politics-media/

Knuutila, Aleksi, Neudert, Lisa-Maria & Howard, Philip (2020). *Global fears of disinformation*. Oxford Internet Institute.

Krippendorff, Klaus (2004). *Content analysis an introduction to its methodology* (2nd ed.). Sage.

Lazer, David M. J., Baum, Matthew A., Benkler, Yochai, Berinsky, Adam J., Greenhill, Kelly M., Menczer, Filippo, Metzger, Miriam J., Nyhan, Brendan, Pennycook, Gordon, Rothschild, David, Schudson, Michael, Sloman, Steven A., Sunstein, Cass R., Thorson, Emily A., Watts, Duncan J. & Zittrain, Jonathan L (2018). The science of fake news. *Science*, *359*(6380), 1094–1096. https://doi.org/10.1126/science.aao2998

Li, Qian, Liu, Qian, Liu, Shaoqiang, Di, Xinyue, Chen, Siyu & Zhang, Hongzhong (2023). Influence of social bots in information warfare: A case study on @UAWeapons Twitter account in the context of Russia–Ukraine conflict. *Communication and the Public*, *8*(2), 54–80. https://doi.org/10.1177/20570473231166157

LOI N° 2018-1202, 2018-1202 (2018).

Magallón Rosa, Raúl (2019). Verificado México 2018. Desinformación y fact-checking en campaña electoral. *Revista de Comunicación*, *18*(1), 234–258. https://doi.org/10.26441/RC18.1-2019-A12

Malamud, Carlos & Núñez Castellano, Rogelio (2024). *Elecciones en América Latina (2024): ¿fin del voto de castigo al oficialismo?* Real Instituto Elcano. https://www.realinstitutoelcano.org/analisis/elecciones-en-america-latina-2024-fin-del-voto-de-castigo-al-oficialismo/

Martini, Alice (2023). Global silences as privilege: The international community's white silence on far-right terrorism. *Security Dialogue*, 09670106221142425. https://doi.org/10.1177/09670106221142425

Marwala, Tshilidzi (2023). Artificial Intelligence in Politics. In Tshilidzi Marwala (Ed.), *artificial intelligence, game theory and mechanism design in politics* (pp. 41–58). Springer Nature. https://doi.org/10.1007/978-981-99-5103-1_4

Miao, Weishan, Huang, Dianlin & Huang, Ying (2023). More than business: The de-politicisation and re-politicisation of TikTok in the media discourses of China, America and India (2017–2020). *Media International Australia*, *186*(1), 97–114. https://doi.org/10.1177/1329878X211013919

Montesinos, Carlos (2022, July 4). Twitter, un campo de batalla para bots pro y anti-AMLO. *Reporte Indigo*. https://www.reporteindigo.com/reporte/twitter-un-campo-de-batalla-para-bots-pro-y-anti-amlo-redes-sociales/

NetzDG - Gesetz Zur Verbesserung Der Rechtsdurchsetzung in Sozialen Netzwerken (2017). https://www.gesetze-im-internet.de/netzdg/BJNR335210017.html

Neuendorf, Kimberly A (2017). *The content analysis guidebook* (Second edition). SAGE.

Nimmo, Ben. (2022, September 27). Removing coordinated inauthentic behavior from China and Russia. *Meta*. https://about.fb.com/news/2022/09/removing-coordinated-inauthentic-behavior-from-china-and-russia/

OECD (2019). *Artificial intelligence in society*. Organisation for Economic Co-operation and Development. https://www.oecd-ilibrary.org/science-and-technology/artificial-intelligence-in-society_eedfee77-en

Ouchchy, Leila, Coin, Allen & Dubljević, Veljko (2020). AI in the headlines: The portrayal of the ethical issues of artificial intelligence in the media. *AI & Society*, *35*(4), 927–936. https://doi.org/10.1007/s00146-020-00965-5

Paavola, Jarkko, Helo, Tuomo, Jalonen, Harri, Sartonen, Miika & Huhtinen, Aki-Mauri (2016). Understanding the trolling phenomenon: The automated detection of bots and cyborgs in the social media. *Journal of Information Warfare*, *15*(4), 100–111. https://www.researchgate.net/publication/311991960_Understanding_the_Trolling_Phenomenon_The_Automated_Detection_of_Bots_and_Cyborgs_in_the_Social_Media

Park, Sunoo, Specter, Michael, Narula, Neha & Rivest, Ronald L. (2021). Going from bad to worse: From Internet voting to blockchain voting. *Journal of Cybersecurity*, *7*(1), tyaa025. https://doi.org/10.1093/cybsec/tyaa025

Peralta, Luis Alberto (2021, October 11). Las empresas de "trolls", desde dentro: Con contrato y nómina. *Cinco Días*. https://cincodias.elpais.com/cincodias/2021/10/11/companias/1633906211_327336.html

Ramírez Plascencia, David, Ochoa Zuno, Álvaro & Alonzo González, Rosa María (2025). Dataset Media coverage of bots for politics in Mexico [Data set]. Zenodo. https://doi.org/10.5281/zenodo.14813949

Riffe, Daniel, Lacy, Stephen, Fico, Frederick & Watson, Brendan (2019). *Analyzing media messages: Using quantitative content analysis in research*. Routledge.

Robins-Early, Nick (2023, July 19). Disinformation reimagined: How AI could erode democracy in the 2024 US elections. *The Guardian*. https://www.theguardian.com/us-news/2023/jul/19/ai-generated-disinformation-us-elections

Rowling, Charles M., Jones, Timothy M. & Sheets, Penelope (2011). Some dared call it torture: cultural resonance, Abu Ghraib, and a selectively echoing press. *Journal of Communication*, *61*(6), 1043–1061. https://doi.org/10.1111/j.1460-2466.2011.01600.x

SB 1001- CHAPTERED (2019). https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB1001

Schmuck, Desirée & von Sikorski, Christian (2020). Perceived threats from social bots: The media's role in supporting literacy. *Computers in Human Behavior*, *113*, 106507. https://doi.org/10.1016/j.chb.2020.106507

Silverberg, David (2023, February 14). Could AI swamp social media with fake accounts? *BBC News*. https://www.bbc.com/news/business-64464140

Soto Martínez, Víctor (2022). *La regulación legal de los bots en la experiencia comparada* (Serie Minutas No 84-22). Congreso Nacional de Chile.

Sputnik (2021, November 1). Nicaragüenses repudian en redes sociales sanciones de Facebook a sandinistas. *Diario Digital Nuestro País*. https://www.elpais.cr/2021/11/01/nicaraguenses-repudian-en-redes-sociales-sanciones-de-facebook-a-sandinistas/

Stringhini, Gianluca & Zannettou, Savvas (2020, August 13). Political trolls adapt, create material to deceive and confuse the public. *The Conversation*. http://theconversation.com/political-trolls-adapt-create-material-to-deceive-and-confuse-the-public-135177

The Guardian (2022, May 1). 'Troll factory' spreading Russian pro-war lies online, says UK. *The Guardian*. https://www.theguardian.com/world/2022/may/01/troll-factory-spreading-russian-pro-war-lies-online-says-uk