Fake news on social media sites :
A Study on social bots effects and solutions

Sebti Faiza [1]

[1] University of batna 1, faiza.sebti@univ-batna.dz

Abstract:

This research paper aims to provide an overview of fake news on social media sites, with a focus on social robots as one of the reasons for spreading fake news, as they contribute to the individual receiving a large number of news and reports daily that may be false or misleading.

So this study addresses social networking sites as open platforms where everyone can interact and post, even bots, which creates the problem of the spread of fakes news and fabrication of data therefore, this study ultimately seeks to suggest solutions to this dilemma.

Keywords: Fake news; social media; social bot; Digital media; Journalism.

Corresponding author: Sebti Faiza, faiza.sebti@univ-batna.dz

1. INTRODUCTION

Social networking sites are a group of Internet-based services that allow their users to create and exchange content, and this confirms their positive impact on various aspects of individuals' social lives, such as communication, establishing friendships, chatting, and other advertisements, strengthening social relationships, and organizing efforts to confront the effects of disasters .

However, social media sites are also the scene of three types of violations associated with excessive and harmful use and its unexpected consequences. Therefore, the spread of fake news has become a matter of concern to everyone in the face of the lack of knowledge and identification of who produces these contents, especially the opportunities provided by social media sites, where they have become. The individual himself is the one who sends, receives, and produces content within a circle that he defines through a group of social platforms and bots.

In 2016, the world witnessed the intrusion of social robots into social networking sites, which spread false news about Donald Trump's US presidential election campaign via Twitter, for example. A study revealed that 15% of social robots were behind the production of 19% of fake tweets. And misleading information, such as news about infectious diseases, that has disrupted public debate. Fake news reaches individuals faster than real news, which works to explode crises at the level of the lives of individuals and countries through fake accounts in order to cause unrest at all levels, whether political, social, economic, or security.

Therefore, this research paper reviews deceptive information and news and then the techniques used to manufacture fake news and envisions a scenario in which social bots evolve in a completely web to overwhelm social media with deceptive information that is automatically generated and disseminated in social networks, by understanding how false information spreads within a social network and programs adopted to confront this information, especially among journalists.

Therefore, we start our research path from a problem that consists of: How do social bots spread fake news through social media sites? What are the methods used to reduce it?

To address this research question, the descriptive approach (survey approach) was relied upon. Which is defined as an accurate and detailed description of a specific phenomenon or topic, in a qualitative, quantitative, or numerical form. The qualitative expression describes the phenomenon and explains its characteristics, while the quantitative expression gives us a numerical description that explains the amount or size of this phenomenon or the degree of its connection with various other phenomena.

Therefore, this research paper is based on the following objectives :

1. Defining the concepts of fake news, social bots, and social networking sites.

2. Controlling the types of fake news and how they spread.

3. Identify methods of creating fake news.

4. Explain the role of social bots in spreading fake news through social media sites

5. Identify ways to confront fake news.

2. Conceptual and theoretical framework.

2.1 Defining concepts:

Fake news: is the intentional dissemination of false information with the aim of deceiving, misleading, and manipulating the awareness of the masses. [1]. Alcott and Gentzkopf also define fake news as "news articles that intentionally fabricate and lie with the goal of misleading readers."[2]

Fake news reports appear to be a form of misinformation due to their lack of truth, but they do not have to be false in the literal sense of the word - they may only be misleading in that they state something that is literally true, but report something that is false. What turns false or misleading statements into fake news is a lack of truthfulness: fake news is consistent with the intention to deceive or express a disregard for the truth, in which case it falls into the category of nonsense.

Fake news is also known as information that is designed to confuse legitimate news with intentionally false news.[3]

Fake news is fabricated information that mimics news media outputs in form, but not in organizational process or intent. Notably, fake news outlets lack media standards and editorial processes to ensure the accuracy

and credibility of information. It is a subcategory of false, incorrect or misleading information about the state of the world.[4]

On the basis of this, we can formulate a definition of **fake news** as news that is harmful to the truth in that it (a) lacks truth and (b) lacks honesty. It shows the lack of truth in the sense that it is either false or misleading. It is dishonest in the sense that it is published with the intention of deceiving.

Social bots: Social bots: The term "bot" is an abbreviation of the word "robot." Bots are programs that automatically perform touches and repetition without human intervention. For example, they are used to send spam.

Social bots, a type of bot that emerged with the rise of social platforms in the early 2000s, are active on social networks. They are distinct from other types of bots in that they interact with users on a social level. For instance, on Twitter, they may post tweets or operate chatbots to inform users about a folder delay. Similar projects are available on WhatsApp. For messaging services, Telegram proposes a single interface for bot programming.

Social bots are computer-guided social networking accounts that mimic human behavior, similar to chatbots. They can appear in groups, called botnets, and can be used to spread spam or support politicians or others through promotional campaigns.[5]

As defined, these are automated programs that carry out interactive tasks with Internet users, the most famous examples are bots programmed to automatically respond to some basic customer inquiries via social media sites.[6]

Social networking sites: means a system of electronic networks that allow the subscriber to create his own website, and then link it through an electronic social system with other members who have the same interests and hobbies, or bring it together with high school and university friends.[7]

2.2 The Mechanics and Varieties of Fake News Diffusion on Social Media

The nature of social media allows any user to create and transmit content, based on the freedom of expression that these sites offered to citizen journalism, which helped expand the spread of deceptive news.

Fake news uses multiple forms of slander, falsification, and humor in order to create false information that is characterized by excitement and rapid communication with individuals, as it is distributed through multiple channels such as the yellow press, popular newspapers, and websites.[8]

Fake news also relies on basic pillars, the most important of which is the sense of humor in order to spread it on social networking sites. In America, for example, humor is considered one of the best news stories that contain in its content fake news for the purpose of ridicule and its goal is to reach quickly among individuals through text messages, Twitter. , The YouTube.[9]

Based on this, there are six types of fake news, according to the study conducted by Addison Tandoc, Cheng Wei Lim, and Richard Ling in 2017 and published by Digital Journalism, which confirmed that these types depend on their ability to combine truth and... Misinformation. Fake news does not only include lying and fabricating news, but it also includes using incomplete and distorted facts to reach its goal. These types are represented in:[10]

-News Paroday:

This type shares with its predecessor the reliance on making the audience laugh, but it is based on unreal and illogical information, so news stories are sometimes completely fabricated.

-News Fabrication:

It is news that is based on falsifying the truth and its goal is to mislead and distort. Its objectives are often political. Its fabrication is difficult to distinguish and is characterized by rapid spread.

-Photo Manipulation:

It constitutes an unreal and misleading message. Manipulating images has become easy and quick due to the modern means of communication and

technology that have made it possible to modify images using easy programs, such as adding a country's flag to a picture of detainees under torture.

-Advertising and Public Relations News:

It is not a clear advertisement, but rather in the form of news or a well -known report that the Republic directs to the purchase of a certain product, such as publishing a newspapers about the increase in the demand for a component product with a reminder of its positive advantages, so only the addition of the increase in the increase in the demand for it.

-Publicity news:

In it, propaganda news is built that affects public opinion, and it is based on a certain aspect of the truth while concealing the other aspects, such as a news report mentioning the achievements of a head of state or a political party, without addressing its failures and negatives, so it is framed in a positive way." with this: " Propaganda news is built to affect public opinion. It is based on a certain aspect of the truth while concealing the other aspects. For example, a news report might mention the achievements of a head of state or a political party without addressing its failures and negatives, so it is framed positively..

3. Techniques for creating false information

Digital information can take the form of text, audio recordings, images or videos, based on the latest technologies that can be used to manufacture fake and deceptive information.

3.1 Creating false information in text form:

This is through the design of computer systems that produce meaningful texts on a specific topic, as these systems use a variety of sources, such as inputting a set of numerical data or classifications.[11] and yet they still the difficulty lies in generating longer texts, because they require more vocabulary and can present more grammatical or semantic defects. As a result, generating fake news can be possible automatically but the resulting text may have poorly constructed sentences which raises suspicions.

3.2 Creating information in the form of audio recordings:

It is based on transforming and changing the voice through applications that modify it through a group of audio effects. These applications work to fabricate audio speeches of unknown origin. Examples of these applications include Voice changer, Voice changer effects, and Voice changer effects fx.[12]

3.3 Creating information in video form:

It is another technique provided by modern technologies for fabricating videos, controlling facial expressions and voice. This has opened the doors to fake speeches that are exploited to influence electoral campaigns or the political liquidation of some opponents or criminal gangs for blackmail or defamation, harming others, and even changing some historical footage.

Researchers from Samsung's Center for Artificial Intelligence demonstrated an algorithm in Moscow that can fabricate video clips using just one image, instead of a large data set. One of the most famous of these applications is Deep Fakes.[13]

4. Exploring the Role of Social Bots in Proliferating Misinformation Across Social Media Platforms:

Bots are online accounts that appear to be controlled by a human, but in reality, they operate using "artificial intelligence." They coexist with humans according to the system associated with social networking sites, as they can interact with other users in this social system. For example, they can tweet or send Emails and engage in conversations using language naturally through instant messaging, it is through this process that bots provide that they can spread fake news.[14]

Researchers believe that the use of political bots and falsification of facts has played a fundamental role in them, such as the "Brexit" referendum on Britain's exit from the European Union, and the competition between "Trump" and "Clinton" in the 2016 US presidential elections, as bots (artificial intelligence tools) enable computers to Play the role of humans and manipulating public dialogue.[15]

So, social bots take a social media approach. For example, a Twitter bot can behave in the same way as any human user who tweets and sends direct messages. On the contrary, Facebook bots can be, by their creator's choice, prevented from interacting using instant messages or group posts.

Indeed, social bots can spread deceptive information, but they still rely on humans to produce meaningful fake news.

5. Journalists confront fake news.

Journalists today suffer from the dilemma of fake news, information pollution, and media misinformation campaigns at the global level, and the difficulty of journalists in besieging them or distinguishing between true and false information that is published through social platforms.

Based on this, there has been a lack of trust in the media and the press due to the presence of information defects and the spread of false information through digital media platforms and social networking sites, which required journalists and researchers to develop radical solutions to combat and reduce it as a result of its danger to the individual and society, as false news carries misleading information. It is deceptive and deliberately fabricated with the intention of deceiving the other party and urging him to believe the lies and question the facts, which are published on the Internet and gradually transmitted to the media to achieve several goals, such as political, social, or otherwise, and to influence local or international public opinion.

Therefore, journalists today work in an era in which what is called "Post Truth" and "Alternative Facts" prevail in the American administration and two types of information, Disinformation and Misinformation. Therefore, it is necessary to clarify these two types:[16]

Disinformation: it is the process of spreading false information that a person deliberately spreads to achieve hidden goals and objectives for a specific agenda.

Misinformation: Inaccurate information circulated among users that may be harmful.

5.1 Empowering Journalists to Combat Fake News: Media and Digital Literacy Tools.

The rise of social media sites have opened the way for journalists to escape from verifying the content of information before publishing it, and not often following the path of information and not identifying the source of media information. This is what provides the opportunity to expand misleading news. And journalists fall into it.[17]

Accordingly, media and digital education is considered an alternative solution to confront and combat false news, especially for media professionals to reconsider the truth of the news published through social media sites, through the following:

- Providing media professionals with skills in dealing with media (traditional and modern).

- Auditing, analyzing and evaluating advisory communication messages on social media platforms and sites.

- Refer to sources of information to ensure its validity and credibility.

- Using techniques and tools provided by the Internet to verify information and detect fake news.

The role of media education is crystallized in developing the critical thinking capabilities and skills of journalists and individual employees, which makes it clear that thinking critically is an important element of dealing consciously with media outlets and platforms and identifying negative and positive messages published and broadcast through them. Which makes it easier to stop", with this: "The essence of media education lies in fostering critical thinking capabilities and skills among journalists and individual employees. This underscores the crucial role they play in dealing consciously with media outlets and platforms. By identifying and understanding the negative and positive messages published and broadcast through these channels, they are better equipped to halt the spread of false news.

Media education is also based on the need for media professionals and media institutions to adhere to the principles, standards and ethics of the journalism profession, which does not publish false news.[18]

5.2 Electronic platforms as mechanisms for journalists to verify fake news:

Due to the spread of fake news across social platforms and the movement of bots that activated the activity of this news among users, and the inability of the media to classify and know the truthfulness of this news, this led to the efforts of social media institutions to launch specific programs, such as fact-checking initiatives and content verification tools, that audit and reveal the contents of this news in order to help media institutions and those among them:

- Google News initiative to help journalists as a tool that provides them with a database for all news stories. The initiative included disbursing 10 million US dollars to campaigns to spread media culture, in cooperation with the company's charitable arm, Google.org, to help young people differentiate between fake news and the truth. The company also supported a program estimated at $25 million in cooperation with YouTube to support video news, and $5 million to improve the audio capabilities of news organizations such as radio broadcasts.

Google has served as a supporting partner for the First Draft organization, which brings together journalists, academics and technologists to combat fake news and misinformation on a large scale. Google works with news organizations to create free tools to help these groups overcome technical challenges and to provide technical experts in areas such as how to... Automated handling.[19]

- In addition to the People Browser platform, which enables monitoring and gathering news and social media events based on time and location, this tool offers the ability to filter news based on credibility. Additionally, essential websites like Snopes are dedicated to identifying and debunking fake news circulating online, providing a valuable resource for verifying user-generated content. Image verification services such as Tineye, izitru, and Google Images play a crucial role in confirming the authenticity of visuals. Furthermore, platforms like the YouTube Data Viewer, developed by Amnesty International, serve as valuable resources for verifying video content.

- Initiatives on Facebook to combat fake news have emerged globally. In Algeria, a group of young individuals created a FAKE NEWS DZ page to tackle the spread of misinformation.[20]

6. CONCLUSION

As a final point, false news has found a suitable environment to expand through social networking sites on the one hand, and to employ social bots as a party to pass deceptive and fake messages without knowing who is framing them to achieve goals, whether political, social, or economic, and to cause disruption at the general level of society.

Moreover, the rampant spread of fake news presents a grave and immediate threat to the integrity of media and news institutions. The shift in journalists' approach to news and information, driven by financial gain, leadership, and media fame, has led to a dangerous neglect of verifying the authenticity of news sources. It is imperative that journalists reclaim their pivotal role in combating fake news by :

- Developing the concepts of media and digital education not only for media professionals but also for the public exposed to the media.

- Relying on critical thinking and analysis of communication contents and knowing their sources and the intended idea behind them.

- Building media observatories that combat rumors and misinformation.

- Relying on new programs to detect fake news.

- Finally, rather than denying false news, clarifying, explaining, providing evidence, and referring to the source related to the topic is necessary.

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