

How Do Facebook and YouTube Exacerbate the Spread of Misinformation?

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On my honor as a University Student, I have neither given nor received
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In today's world it is undeniable that social media companies are expanding at an increasing rate. Whether from online news websites or social media, the general public is beginning to move away from traditional forms of news media (i.e. television, newspapers, etc.). While social media platforms offer a more interactive experience with current events, there have been growing concerns about how social media platforms lack the traditional gatekeeping standards that ensure the veracity of information related to current events compared to traditional media sources. As a result, social media companies have been faced with an ever-growing responsibility to prevent the dissemination of misinformation about current events.

Understanding and addressing such issues is critical to successfully navigating the evolving news media landscape. Considering the size of their user base and influence in the news media ecology, YouTube and Facebook as a case study provide a comprehensive instructional basis for exploring these considerations.

This paper looks to illuminate answers to the following question: How do Facebook and YouTube exacerbate the spread of misinformation? To answer this question, this paper frames these problems with an Actor Network Theory ([ANT](#)) framework. To contribute a more holistic understanding of this technical characteristic of social media platforms, this paper investigates researching tools that Facebook and YouTube use to promote content and the ethical factors that play into how they are used. To provide a deeper understanding of the varying perspectives on the societal impact of this issue, this paper compiles the perspectives of scholars, policymakers, and social media representatives from surveys and to obtain a deeper understanding of how and why misinformation spreads on social media.

Background

The conversation about the ethical implications related to both Facebook's and YouTube's level of control as a media source is multifaceted and its understanding requires some groundwork. In order to provide a comprehensive understanding of this subject, it is vital to recognize that misinformation and disinformation are often misused terms. Misinformation is broadly defined as false or inaccurate information, regardless of whether there is an intent to mislead (Oxford English Dictionary). Conversely, disinformation is characterized by false or inaccurate information that is intended to mislead (Oxford English Dictionary). In the context of social media, making this distinction is important because both misinformation and disinformation often have their respective issues rooted within YouTube and Facebook that this paper will attempt to bring attention to.

The first notable controversy related to Facebook in the past year has focused on the platform's decision not to factcheck political advertisements. More specifically, it is worthwhile to discuss the recent conversations that have arisen from Elizabeth Warren's attempt to post political advertisements that were intended to be misleading. In short, this political advertisement stated that Facebook's CEO, Mark Zuckerberg, endorsed President Trump's re-election, which was not a verified fact (Kaplan & Kang 2019). While the advertisement was primarily engineered to promote Warren's campaign to disband the power of large social media companies, it has also generated considerable debate about the level of control social media companies should have over the dispersion of information in the first and how it can be more effectively identified. As a result, the post drew attention to the fact that Facebook openly allowed misinformation to be spread during the last election cycle which forced Mark Zuckerberg to allow untrue statements about himself to spread on his own platform.

While Elizabeth Warren's political advertisement served to be a promotional form of disinformation, there are a variety of other cases that involve more malicious intent. YouTube has faced considerable criticism for its lack of effort put forward in the spread of intentionally false conspiracy theories developed by foreign actors. Like most other social media platforms, YouTube strives to keep users on their platforms as long as possible so as to gather the maximum amount of advertisement revenue. In order to do so, YouTube relies heavily on its recommendation algorithm to generate video suggestions that are most likely to keep a user engaged. Perhaps the most well-known example that demonstrates the presence of politically motivated disinformation on YouTube is the Internet Research Agency (IRA). Sharing close ties with Russian intelligence, the IRA aimed to amplify the discussion of divisive political issues during the 2016 election. Possessing highly advanced knowledge of YouTube's recommendation algorithm, the IRA possessed thousands of political YouTube accounts with autonomously generated content aimed to evoke emotional response on fictitious political events (Isaac, 2017).

While disinformation is certainly a threat to the authenticity of news media, it is important to recognize that misinformation on social media is viewed as an even more complex issue. As a whole, misinformation is much more difficult to detect because it contains some grain of truth in its content. Rather than entirely fabricated stories, influence agents tend to reframe genuine content to fit with hyperbolic headlines (Wardle 2019). For example, in 2019, a slowed video of the House Speaker Nancy Pelosi circulated throughout social media that generated speculations that she appeared drunk in office. While the video itself was genuine, it demonstrates how easily true information can be adapted to fit a new narrative and spread quickly.

STS Framework

Actor Network Theory ([ANT](#)) is broadly defined as a systematic way to describe the infrastructure surrounding technical achievements (“Actor Network Theory (ANT),” 2019). Originally developed by Bruno Latour, Micheal Calloun, and John Law, this framework emphasizes and considers all human and nonhuman factors – no one acts alone (Latour 2005). This framework is particularly useful in understanding how social effects are generated as a result of different actor networks. It should be noted that ANT does not necessarily aim to explain why particular networks come into existence; it is more interested in the overall infrastructure of actor networks and how they are formed and taken apart. Given this characteristic of ANT, its primary criticisms are grounded on the notion that it treats human actors with the same level of agency as non-human ones which is often viewed by other scholars as a framework that is inherently immoral. In the context of misinformation on social media, this framework is a convenient resource when discussing the social effects of both human and non-human stakeholders.

In order to apply this framework to the issue of misinformation, it is important to identify who are the key human and technological actors. While there are many, the most notable of which include policy makers, those who run and represent social media companies, the audience (or social media users), and malicious actors (those who are motivated to spread misinformation on social media). Furthermore, it is important to understand the role of non-human actors in this network as well. In the context of this paper, the non-human actors take the form of technologies used by social media companies to curate content unique to individual users (i.e. recommendation engines). In addition to identifying the actors themselves, it is also vital to

consider their individual theories or concepts of how social media brings value -- as these theories typically don't align among all relevant actors considered in this paper.

One example that applies the ANT framework to the YouTube and Facebook network in the context of misinformation, are the conflicts of interests between the social media companies themselves, policy makers, and the general public. Social media platforms are often predicated on the fact that content must be distributed in such a way that maximizes revenue while also preserving brand image. Additionally, social media platforms strive to seek growth while also emphasizing the rights to free expression. While the right to free expression should certainly be emphasized in the values of social media platforms, it has evolved to be a divisive topic of conversation in the political sphere. This was certainly apparent following the 2016 election as more suspicions were generated following the discovery of the IRA. As a result, there has been heated conflict between both social media companies and politicians over how social media should be regulated. While social media companies strive to promote free expression, politicians want to ensure national security from foreign social media manipulation. The grey area of this issue is how much social media can be regulated without impeding basic human rights.

Research Question and Methods

This paper looks to illuminate answers to the following question: How do Facebook and YouTube exacerbate the spread of misinformation? Framing the issue of misinformation with an Actor Network Theory framework, this paper contributes a more holistic understanding of the technical characteristics of social media platforms by investigating news articles and researching tools that Facebook and YouTube use to promote content and the ethical factors that play into how they are used. To provide a deeper understanding of the varying perspectives on the societal

impact of this issue, this paper compiles the perspectives of scholars, policymakers, and social media representatives from surveys and to obtain a deeper understanding of how and why misinformation spreads on social media.

Results and Discussion

Given Facebook and YouTube's ever-growing presence in news media, it is difficult to ignore that they are among the most prominent figures contributing to the Information Age. While research studying the effects of misinformation and disinformation has certainly increased within the last decade, this issue has been most closely observed through a political lens -- surrounding concerns regarding the effects of misinformation on democracy, foreign intervention, and freedom of speech. Regardless of the context in which this issue is discussed, the methods through which misinformation can spread on Facebook and YouTube is multifaceted; therefore, it is worthwhile to consider both the technical and social processes that contribute to the issue.

Traditional news media consumption, especially involving political topics, is largely directed by an individual's personal preferences. As a result, an individual will choose news that aligns the most closely to their own political views. The content viewed on social media, however, is primarily dictated by an individual's own social ties. Therefore, news presented with social endorsements increases the probability an acquaintance reading a particular story (Bakshey 2012). According to a study conducted on 10 million U.S. Facebook users demonstrated that approximately 20% of the social connections maintained by an average user were ideologically dissonant. This is characteristic of Facebook, in addition to other social media platforms, is often recognized by researchers as key contribution to the growth of two

mechanisms through which false information can manifest and spread: echo chambers and filter bubbles. Echo chambers is a term that is commonly used to describe scenarios in which individuals are only exposed to information supplied from other like-minded individuals. In contrast, filter bubbles are not created through social affiliation -- instead filter bubbles are used to represent scenarios in which content is filtered based on a user's past behaviors on social media. Filter bubbles are often viewed as a consequence of algorithmic recommendation engines that many social media platforms utilize to increase user engagement. As a result, YouTube and Facebook have received significant criticism for implementing this technology in their platform. For example, a recent research study of Alt-right content on YouTube found that its algorithm is speculated to steer users towards more extreme content (Auditing radicalization pathways on YouTube 2020).

Beyond the users themselves, it is also important to consider the financial motivations that contribute to the spread of misinformation on both Facebook and YouTube. Like most social media platforms, financially driven misinformation disseminators generate their profit in the form of advertisement revenue. By producing content with controversial headlines and a variety of verifiably inaccurate narratives, these actors utilize Facebook and YouTube to direct more traffic to their own news sites containing advertisements to generate a profit. Although Facebook has taken some measures to counteract this type of content, these news sites are still able to operate with relative success. The primary reason this content is able to spread so quickly is not due to bots or algorithmic manipulation, but rather human nature. A recent study investigating the differential diffusion of all verified and false news stories on Twitter from 2006 to 2017 expands on the root cause of this issue:

Our analysis of all the verified true and false rumors that spread on Twitter confirms that false news spreads more pervasively than the truth online. It also overturns conventional wisdom about how false news spreads. Though one might expect network structure and individual characteristics of spreaders to favor and promote false news, the opposite is true. The greater likelihood of people to retweet falsity more than the truth is what drives the spread of false news, despite network and individual factors that favor the truth. Furthermore, although recent testimony before congressional committees on misinformation in the United States has focused on the role of bots in spreading false news, we conclude that human behavior contributes more to the differential spread of falsity and truth than automated robots do (*The spread of true and false news online | Science*, n.d.).

In the political sphere of this issue, it is also worthwhile to discuss the political motivations for spreading misinformation. Following the discovery of Russia's online disinformation campaigns during the 2016 presidential election, newer forms of these campaigns have been found to be less passive and push for more adversarial narratives (*The New Trends of Influence Operations – GDI*, n.d.). The most current example of these politically motivated misinformation and disinformation campaigns can be observed from China's response to Hong Kong's protests. Research conducted by the Australian Strategic Policy Institute (ASPI) revealed that the core focus of the government's social media response was to portray the protestors as advocates for violence (King et al., 2017). Perhaps more concerning is that almost no academic research has been devoted to the study of the misinformation that is politically driven.

The scholarly viewpoints on misinformation have varied quite widely among several academic backgrounds. To date, the most comprehensive survey that represents this diverse array of opinions on misinformation is Pew Research Center's report "The Future of Truth and Misinformation Online." For the survey, 1,116 experts on the subject were asked the following question:

In the next 10 years, will trusted methods emerge to block false narratives and allow the most accurate information to prevail in the overall information ecosystem? Or will the quality and veracity of information online deteriorate due to the spread of unreliable, sometimes even dangerous, socially-destabilizing ideas? (*The Future of Truth and Misinformation Online* | *Pew Research Center*, n.d.)

Overall, the survey was fairly indifferent, 51% of experts surveyed expect that the information environment will not improve. This subset of responses generally cited the following two reasons for this opinion: (1) fake news ecosystem preys on our deepest human instincts and (2) our brains are not wired to contend with the pace of technological change. Conversely, the 49% of respondents who believe that the information environment will improve justified their answer on the grounds that (1) technology will enable us to solve these problems and (2) it is also in human nature to come together and fix these issues (*The Future of Truth and Misinformation Online* | *Pew Research Center*, n.d.). Despite these widespread opinions, it is still fairly clear that some action needs to take place. Constance Kampf offered an interesting perspective on how this issue must be handled:

The answer depends on socio-technical design – these trends of misinformation versus verifiable information were already present before the internet, and they are currently being amplified. The state and trends in education and place of critical thinking in curricula across the world will be the place to look to see whether or not the information environment will improve – cyberliteracy relies on basic information literacy, social literacy and technological literacy. For the environment to improve, we need substantial improvements in education systems across the world in relation to critical thinking, social literacy, information literacy, and cyberliteracy (*The Future of Truth and Misinformation Online* | *Pew Research Center*, n.d.).

Beyond removing suspicious accounts, information literacy has recently become a growing focus in Facebook’s efforts to curb misinformation. For example, in 2019 Facebook made the decision to partner with several fact checking companies including PolitiFact and The Associated Press to review newsworthy content on the platform. Conversely, YouTube has not made such efforts. Former YouTube engineer, Guillame Chaslot, was one of the many former employees that highlights this concern. To draw more attention to this issue, Chaslot created algotransparency.org in an effort to reveal the mechanisms behind YouTube’s video recommendation algorithm (*How an ex-YouTube insider investigated its secret algorithm* | *Technology* | *The Guardian*, n.d.). In the context of public policy, countries including France and Spain have already enacted legislation to fight misinformation. France’s legislation gives authorities the power to remove fake content on social media, even blocking the sites that publish it. Furthermore, the legislation also enforces more financial transparency for sponsored content in the three months before election periods (*A guide to anti-misinformation actions around the*

world—Poynter, n.d.). The US, however has not taken significant measures to fight misinformation however that is not to say some existing policies are laying the groundwork. Perhaps the biggest step to date was the Honest Ads Act, which requires social media platforms to be more transparent with who is purchasing and funding online advertisement campaigns.

Although more overall effort has been put towards the prevention of misinformation online, there is much work to do in both the public and private sphere. In order to more effectively address the multifaceted issue of misinformation, more research will be needed. As of now, the Hewlett Foundation’s review of scientific literature on misinformation has found eight key research gaps that must be filled in order to more effectively resolve misinformation on a large scale. The following research gaps include: (1) better estimates of the effects of exposure to information and disinformation online; (2) cross- and multi-platform research; (3) disinformation spread through images and video; (4) the generalizability and comparability of U.S. findings; (5) the role of ideological asymmetries in mediating the effect of exposure to disinformation and polarization; (6) the effects of new laws and regulations intended to limit the spread of disinformation; (7) better understanding of the strengths and weaknesses of different methods of bot detection and analysis; and (8) the role of political elites in spreading disinformation (Tucker et al., 2018).

In the context of Actor-Network Theory, there are several key human and non-human actors. These actors include those who represent social media platforms, politicians, social media users, and the technology used to curate content on social media. By applying this framework to the issue of misinformation, it is easier to understand the causal relationships and interactions that enable misinformation to spread. In addition to the actors themselves, their theories perceptions about the YouTube and Facebook network are of particular importance because of

the extent to which their theories are not aligned with each other. For example, the perception of YouTube and Facebook to the social media representatives is that they are a platform to distribute information in a manner that keeps users engaged. As result, these companies employ techniques utilizing machine learning to drive complex recommendation engines that produce content that is most likely to keep users engaged with the platform as long as possible. Furthermore, social media representatives strive to embody the freedom of speech within their platform and as a result are less likely to cooperate with restrictive policies that impede this right. As mentioned previously, this conflict of interests between political actors and social media companies was apparent during Elizabeth Warren's advertisement campaign on Facebook. Facebook's decision to bypass their policies on truthful advertising for political ad campaigns was criticized on the grounds that social media companies value financial gain rather than veracity of information on their platform. Regardless of Facebook's true intentions, this conflict of interests between social media platforms and politicians is certainly growing to be a more divisive issue as politicians become more reliant on social media for their campaigns.

Conclusion

It is clear that the issue of misinformation on Facebook and YouTube is multifaceted. Misinformation can spread not only through technological avenues but through social habits. As discussed previously, there are also political and financial motivations that continue to perpetuate this issue. Therefore, it is crucial that the proper measures are taken to address several domains -- not only within the management of Facebook and YouTube, but also in the political and social domains. The current efforts taken to expand information is currently the most effective tool that prevents the dissemination of misinformation and disinformation, however there is much work to

be done in both academic research and public policy. Currently, social media platforms have been reluctant to provide more data to aid this research. As these companies become more ingrained in global issues, the expansion of this academic research will be crucial to the understanding of the scale and overall effect of misinformation campaigns.

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