

A New Threat to Democracy?

Examining the Democratic Implications of the Social Bot
Phenomenon



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Abstract

Social media provides tools that enable people to share their political views and coordinate collective action and has often been praised for entailing numerous democratic opportunities. But what happens when someone finds a way to exploit these tools? Social bots, algorithmically driven software programs designed to mimic and possibly alter human behavior on social media forums, have been used to manipulate public opinion during several major political events during the last few years. The purpose of this study is to analyze the social bot phenomenon from a democratic perspective. Our research question is *what are the democratic implications of the use of social bots in political discussions online?* To answer this, we have applied a theoretical framework consisting of James S. Fishkin and Christer Karlsson's deliberative democracy theories on three empirical cases when social bots have been used to manipulate the political discussion: (1) the 2016 U.S. presidential election, (2) the manipulation of public opinion in Venezuela during 2015, and (3) Russian interference in global politics. Our findings suggest that the use of social bots indeed has democratic implications, mostly because the bots spread inaccurate information on political topics and distort political discussions online by enhancing certain opinions and inhibiting others.

Keywords: democracy, deliberative democracy, democratic implications, social bots, social media

Words: 8772

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1 Introduction

1.1 Introduction and background

Nicholas Thompson, a columnist for the *Boston Globe*, wrote an article in 2002 titled “Freedom to Flame” in which he stated that the online political discussion climate was “an insult to democracy”. Online discussions, he argued, lacked the intellectual depth he usually associated with discussions about political issues. Arguments were oversimplified; people were less polite to each other than in real life and were often unable to find common ground (Thompson, 2002). Even though the article dates back fifteen years, his point will likely resonate with users of social media.

Despite this, several researchers in the field of Internet studies have demonstrated that social media can entail numerous democratic opportunities (Kaplan – Haenlein, 2010; Tufekci – Wilson, 2012; Clay, 2011). Social networks like Facebook, Twitter, and Youtube have provided people with tools to share their political views and coordinate collective action worldwide in a powerful manner. Since Thompson wrote his article, the world has seen a number of political and social movements that have made efficient use of online forums for communication, coordination, and deliberation. One could claim that social media played a large role in the revolutionary wave of demonstrations and protests known as the Arab Spring, or that the Occupy Wall Street movement would not have been as successful if Twitter had not enabled millions to organize across continents. In the last months, millions of women have rallied behind the #metoo hashtag in an uprising against sexual harassment (France, 2017). Samantha Madison, a journalist at govtech.com, claims that thanks to social media there are more social and political movements and protests today than at any given time in history (Madison, 2017). In other words, if you have access to a computer with Internet and are not too restricted by limited free speech, you could potentially contribute to significant societal change.

And yet, Thompson is not the only one who has been critical towards the role that social media has played in a democratic society. In 2006, researcher Philip Howard raised further concerns about the potential negative effects that social media might have on a democratic society. He argued that ICT (information and communication technologies) alter the nature of the political discussion and make it difficult to oversee the democratic discussion, resulting in a number of practical setbacks for policy makers (Howard, 2006). He asked the question: If politicians are unable to listen to their constituents due to the emergence of social media, how can they successfully carry out their wishes? Around ten years later, an article was released in the *Economist* that argued that while social media once was considered “a boon to democracy”, it has now become its nemesis (The Economist, 2017: 21-23).

A central concept in the development of these trends is the emergence of *social bots*. Social bots, short for social robots, are algorithmically driven software programs capable of emulating and potentially altering human behavior on social media (The Economist, 2017: 21-22). They were reportedly used for the first time in 2010 in small numbers by unknown sources, mostly to spam users with advertising. In 2016, however, their presence online made headlines as they seemed to interfere with the U.S. presidential election by generating one out of five political messages on Twitter (The Economist, 2017: 21).

1.2 Aim of study

The purpose of this study is to contribute to a deeper understanding of how advancements in digital media affect the political sphere. Specifically, we want to examine the use of social bots in political discussions on social media and investigate what democratic implications this use might have. Although the social bot phenomenon is relatively new, it has been studied quite extensively during the last couple of years. Several of the studies on this topic claim that the use of them entails a number of democratic implications, but few of them specify in what way.

With its multidisciplinary approach, this study aims to contribute to both the field of democracy studies and the field of digital media studies by applying democratic theories to the social bot phenomenon. To achieve this, we will answer the following research question:

- *What are the democratic implications of the use of social bots in political discussions on social media?*

To concretize our investigation, we will present three empirical cases in which social bots have been used to manipulate the political sphere. Our study has interdisciplinary relevance since it generates a deeper understanding of the social bot phenomenon, and as it applies democracy theory on a phenomenon where it has not, to our knowledge, been applied before, giving the study theory developing tendencies. It also has outer disciplinary relevance since it gives the reader a better understanding of how the political sphere is affected by new advancements in digital media. (Teorell – Svensson, 2013: 18).

2 Method and disposition

In order to answer our research question, we need to (1) present a theoretical framework on which we will base our analysis, (2) define and explain some central concepts that we consider to be essential in order to understand the social bot phenomenon, and (3) present an empirical review of secondary sources that highlight the ways in which social bots have been used in political contexts. The following part of the essay is dedicated to explaining the methods used to achieve this and how we have chosen to limit our research.

2.1 Theoretical framework

Due to the high level of abstraction of the term democracy, a precise definition is required in order to achieve high validity in the analysis (Esaiasson et al., 2012: 59). We will therefore choose a democracy definition that is suitable for our purpose based on relevant democracy theory. However, since our investigation focuses on the political discussion, we have chosen to limit our analysis to only investigate what implications the use of social bots has for a deliberative democracy. Deliberative democracy theory is a branch of democratic theory that refers to a process in which opinions and preferences are formed by rational discussions (Karlsson, 2003: 214). The core of a deliberative democracy is the discussion itself, and we therefore consider a deliberative democratic perspective suitable when investigating the democratic implications that may emerge from the use of social bots in online political discussions. In order to assure validity of the investigation, we have chosen to work cumulatively by using existing theories we consider relevant for the study (Esaiasson et al., 2012: 20).

We have chosen to mainly use James S. Fishkin's democracy criteria in our theoretical framework since we consider his theories to be both relevant and highly applicable to our research topic. He is one of the most eminent researchers in the field of deliberative democracy, and we find his deliberative democracy theory to create a solid theoretical base. However, there are aspects of deliberative democracy theory not considered by Fishkin. Therefore, we will also apply Christer Karlsson's theories, since we find his perspectives on deliberative processes to serve a complementary purpose. Karlsson argues that one must highlight the prerequisites that enables for a deliberative process to occur (Karlsson, 2003: 215). Since we are focusing on political discussions in online forums, it is highly relevant for us to analyze if the prerequisites required for a deliberative process exist in online forums.

However, it is important to take into consideration that Karlsson's theory was written in 2003, before the invention of social networks. Therefore, parts of his deliberation analysis are not applicable to today's discussion. However, we find parts of his analysis of a deliberative process interesting to apply on the online discussion climate. We will thus present Karlsson's theory in the theoretical selection of our thesis, and apply it to today's discussion in the analysis.

We consider a combination of Karlsson and Fishkin to constitute a solid theoretical framework, allowing for both an extensive perspective and depth in the analysis. However, the choice to assume these theories causes other perspectives to be disregarded - perspectives that could potentially bring different outcomes for the analysis.

2.2 Central concepts

The presentation of our theoretical framework will be followed by a section in which the concepts that are central for our purpose will be explained. We consider this to be necessary due to the complexity of the social bot phenomenon.

Firstly, we will define various definitions of terms and concepts that occur throughout the essay. Secondly, we will explain how social bots can be used in general, but not present specific examples of when they have been used in political contexts. We will instead leave that for the empirical review. Lastly, we consider it important to highlight how the political discussion is increasingly taking place on social media forums, since that assumption is central to our essay. We will also demonstrate people's tendency to adapt to mainstream opinion based on a social psychological theory of influence. However, since it is not a part of our main theoretical framework, it will be presented in this part of the essay instead of in our theory section.

2.3 Limiting ourselves to the social bot phenomenon

Social media has changed the political discussion climate in multiple ways. Consequently, it can be studied from many perspectives. However, we have chosen to limit ourselves to the social bot phenomenon, both because it is a relatively new and unexplored phenomenon, and because it enables us to obtain depth in our analysis.

2.4 Selection of empirical cases

By using certain software programs, it is possible to analyze the occurrence of social bots on social media platforms. However, we have chosen to rely on secondary sources for our empirical evidence in order to perform a more comprehensive theoretical analysis. We consider it more interesting to focus on the consequences that the social bot phenomenon entails, rather than the existence of social bots itself.

We have chosen to focus on three political contexts in which social bots have been used to manipulate the political discussion in one way or another: (1) the 2016 U.S. presidential election, (2) the manipulation of public opinion in Venezuela during 2015, and (3) Russian interference in global politics.

We chose to focus on these contexts because we consider them to be major events in the global political context. Secondly, the researches conducted on these political occurrences were of high quality. Lastly, since they highlight a number of different ways in which social bots can be used, they provide us with a broad empirical base on which we can apply our theoretical framework.

3 Theory

As previously stated in the method, this study aims to investigate the role of social bots in the online political discussion climate, and will lean on a theoretical framework of deliberative democracy. The deliberative aspect is essential for our purpose, since the core of a deliberative democracy is the discussion itself. However, before we present our theoretical framework on which the analysis will be based on, a theoretical definition of the term democracy will be presented. The main theoretical framework that we will use is a combination of Karlsson's analysis of what prerequisites enable a deliberative process to occur and Fishkin's criteria for what constitutes a deliberative process.

3.1 Definitions of democracy

The term democracy can be considered vague and abstract, and in order to use it in an analysis, a theoretical definition is essential. Democracy is a widely studied area, and there are multiple different definitions and theories to regard when investigating the phenomenon. One of the most eminent researchers in the field of democracy is Robert Dahl. This study will therefore use Dahl's democracy definition, to create a solid theoretical base for what constitutes a democracy.

Dahl detects a discrepancy between democracy as a normative ideal and democracy as a practical institution. He therefore sees empirical studies of democracy to be problematic (Ekman, Linde – Sedelius, 2014: 23). To describe the ideal democratic process, Dahl formulates five criteria: effective participation, voting equality at the decisive stage, enlightened understanding, control of the agenda and inclusiveness. However, he considers no existing country today to have reached the ideal of democracy to perfection (Dahl, 1989: 106-114). To concretize the discrepancy between democracy as an ideal and a political institution, he has created a different concept for democracy as an institution: polyarchy. Polyarchies are the modern countries that strive to meet the democratic criteria. According to Dahl, these countries might have institutions that can be described as democratic, but fail to reach the theoretical utopian framework Dahl has created (Dahl, 1989: 220-222).

To specify the criteria for a democratic process, effective participation occurs when citizens have adequate and equal opportunity to express their preferences as to the final outcome. They must also maintain the opportunity to place questions and express reasons for endorsing one outcome over another. The second criteria, voting equality at the decisive stage, denotes that each citizen must maintain an equal opportunity to vote, and each vote must have equal weight in the decision making process. In determining outcomes, the votes must be the sole sources of the decision. Enlightened understanding proposes that each citizen must maintain equal opportunity to discover and validating what choices on the political agenda would best serve their interest. Control of the agenda means that citizens ought to have the opportunity to understand the means of political matters and the opportunity to decide how matters are to be placed of the political agenda. Inclusion refers to the fact that the democratic process must extend to all citizens within the state (Dahl, 1989: 106-114).

Democratic countries today strive to meet these ideal criteria. Advocates for deliberative democracy claim that with deliberative tools, countries are able to approach the five criteria (Fishkin, 2014: 30-31). We will therefore proceed with a theorization of the term ‘deliberative democracy’, which will constitute the main theoretical framework for the analysis.

3.2 Deliberative democracy

Deliberative democracy refers to the process of decision making by discussion among free and equal citizens. In a deliberative democracy, the core of democracy can be found in the discussion itself. Advocates for deliberative democracy stresses the process where individual preferences are formed, rather than the process of making individual preferences into collective decisions. Hence, it is the discussion, rather than the negotiation or voting mechanism of a democracy that is emphasized (Karlsson, 2003: 214).

In the anthology *Demokratins Mekanismer*, Christer Karlsson seeks to find a theoretical definition of what constitutes a deliberative process. In order to do so, he claims one must separate deliberation as a phenomenon in itself from the prerequisites that enable it to occur and from the effects that deliberation entail (Karlsson, 2003: 215). Since the area of investigation in this study is the political discussions that take place *before* a decision is made, we mainly seek the prerequisites that make a democratic process deliberative, and it is therefore the part we will mainly emphasize.

Karlsson defines a deliberative democracy as a process in which actors through communication based on rational arguments seek to change and shape preferences of others (Karlsson, 2003: 219-220). In identifying important aspects of the prerequisites that enable deliberation, Karlsson brings up three relevant questions: *who* is talking, *how many* actors are involved in the conversations and *where* does the discussion take place. The first two questions relate to the distinction between a direct or an indirect participation in a debate. Deliberation can be considered to occur between citizens, on an elite level between representatives for a larger amount of the population, or between citizens and representatives. When analyzing the question of *how many*, the answer depends on whether or not we accept that deliberation occurs between representatives, and thus if indirect participation by representatives for the citizens is counted. Accordingly, a discussion may occur on a direct or an indirect level (Karlsson, 2003: 215-217).

The question of *where* connects to the distinction between the private and the public spheres. The core of deliberation is to rationally reflect over the goals of political actions, and over which means that would generate the best results. In Karlsson’s description of a deliberative process, he presents a notion that the “real” deliberation occurs in the public sphere. Though he declares deliberation may also occur in the private sphere, between friends and family, he states that it is without much result, since discussions on an individual level did not have the impact that Internet today has allowed them to. Karlsson furthermore states negative consequences that can be brought from discussions in the public space. People in the public sphere tend to adapt to what is perceived as politically correct without reflection. Others may also claim a distinct position in the debate, in order to appear secure. These tendencies affect the conditions for a rational discussion and therefore the quality of the deliberation process (Karlsson, 2003: 215-217).

We have hereby presented aspects to be considered when investigating the prerequisites that enable a deliberative process to occur. We will proceed with the presentation of our theoretical framework by presenting Fishkin's deliberative theory. Political Science professor James S. Fishkin considers the two fundamental aspects that constitute a deliberative democracy to be inclusion and thoughtfulness. To capture and specify these, Fishkin presents five criteria that constitute a deliberative process: information, substantive balance, diversity, conscientiousness, and equal consideration. The extent to how well these criteria are met determines how deliberative a society is (Fishkin, 2014: 31). To specify the criteria:

1. Information

Information refers to the extent to which participants are given correct and accurate information relevant to the issue of discussion. This criterion is met when all participants of a discussion are provided with all information needed to choose a well-founded position.

2. Substantive balance

Substantive balance is achieved when arguments offered by one side is answered with consideration from participants holding different perspectives.

3. Diversity

For diversity to occur, all major political positions in society must be represented by participants in the discussion. No considerable opinion in society can be disregarded for the discussion to be diverse, and different positions should be provided with space in proportion with the opinions of the participants in the discussion.

4. Conscientiousness

Conscientiousness specifically means the extent to which arguments offered by participants in the discussion are sincerely weighed by the merits of the argument. Conscientiousness is at risk when other characteristics may cause opposing participants to give more attention to those than what the argument actually consists of. In divided societies, attitudes about characteristics like ethnicity or nationality may over shine attitudes over the arguments itself. Conscientiousness is a presumption for equal consideration to occur.

5. Equal Consideration

Equal consideration refers to the extent to which arguments offered by all participants are considered on the merits, regardless of who offers them. Just as conscientiousness, this criterion is at risk for societies that are divided, and participants of opposing groups may risk not being considered at all.

These are thus the criteria that, according to Fishkin (2014), should be considered when stating how deliberative a process is. In the analysis, we will use this combined framework to analyze how the prerequisites for a deliberative process to occur is affected by the discussions taking place on social media, and how a deliberative process is affected by the use of social bots in political discussions (Fishkin, 2014: 31).

4 Explaining central concepts

4.1 Definitions

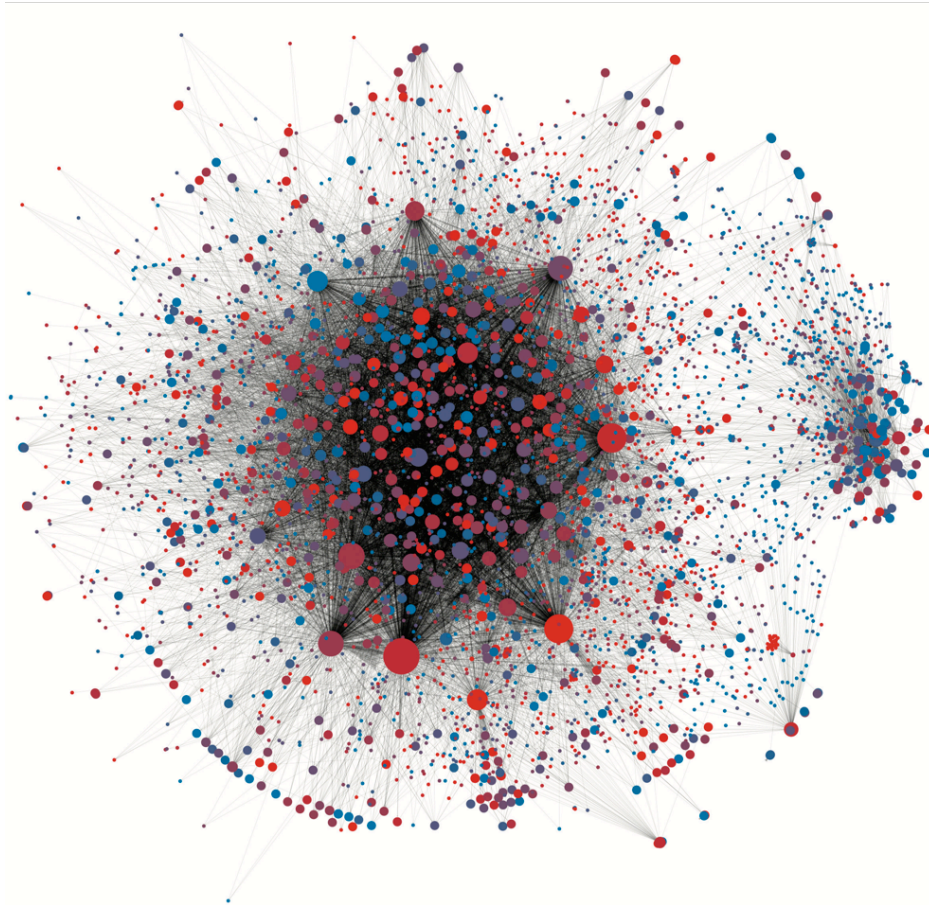
Here, we will present a list of short definitions of terms that we use throughout the essay.

1. Social media feed/web feed: a format on social media that provides users with frequently updated content (Social Brite, 2017).
2. Hashtag: a word or phrase preceded by hash sign (#) that are used on social media forums to identify messages a specific topic. The hashtag can have its own feed, where social media content concerning the topic is gathered (Oxford Dictionaries, 2017).
3. Social media content: blog posts, comments, likes and other forms of interactions that occur on social media.
4. Tweet: a micro blog post posted on the social media forum Twitter. (A retweet is a repost of a tweet (Oxford Dictionaries, 2017)).

4.2 Social Bots

Social bots are algorithmically driven software programs designed to mimic human behavior on social media sites such as Facebook, Instagram, Twitter, Youtube, and Reddit. They are designed to produce large amounts of social media content and interact with human users to alter their behavior (Ferrara et al., 2016). Due to advancements in artificial intelligence technology, some social bots are sophisticated enough to appear like human users. Many social bots are benign, in the sense that they are used mostly to promote products or increase a user's follower count, but some are employed in large numbers to alter political opinion, spread misinformation, steal personal information, and manipulate the stock market (Ferrara et al., 2016). While there is software that can be used to determine how many users in a given population that are bots, it is currently difficult to determine who employs them. What is known, however, is that around 50-60 % of social media content today is produced by social bots (Ferrara et al., 2016).

The following image is a visualization of retweets by Twitter users related to a specific hashtag: #SB277. The hashtag was used in connection to a law on vaccination requirements and exemptions in California. Each dot represents one Twitter user, and the links between the dots show how information spreads among users. The larger a dot is, the more times a user has been retweeted, and a dot's color represents how likely it is that the user is a bot. If a dot is red, it is most likely a bot. If it is blue, it is most likely a human user. The purple dots are difficult to categorize (Ferrara et al., 2016).



(Visualization courtesy of Indiana University, provided by Ferrara et al., 2016)

While this visualization does not represent the entire online discussion, it effectively illustrates that bots can be used to affect, and possibly manipulate, the online discussion about vaccination policy.

As previously stated, social bots can be used in a number of ways. Lutz Finger, data scientist at Cornell University, categorizes three main uses of social bots in his article “Do Evil - The Business Of Social Media Bots” (Finger, 2015):

- Mischief: e.g. signing up an opponent with a lot of fake identities and spam the account or help others discover it to discredit the opponent
- Bias public opinion: influence trends by countless messages of similar content with different phrasings
- Limit free speech: important messages can be pushed out of sight by a deluge of automated bot messages (Finger, 2015)

In our empirical review, we will specify how this has been done in political contexts.

4.3 Political participation on social media and the online political discussion climate

As previously stated, a key factor of a deliberative democracy is the political discussion itself. In this section, we will explain in what ways the political discussion is increasingly taking place on social media and clarify some elements of the online political discussion climate that we consider important for our purpose.

Jacob Svensson argues that there has been a shift in political engagement due to the emergence of social media applications. According to him, social media has changed the ways in which people take part of information and communicate with each other. He states “digital services and social media [...] provide citizens with new tools to arrange and participate in possible forms of activities [our translation]” (Svensson, 2014: 29). He continues to explain how social media thereby has broadened the ways in which we can participate in the political discussion and that political participation. Traditionally, political participation has taken place in parliamentary contexts, but it now exists on social media as well (Svensson, 2014: 55).

Filter bubble is a term coined by Eli Pariser in 2011 and refers to how content on social media platforms is being filtered in social media feeds according people’s preferences and what is trending online (Pariser, 2011). For example, there are around 15 000 posts everyday that could potentially be shown to you in your Facebook feed, but people generally have time to see around 100 of these. What is trending online is, among other things, based on how many likes posts get (Pariser, 2011). Therefore, being able to manipulate the amount of likes posts receive equals being able to, to some extent, manipulate the political discussion. Research suggests that people think that the content seen on their social media feeds is a diverse selection mirroring the public opinion, when in fact, it is not (Pariser, 2011). This can generate a biased worldview that confirms and reinforces a person’s current opinion, and meanwhile conceals other perspectives. This is important for our analysis, since we examine how social bots are used to affect what the content that show up in people’s news feeds, and thereby what people perceive as the general public opinion.

Social proof serves a social psychological explanation for why we adapt to the mainstream. The effects social bots have on the public opinion can therefore be explained through this perspective. Psychology and marketing professor Robert Cialdini states in his studies of influence and persuasion six principles of influence, where he considers “social proof” to be the strongest of these. The principle of social proof is that we view a behavior as correct in a given situation to the degree that we see others performing it (Cialdini, 2009: 99). People act based on what they observe among others. Attitudes are therefore strongly affected by the public opinion. Because of the complex nature of political questions, many people base their opinion and position in discussions where they perceive others to be. Social bots can manipulate the perception of a mainstream, which may in turn further affect other users, with opinions based on ‘false social proof’.

5 Empirical cases

5.1 2016 U.S. presidential election

In the study “Social bots distort the 2016 U.S. presidential election online discussion”, researchers Alessandro Bessi and Emilio Ferrara investigate how the presence of social media bots affects political discussion surrounding the 2016 U.S. presidential election. They based their research on a large sample of Twitter data that they collected for an extensive period of time just before the election. Their dataset consisted of over 20 million election-related tweets generated by around 2.8 million users, and was then analyzed with software programs designed by the authors to determine how many social media users in a given population consisted of bots. They found that over 400,000 accounts, around 15 % of the studied population, were likely bots, and that they together produced around 3.8 million tweets – nearly 20 % of the whole conversation (Bessi – Ferrara, 2016).

Furthermore, by categorizing the bot tweets based on the occurrence of value-based words, Bessi and Ferrara (2016) could determine if the tweets contained a positive or negative message about the candidates. They found that the social bots – especially the ones employed to support Donald Trump – created tweets that were mostly positive, and that this resulted in “a stream of support that is at staggering odds with respect to the overall negative tone that characterizes the 2016 presidential election campaigns” (Bessi – Ferrara, 2016). They concluded that using social bots in this manner could result in a biased perception among those exposed to the stream of support. Individuals could potentially believe that a candidate is backed by organic, grassroots support, when in fact it is all fabricated (Bessi – Ferrara, 2016).

Furthermore, Bessi and Ferrara (2016) also briefly mention another way to use social bots that was used during the U.S. election: *Twitter bombs*. Their study does not specify exactly how this strategy was used during the time before the election, but the review study “Automating power, social bot interference in global politics” conducted by Samuel C. Woolley (2016) explains the concept and how it was used during the U.S. election more thoroughly. He states that during elections, for example the 2016 U.S. presidential election, a political actor can use social bots to demobilize the followers of his or her political opponents. One way of doing this is to send Twitter bombs: large amounts of tweets sent out from thousands of bot accounts. The deployer uses hashtags that are used by the opponents and the “real” tweets are lost in a sea of fake ones, which makes it harder for the opponents to organize and communicate with each other (Woolley, 2016).

Based on their findings, Bessi and Ferrara (2016) formulated three key points about the general use of social bots:

1. Influence can be redistributed across suspicious accounts that may be operated with malicious purposes
2. The use of social bots can result in a more polarized political conversation online
3. Social bots can enhance the spread of misinformation, and unverified information can be enhanced (Bessi – Ferrara, 2016)

5.2 Manipulating political opinion in Venezuela

In the study “Political Bots and the Manipulation of Public Opinion in Venezuela”, the authors investigate how bots have been used in the Venezuelan political context. They collected all the tweets that interacted with six key politicians’ Twitter accounts during the period January 1st to May 31st in 2015. Four of the candidates were from the ruling party, and two were from the opposition – reflecting the parliamentary balance of parties (Forelle et al., 2015: 3).

The focus of their study was not to determine exactly how much content bots had created in the studied population, but rather to determine how social bots were used to specifically manipulate public opinion. To do that, they looked to retweets. To retweet, you share a tweet written by someone else on your own Twitter account. If a large number of users share your tweet, it is more likely that more people will see it. Therefore, to determine if bots were actively trying to manipulate the balance of the online political discussion, they examined how many social bots retweeted these six politicians and how many times (Forelle et al., 2015: 2).

According to their findings, bots generally generate a very small portion of the studied traffic on social media, but are nonetheless used to manipulate the public discourse (Forelle et al., 2015: 1). In addition, bots were mostly used by the radical opposition, or rather; most of the bots were used to enhance the views of the radical opposition. While only 2 % of retweets from the entire dataset were performed/done by bots, around 7 % of the retweets from the dataset related to the radical opposition were social bots. Furthermore, a large number of bots pretended to be branches of government, parties or actual politicians. The purpose of using these accounts to retweet the tweets from real politicians was to enhance their reputation on the international arena (Forelle et al., 2015: 6).

The authors summarized their findings in two main points. Social bots were used during 2015 in Venezuela to:

1. Spread news and information about current political events related to certain politicians
2. Enhance the image/reputation assigned to certain politicians in an international context (Forelle et al., 2015: 5).

5.3 Russian interference in global politics

A strong increase of Russian bots was detected in the years 2014-2015. With the Russian annexation of Crimea and the ongoing conflict in Eastern Ukraine, started in 2014, and the assassination of a Russian opposition leader Boris Nemtsov in 2015, Russian politics suffered a period of great turbulence. The case study *Detecting Bots on Russian Political Twitter*, Denis Stukal (et al) analyzes the activity of bots in the Russian political Twitter-sphere from February 2014 to December 2015. There was a strong increase of Russian bots, both in Russia and in the rest of the world. Using a highly precise method, accounts could be classified as bots through a bot detection algorithm. In analysing the accounts active in the online political discussion on Twitter who tweeted at least 10 times

during the measured period, results showed that 85 % were bots. This number is significantly higher than the share of bots on Twitter as a whole (Stukal et al., 2017).

When seeking to detect a bot, a sign is usually that the account is tweeting significantly more than real human users. However, findings from this study suggest the bots in the Russian political discussion at the time was not tweeting remarkably more than human users, at least not the accounts captured by the studies' criteria. This was probably a strategy to avoid being detected as bots, and to have the account secluded (Stukal et al., 2017).

Findings of the study suggest bots were mainly used to tweet headlines from recent news, although leaving out the link to the original article. Bots could also be used to retweet the article itself. Doing so creates a false perception of larger discussions among certain news than actually occurs, a strategy composed to impact rankings for news headlines (Stukal et al., 2017).

As probably guessed, most Russian bots in the political discussion generate pro-regime tweets. However, anti-regime bots have also been found in the discussion, with spreading information about activities of the opposition, and to diminish regime support by disparaging them. In non-democratic regimes, social media is often the only opportunity to gain information about anti-regime activities, and therefore serves an important purpose for spreading political message opposing the regime (Stukal et al., 2017).

The Russian use of bots in political discussions is however not an inference only applies Russia, expands to political events over the world. Countless news articles from the last few years' present political occurrences where Russian bots have interfered in global politics. In the 2016 US presidential election, the New York Times presented that hundreds or thousands of accounts posted anti-Clinton posts, where the hashtag #WarAgainstDemocrats was used 1700 times during Election Day. Twitter constantly updates a "trend" list with the most discussed topics or hashtags, and the cyber security firm FireEye suspects Russian bots to have caused the hashtag #HillaryDown to be listed as a trend (Shane, 2017).

The Times of London has also presented how Russian bots interfered during the UK "Brexit" referendum, urging people to vote to leave the European Union. In the days before the election, 150 000 Twitter accounts, previously tweeting in support of the annexation of Crimea, suddenly switched over to generating tweets about Brexit, supporting the suspicion that the accounts were Russian bots (Mostrous, 2017). BBC news of UK presented how Prime Minister Theresa May publicly accused Russia for trying to "*sow discord in the West*" by "*planting fake stories*", and with reference to Russia's spread of fake news and social media campaigns, May directly commented to Russian President Vladimir Putin: "*We know what you are doing and you will not succeed. Because you underestimate the resilience of our democracies, the enduring attraction of free and open societies and the commitment of Western nations to the alliances that bind us.*" (Lansdale, 2017).

6 Analysis

Now that we have established our theoretical framework, explained how social bots can be used to manipulate human behavior, and presented comprehensive empirical evidence that highlight how social bots have been used to shape political outcomes, we will now proceed to answer our research question: what are the democratic implications of the use of social bots in political discussions online?

6.1 Karlsson

To investigate the implications that the use of social bots in political discussions online have, we must initially analyze the environment that these bots appear in from a theoretical perspective. We will therefore commence the analysis by discussing how the deliberative aspect is affected by the fact that the discussion takes place on social media. We will analyze this through Karlsson's prerequisites that enable a deliberative democratic process.

As previously stated, a central component of his theory is the distinction between the private and public spheres. As we have highlighted, social media forums have provided the tools for any citizen to participate in the same political discussion as political elites. It can therefore be argued that the distinction between the private and public sphere that Karlsson has made has faded. Private discussions that used to occur solely between friends and family in closed rooms now occur in an open, accessible virtual public sphere. Some might argue that this shift in political participation could be considered a positive change. However, this means that the problems previously faced in the public sphere, exclusive to the political elite and representatives, now apply to all of those who participate in the political discussion online. This is essential when analyzing the democratic implications of the social bot phenomenon, since one of the problems for a deliberative process is that in the public sphere, people tend to adapt to what is considered politically correct or simply what is the mainstream opinion on certain topics. As highlighted in the case of Russian bot interference during the UK "Brexit" referendum, around 150 000 Twitter probable social bot accounts tweeted in favor of the UK leaving the European Union, or when Russian bots caused the hashtag #HillaryDown to be listed as a trend. Furthermore, Ferrara et al. (2016) concluded that social bots have been used to create a false stream of support as they did during the 2016 U.S. presidential election. These are examples of when social bots have been used to manipulate public opinion and thereby the political mainstream in the public sphere.

By analyzing the changes that have occurred in the private and public spheres by social media through the assumption that discussions in the public sphere can bring negative consequences for the prerequisites for a deliberative process, we can distinguish the implications the changes on social media have for a deliberative democracy. The fact that a large part of the political discussion has moved to social media, where social bots simulates perceptions

of false mainstreams, brings with it implications for the prerequisites for a deliberative process to occur.

6.2. Fishkin

As previously stated, our main theoretical framework is Fishkin's five criteria for a deliberative process: information, substantive balance, diversity, conscientiousness and equal consideration. We will now systematically analyze how each criterion may be affected by the use of social bots.

6.2.1 Information

This criterion refers to the extent to which participants are given access to reasonably accurate information that they believe to be relevant to the issue.

Social bots are constructed to generate social media content such as posts, comments, likes, retweets, and shares, all of which constitutes information. As long as users that are taking part of this content believe that the information is, in fact, generated by a human, the information is inaccurate. Consequently, all data generated by social bots results in a decrease of the extent to which participants in a political discussion online are given access to accurate information. To concretize, we will account for the different uses of social bots, and specify how they work to decrease the amount of accurate information.

As previously mentioned, most bots work to spread false information. For instance, Russian bots have spread messages encouraging people to vote "leave" in the UK "Brexit" Referendum. However, they can also work to "push away" relevant information. A bot can hijack a hashtag, for instance one that is created to coordinate collective support for an opponent, by producing a large amount of posts with random content in the feed of the hashtag. The information that users of the hashtag aims to spread can therefore be pushed out of sight and end up further down in people's social media feeds. This results in that users searching for information posted in conjunction with a certain hashtag will find nothing but random content.

Bots can also be created as fake accounts that are simulating specific people. As with the case of Venezuela, where bots pretended to be branches of the government with the purpose of retweeting tweets of actual politicians to enhance their position. Fake accounts can also be used to decrease the credibility of others, or prevent someone from achieving a goal. A political participant can for instance create multiple fake accounts simulating their opponent and program them to spam the feed. Numerous accounts simulating to be the same person, causes the real person's posts difficult to distinguish. It also decreases the real user's credibility, since others probably perceive the large amount of accounts with the same name, and therefore cannot be sure that the real user in fact is real.

Bots spreading information in large quantities can affect the general perception of certain opinions in the debate. The overall negative tone of the 2016 US presidential election debate was for instance affected by the stream of positive support in favor of Trump, created by bots. In conjunction with Brexit,

Russian bots spread messages encouraging people to vote to leave EU. Creating streams of support as exemplified is a way of manipulating what is perceived as the main stream. According to social psychological principles of ‘social proof’, this may result in larger support from others

As previously stated, if a social media user is taking part of digital content that is generated by a bot while believing that it is generated by a human being, the social bot phenomenon is contributing to a decrease of the amount of accurate information. We therefore consider this criterion to be affected by the use of social bots. Based on this, the use of social bots does indeed have democratic implications.

6.2.2 Substantive balance

This criterion refers to the extent to which arguments offered by one side or from one perspective are answered by considerations offered by those who hold other perspectives. Based on our empirical evidence alone, it is not possible to determine if arguments are being answered with consideration or not, simply because it does not give us any information about how participants react to the information that is being spread by social bots. All things considered, it is not likely that the emergence of social bots affect this criterion.

6.2.3 Diversity

This criterion refers to the extent to which the major positions in the public are represented by participants in the discussion. As mentioned before, this means that no considerable opinion in society can be disregarded for the discussion to be diverse, and different positions should be provided with space in proportion with the opinions of the participants in the discussion. There are two ways to approach this criterion.

First of all, we can examine considerable opinions can be discarded as a direct effect of social bot usage. When someone uses twitter bombs to disorient those that use specific hashtags, as during the 2016 U.S presidential election, considerable opinions can be discarded. In this way, social bots aggravate this part of the criterion.

Secondly, we can examine if social bots have been used to distort the balance of opinion. In the case of the U.S. election, the use of social bots resulted in a “stream of support was at staggering odds with respect to the overall negative tone that characterizes the 2016 presidential election” (Bessi – Ferrara, 2016). They found that the social bots – especially the ones employed to support Donald Trump – created tweets that were a lot more positive. Furthermore, in the case of Russian propaganda, 150 000 twitter accounts switched from supporting the annexation of Crimea to supporting the Brexit referendum (Mostrous, 2017). This is also a great example of how using social bots can result in the fact that different positions are not being represented in proportion with the actual opinions in the discussion. In Venezuela, where social bots were used mostly by the radical opposition, it brought with it implications in relation to the diversity criterion. The fact that 7 % of the retweets instead of 2 %, which was the normal number, from the dataset were in

favor of the radical opposition implies that there was a synthetic shift in the balance of opinion that most likely did not mirror the opinions of the general public.

Taking this account, we consider the diversity criteria to also be affected by the social bot phenomenon.

6.2.4 Conscientiousness

This criterion refers to the extent to which participants sincerely weigh the merits of the arguments. Due to the empirical evidence provided in this thesis, it may be difficult to assert exactly on what basis participants form their opinions in a discussion. This study does not extend to understand the extent to which participants sincerely weigh the merits of the arguments in a discussion, or if they create an opinion in a discussion based on other factors. To analyze this would require a qualitative method, in which participants in an online discussion would be interviewed. However, when assuming social psychological theories of influence, the way social bots affect the conscientiousness criteria can be estimated.

Social psychological theories of social influence support the fact that social proof in action and in attitudes has such a strong effect on people that one may not ‘sincerely weigh the merits of an argument’, but instead become inclined with following the mainstream of opinion, and what appears to be politically correct. Also, due to the change that has appeared in the political climate today, the simple and one-sided nature of the arguments results in that all the merits that should be weighed are not accessible. Opinions formulated in posts on social media are not allowed enough space for complete information and informative arguments. Instead, an opinion becomes more widely accepted if it has large public support. Social bots therefore have an impact on the discussion climate, since they maintain the ability to simulate a mainstream. In adapting the theory of social proof, it can be assumed that the simulated mainstream created by social bots maintain the ability to commence a snowball effect, where human users will adapt to this biased mainstream, and thus further enlarge it.

Thus, in assuming that people adapt to the mainstream opinion rather than sincerely weighing the merits of the arguments when forming their political opinion, it can be argued that the degree of conscientiousness is decreased by the presence of social bots in political discussions online.

6.2.5 Equal Consideration

Equal consideration refers to the extent to which arguments offered by all participants are considered on the merits, regardless of which participants offer them. Given the fact that the purpose of this study is to analyze the general patterns of a discussion, rather than the attitudes of individual participants, this study does not extend to understand whether all participants are considered or not. Equal consideration in a discussion is often challenged by divided societies, where arguments from an opposing side may not be considered as thoroughly as the ones offered from a participant's own side. Most social bots are created as random users generating desired content, except for the users created to

simulate specific people. Thus, the impact social bots have spur from the content they produce, rather than from who they claim to be. Therefore, we do not find it relevant to analyze them in terms of whether equal consideration occurs.

7.0 Summary, conclusion and further research

In this study, we have analyzed how social bots can be used to manipulate political discussions on social media from a democratic perspective. When establishing our theoretical framework, we chose to focus on the deliberative aspect of democracy theory, since it emphasizes how opinions are formed during political discussions. We created our own theoretical framework for a deliberative democracy by combining theories from deliberative democracy theorists James S. Fishkin and Christer Karlsson. Fishkin has presented five criteria that constitute a deliberative process, and Karlsson adds the perspective of which prerequisites enable a deliberative process to occur. We have highlighted how social bots are used to manipulate the political discussion by spreading inaccurate information, enhancing certain opinions by creating false perceptions of mainstreams, and inhibit other opinions by aggravating political mobilization on social media.

Based on our findings, we can conclude that the use of social bots indeed has deliberative democratic implications. Karlsson's perspective has helped to highlight the implications that have been brought by the transfer of the political discussion to social media. This transfer has entailed that the discussions of the private sphere has moved into the public. Consequently, problems previously faced by the public sphere only, such as the tendency to adapt to what is perceived as politically correct or mainstream, now occur in the entire discussion. In line with Karlsson's theory, this has implications for the prerequisites that enables for a deliberative process to occur.

When investigating Fishkin's criteria for what constitutes a deliberative process, we have found that the criteria most affected by the use of social bots in online political discussions are information and diversity. The criterion 'information', which refers to the amount of accurate information available for participants in a democratic discussion, is perhaps the criterion most affected by the use of social bots. This is due to the fact that all content generated by social bots, where users assume it is generated by humans, contribute the decrease of accurate information available. The criterion 'diversity' refers to the extent to which the major positions in the public are represented by participants in the discussion. Social bots cause a distortion in the diversity of the discussion, since bots can enhance certain opinions and inhibit others.

Since the social bot phenomenon is relatively new, there is a lot of room for further research. For example, this essay has focused mostly on the fact that social bots have been used to manipulate the online political discussion. In the field of social psychology, it would be interesting to conduct both qualitative and quantitative research to gain a deeper understanding of *how effective* social bots are at manipulating public opinion. To what extent do people realize that they are interacting with a social bot? How much are people adapting to the mainstream on social media, and much of that is due to the use of social bots? Furthermore, it is likely that social bots are being used in more ways and in more contexts than current research in the field of digital media studies has been able

to highlight. By using software similar to the one that has been used in current research, it would be possible to further examine the occurrence of social bot use in other political contexts around the world. It would also be interesting to further investigate the *different ways* in which social bots are being employed, and as software becomes more advanced, try to determine *who* employs the social bots with more certainty.

We hope that this essay has achieved its purpose of contributing to a deeper understanding of how advancements in digital media affect the political sphere.

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