

## Z WARSZTATU SOCJOLOGÓW

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ORCID: 0000-0001-6544-8269***SOCIAL BOTS INFLUENCE**

Today social media represent a key role in the social life of people by connecting, enabling conversations, and discussions of topics. Therefore, social media brought many positive effects. They can raise awareness about certain issues or increase voting participation during political election. However, they can bring negative influence too. They have been around since the development of computers (Ferrara et al. 2016: 96). Social bots have become more prominent in social media in the past few years. Some bots can be helpful and harmless while others not, especially if the whole „army” of bots is used in coordinated fashion to exert influence on the campaign. Their influence has been reported as astroturfing, in other case they created a fake noise in the tech company, consequently leading to higher market prices (Davis et al. 2016). Therefore, in my essay, I will research the influence of social bots on social media platforms. I will analyze the growing use of social bots in political campaigning due to them being effective agenda setting tools for a purchaser. First I will describe what are social bots, next I am going to focus on their creation and how they exert influence, and what consequences they entail. In the second part of the essay, I will take a closer look at some cases where social bots use was prominent because they are a watershed moment when spreading political propaganda on social media with the help of new techniques. I will finish with conclusions.

**■ WHAT ARE SOCIAL BOTS?**

Social bots are automation software programs that can post messages and send requests to connect on social media platforms (Boshmaf et al. 2013). They are

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attached to social media accounts and completely or partly control them. It is often thought of them as a single entity composed of accounts and a mechanism controlling them. Social media systems function in terms of accounts and such accounts perform actions. Bots are programmed to intervene in the way knowledge and information is communicated and consequently they can be seen as a subcategory of algorithmic media elements (Murthy et al. 2016: 4955). Two types of social bots are distinctive: 1) benign, and 2) malicious. Benign bots respond automatically, perform other useful services and aggregate content. They are spreading information by themselves. An example of such bots can be sport bots, weather bots or traffic bots. Chat bots are also another type of such bots used by enterprises. On the other hand, malicious bots are meant to harm by running on social media platforms with fake identities and are meant to mislead, exploit, and manipulate the social media discourse. They are doing the latter by spreading false information, noise debates, include spam, theft of personal data and identities, and spreading malware (Ferrara et al. 2016: 98; Günther Thiele Foundation 2018). Critical literature on algorithms focus on the importance they have to access the information and harm openness of the speech. Great power is attributed to them in the communications system and how they become black boxes from the view of their critics and researchers (Murthy et al. 2016: 4955).

### ■ CREATION, EXERTING INFLUENCE AND THEIR EFFECTS

There are different ways on how to create social media bots. It differs from one social media platform to another. They can be created automatically while on other platforms people are needed to create the account. Existing accounts created by people can have bots attached to them with them knowing that or sometimes not. It happens when some control of the account is passed to a software agent. Social bot that is reposting tweets at certain intervals to make person's posts more visible is one example of that. The other case includes accounts that are not active or have not been used for quite a while by creators, are hijacked and sold as supplementary followers. Social bots can be added as followers even to accounts that are not in control of a purchaser (Murthy et al. 2016: 4956).

Social bots influence discussions on social media in three ways: 1) smoke screening, 2) misdirection, and 3) astroturfing. First method is used when social bots, for example, use context related hashtags on Twitter, like #Brexit and provoke/initiate a talk on something not related to the vote for the purpose of distracting readers from the main point. Second method is used when context related hashtags are not referred to the topic. This case applies when #Brexit is used but the tweet is not related to Brexit. Third method, astroturfing, gives

the impression that a message or a certain position is supported by the majority (Günther Thiele Foundation 2018).

Effects of social bots can potentially be implemented to the level of endangering democracy by spreading misinformation, affecting the stock market, causing panic during emergencies, they can also harm society in even subtler ways (Boshmaf et al. 2013). Their impact on democracy has been seen in elections when spreading fake news and polarizing the political discussion by giving the false impression of high popularity of certain information, even if they are not accurate (Günther Thiele Foundation 2018). In the past social bots' impact on the stock market was seen through their influence on stock market prices. Their messages are usually more negative than those of humans (P9Labs 2017) and Rui Fan, Oleksandr Talavera and Vu Tran (2018) found a strong association between tweet messages with trading volume and volatility but much less significant between tweet messages and stock returns. Impact of their tweets vanishes in around 30 minutes, and the more tweets they post, the bigger the effect is on trading volume, liquidity stock, and volatility. Investment decisions are made by trading systems working automatically and their fast reaction to news on social media platforms. Their impact on economy is carried out by their potential to harm the reputation of a company and its products, which can consequently lead to quite a financial damage (Günther Thiele Foundation 2018). Analyses of the largest social media platform for sharing music, SoundCloud, point toward bots being used to promote certain songs and consequently have influence on their popularity and wider distribution (Günther Thiele Foundation 2018).

In the last few years' detections of Twitter bots have become much more difficult than in the beginning. Twitter clearly states that spamming is against its rules, however the company has also stated in its terms of service that the fight against spamming is comparable to an arms race, because „[...] what constitutes spamming will evolve as we respond to new tricks and tactics by spammers” (Orcutt 2012). Social bots behavior is more sophisticated with harder distinction between what humans and social bots write. Social bots search the Web for information as they also do with social media to fill their profiles, they also „[...] post collected material at predetermined times, emulating the human temporal signature of content production and consumption – including circadian patterns of daily activity and temporal spikes of information generation” (Ferrara et al. 2018: 99). They are capable of even more advanced interactions like engaging in entertaining conversations, answering people's questions, commenting on people's posts (Hwang, Pearce, Nanis 2012).

## ■ CASES

The beginning of social bots' influence can be detected in the run up to the 2010 US midterm election in a study conducted by Jacob Ratkiewicz et al. (2011), which researched astroturfing on microblogging platforms by using the „Truty” system to identify astroturf memes' (hashtags, URLs, phrases, mentions of other Twitter users) activity.

Alessandro Bessi and Emilio Ferrara (2016) researched how social bots influenced the debate about 2016 US presidential elections. They collected tweets posted between September 16 and October 21, 2016. The content of these tweets was related to the election in three presidential debates using the Twitter Search Application programming interface and the list of keywords and hashtags. They included 23 terms in total, five specific hashtags for Donald Trump, and four for Hilary Clinton. Over 20 million tweets from about 2.8 million users were collected. They estimated that over 400,000 accounts are social bots, which stand up for almost 15 percent of the total population under study. Those accounts were responsible for around 3.8 million tweets, which stand up for almost 19 percent of the total conversations. Authors found out one deficiency of social bots: they failed to engage humans in the debate and end up interacting via replies with other bots much more often than with humans. The reason lies in the lack of sophistication of social bots to induce[or: get involved in] meaningful discussions. However, when taking a closer look at retweeting social bots and humans did that at the same rate. This suggests that social bots can be very effective, especially if humans fail to check the correctness of data provided. Bessi and Ferrara concluded that social bots have more negative impact on democratic political discussion rather than positive, which can consequently alter public opinion and endanger the integrity of the presidential election. Social bots can create three concerns when operating in online political discussion. The first one is that influence can be redistributed over suspicious accounts and have malicious purposes. The second concern refers to political debate becoming much more polarized, and the third one refers to the spreading and enhancement of false information (Bessi, Ferrara 2016).

Company Cambridge Analytica was linked to the 2016 presidential campaign of Donald Trump. Algorithms were used by the company to build profiles of people, Facebook users, that used app Thisismydigitallife and their friends with the purpose to profile them according to Big-Five personality traits and predict their political preferences. These people can be then targeted with ads specifically designed to fit with their personality and preferences. Consequently such data can be used as a powerful tool to predict and create tailor made adds to influence the voting outcome (Cadwalladr 2018).

Dhiraj Murthy et al. (2016), on the case of the United Kingdom (UK) general election of May 2015, researched the interaction between social bots and humans, and how the former influence conversational networks on Twitter (p. 4952). Authors focused their research on three events: 1) the last Prime Minister's Question Time just before the Parliament was dissolved, 2) the BBC Question Time broadcast of the same evening, and 3) the first leadership interviews of the campaign. These events were summarized by three hashtags: #PMQ for the first, #BBCQT for the second, and #BattleForNumber10 for the third. They used 12 volunteers who created new Twitter accounts and participated in writing tweets. Social bots were attached to half of the accounts while on others not. They concluded with findings of their social bots having very little effect on the conversation network due to the lack of social capital of newly set accounts. These accounts did not have a lot of followers, and followers are an indicator of social capital, so the more followers someone has, the bigger their capital is. Authors stressed that, when more resources or economic capital is put into social bots, the bigger their influence is (Murthy et al. 2016: 4965–4967).

Turkey's and Russia's use of social bots was also prominent. They use them for more than one purpose. Their bots were used to silence political opposition, sending out propaganda like pro-government tweets, and used for padding the number of social media followers (Woolley 2016).

In Russia the government uses bots to target the perceived cyber-security threats and political-cultural threats posed by foreign states. It was assumed that Russian bots were used to promote ideals of their regime and to fight anti-regime speech against targets abroad (Woolley 2016). Lawrence Alexander (2015) gathered and visualized data on approximately 20,500 pro-Kremlin Twitter accounts. He revealed attempts of a huge manipulation of information on RuNet – Russia's technology scene or Russian language internet community active on websites (Barnett 2011; Alexander 2015). Twitter is no exception to manipulation, social bots were very active during Russia's invasion on Ukraine, their fake accounts were designed to look very real with complete avatars. Few hours after the shooting of Boris Nemtsov on 27<sup>th</sup> February of 2015, fake twitter accounts tried to change the narrative. Most of the social bots in Russia followed other bots' accounts on Twitter to make accounts highly followed and give them credibility, however Alexander found that majority of these bots lacked information of time zone (96 percent), location (93 percent) and Twitter favorites (97 percent), they also almost never interacted with other Twitter users, except each other. Due to these findings he assumes that they have been created by the same agency (Alexander 2015).

In the case of Turkey, the government of president Erdogan and the opposition (Republican People's Army) have used social bots against each

other to spread propaganda and fight racism (Woolley 2016). Erdogan's army not only consisted of some 6,000 activists, whose job was to promote the party's perspective, but also thousands of fake Twitter accounts are part of it with avatars of models, actors, and even porn stars. 70 percent of fake pictures on the accounts were of women. To appear more authentic, fake Twitter accounts quoted also philosophers and not just hashtags of Justice and Development Party (AKP). They also followed a lot of other accounts to give the impression of highly followed accounts, however they mostly followed each other. In this case the aim was to manipulate Twitter trends, block certain hashtags and stop the opposition. Peter Nut, one of the researchers of this robot army, stressed that it is hard to identify who exactly was in control of them (Poyrazlar 2014).

In Mexico, politicians, contractors, and the federal government also used and employed social bots to attack in-state targets on social media. The Mexican government used spam tactics carried out by social bots on Twitter to salience opposition and stop public dissent. Pro-government propaganda has been executed by Peñabots, named after Enrique Peña Nieto, the former president of Mexico (Woolley 2016). As Mike Orcutt (2012) noticed about social bots, they are „[...] programmed to cast aspersions on opposing candidates and disrupt their social-media efforts. This large-scale political spamming could foreshadow online antics that campaigners may increasingly resort to in other countries”. The Institutional Revolutionary Party (PRI) was especially criticized for using thousands of social bots' accounts to post tweets with specific phrases with the aim to make topics more prominent and „hot”. The former president Enrique Peña Nieto has been the main target and possible beneficiary. There has been speculation that social bots were also used by other parties on national and state level elections, however their use has been infallibly connected to PRI (Orcutt 2012).

## ■ CONCLUSION

As it is evident, the use of social bots can be traced back to the 2010 US midterm elections, since then they became much more popular. Their use is not limited just to the US, social bots are prominent also in Russia, the UK, Mexico and Turkey (where both parties used them). As Murthy et al. (2016) found out in the case of the 2015 UK general election, the more resources or economic capital is put into them, the more effective they are. Even though it is hard to discover who ordered social bots their use seems beneficial for the purchaser. In the case of the Mexico PRI party it was clearly connected to the use of social bots and this benefited Enrique Peña Nieto. Their effective use also seemed fruitful in the

case of Turkey. Social bots are now even harder to detect and more complete than in the begging. In Russia and also in Turkey they had avatars with pictures and followed each other to give the impression of authenticity and consequently more effectiveness. The case of Cambridge Analytica also shows how powerful the use algorithms can be. However, they are still some downturns of social bots, as for example in the case of the US 2016 presidential election, as Bessi and Ferrara (2016) noticed. They followed mostly each other and responded to comments of each other while failing to engage people. The same also stands for Russia. However, they were first noticed in the 2010 US midterm elections and if they had not been effective, probably a few years later also the US and other states like Russia, Mexico, Turkey would have not used them. Due to fast developments in this field, making them even more complete and harder to distinct from human users of social media platforms, I think that they will be, as an effective tool in political campaigning, even more prominent in future and bring more benefits to the purchaser, therefore their use will spread out.

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## SOCIAL BOTS INFLUENCE

Use of social bots on social media platforms is spreading. Their use became prominent in US 2010 midterm elections and later in 2016 presidential elections between Donald Trump and Hilary Clinton. In Turkey and Russia social bots were not used just for one purpose, they silenced political opposition, sent out propaganda and padded the number of social media followers. They had avatars with pictures on social media platforms. Social bots were clearly connected to PRI party in Mexico, whose leader Enrique Peña Nieto won the 2012 election. The case of 2015 UK general election shows that when more resources are put into social bots, the more effective they are.

**Keywords:** social bots, social media platforms, political campaigning, influence