

ASTROTURFING
AS A GLOBAL PHENOMENON

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<p>Abstract</p> <p>This study is a literature review about a global phenomenon called astroturfing. There has been a lack of academic research concerning astroturfing. This study is conducted in order to give a basis for future research on the subject. The purpose of this study was to find out, what kind of phenomenon astroturfing is and how it has evolved in the course of time. The study also focuses on the criticism and concerns that astroturfing has raised. The theoretical part of this study provides basic information about astroturfing. It introduces various definitions to the term and provides an overview of cases concerning the subject. Also, special terminology related to the subject is introduced and astroturfing detection practices are presented. The method of this study is a literature review. A total of 58 articles were thoroughly examined and 15 of them were selected for the analysis. The analysis was completed as follows: finding the most relevant information concerning astroturfing about each article, with keeping the focus on the research questions. The results indicate that astroturfing is a global phenomenon with concerning nature, thus, it needs to be taken seriously. Astroturfing poses a threat to the credibility and reliability of organizations. It also deals with business ethics and it is considered as deceptive. Astroturfing was practiced earlier more on the political arena. Nowadays it is practiced commonly in online environment, and it has caused a negative effect on the online community as a whole. The latest research has been concentrating on astroturfing detection techniques. However, no single method has yet been discovered to resolve the issue.</p>	
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<p>Tiivistelmä</p> <p>Tämä pro gradu -tutkielma on kirjallisuuskatsaus ilmiöstä nimeltä astroturfing. Aihetta ei ole tutkittu paljoa akateemisesti, joten tämän tutkimuksen tarkoituksena on luoda perusta tulevaisuudessa tehtävälle aiheeseen liittyvälle tutkimukselle. Tutkimuksen päämääränä oli selvittää, millainen ilmiö astroturfing on, ja kuinka se on kehittynyt aikojen kuluessa. Tutkimus keskittyy myös siihen kritiikkiin ja niihin huolenaiheisiin, joita kyseinen ilmiö on herättänyt. Tutkimuksen teoreettinen osuus tarjoaa perustietoa ilmiöstä: siinä esitellään useita eri määritelmiä termille astroturfing ja tutustutaan aiheeseen käytännön esimerkkien avulla. Teoreettisessa osuudessa esitellään myös aiheeseen liittyvää erikoisterminologiaa ja ilmiön havaitsemismenetelmiä. Tutkimusmetodi on kirjallisuuskatsaus. Yhteensä 58 artikkelia käytiin huolellisesti läpi ja 15 niistä valittiin analyysiin. Jokaisesta artikkelista etsittiin olennaisin ilmiöön liittyvä tieto pitäen mielessä tutkimuskysymykset. Tutkimustulokset osoittavat, että astroturfing on globaali ja huolestuttava ilmiö, johon on syytä suhtautua vakavasti. Astroturfing uhkaa organisaatioiden uskottavuutta ja luotettavuutta. Ilmiö liittyy myös yritysetiikkaan ja ilmiötä pidetään petollisena. Astroturfing keskittyi aiemmin pääasiassa poliittisiin piireihin, mutta nykyisin sitä harjoitetaan tyypillisesti online-ympäristössä. Ilmiö onkin vaikuttanut negatiivisesti koko online-yhteisöön. Viimeisin astroturfing-tutkimus on keskittynyt ilmiön tunnistamistekniikoihin, mutta ilmiön tunnistamiseksi ja ratkaisemiseksi ei ole vielä löydetty aukotonta keinoa.</p>	
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1 INTRODUCTION

1.1 Introduction to the topic

This research gives a basic idea about a global phenomenon called astroturfing. It is a phenomenon with a lack of academic research. However, astroturfing has received important media coverage with increasing pace. It seems that astroturfing is a topical issue, which concerns the state, organizations as well as the public. Among other things, astroturfing has been connected with politics, grassroots mobilization, lobbying, and consumer marketing. Thus, it is a phenomenon that concerns the public. This research attempts to fill the gap in academic research about astroturfing by giving an overall picture about the phenomenon and providing a basis for future academic research.

Danny Bradbury wrote in the Guardian, in October 2013, about “the war against astroturfing”. The article reflects how topical the issue, astroturfing, is at the moment. It also reflects the attitude towards the subject with the expression ‘war’ in the headline. According to Bradbury (2013) The New York Attorney General ordered, in September 2013, 19 organizations to pay more than \$350,000 in fines, since they were discovered astroturfing. Although astroturfing has gained attention in the media in the past, as well as nowadays, not much academic research has been conducted concerning the subject. This study focuses on the research that has been carried out on

astroturfing. The example in the beginning of this paragraph was from the USA. Nevertheless, astroturfing has become a global issue.

Astroturfing seems to have a negative connotation when discussed in the media as well as in academic papers. In fact, astroturfing is seen as a problem that needs to be solved. One of the focus points in this research is the critique and concerns astroturfing has risen among the academics as well as the public. Organizations and the public should be aware of this growing threat. In depth knowledge about astroturfing will help them to react to the subject.

Astroturfing practices have changed in the course of time, widely due to the expansion of the Internet. Distinguishing fake influence from real one might have been easier when astroturfing practices were not as developed as they are nowadays. Astroturfing has become a powerful and efficient strategy for many organizations, and also for the state. Pre-written letters to the editor have turned into opinion spamming and fake online reviews. Internet has offered a broader arena to practise astroturfing.

Organizations play a significant role in this whole environment. On one hand, astroturfing poses a threat to the legitimacy, reputation, and image of organizations, since there are many organizations that have been caught astroturfing. On the other hand, organizations can also be the objects of astroturfing practices. They can be pressurized and under influence of the players that are behind astroturfing. Organizations can also suffer substantially from astroturfing practices, when competitors are, for example, spreading false information and rumors about them.

1.2 Justifications for the study

As already mentioned above, not much academic research has been conducted about astroturfing. However, it seems that the phenomenon is not about to fade. On the contrary, it appears as astroturf cases are increasing all the time. Effort has been put into astroturfing detection measures. However, a single tool to tackle the problem has not yet been discovered. Taking this into consideration, academic research on the subject is needed.

This study also provides valid information for organizations. Especially PR firms and commercial organizations have been connected with astroturfing. Astroturf practices are considered unethical and deceptive, hence astroturfing does not have a positive effect on organizations, and practicing astroturfing is considered as harmful to organizations. All organizations should be aware of this phenomenon, which has an influence in their surroundings.

This study consists of a literature review, which gives a basis for the possible future studies about astroturfing. A literature review is needed in order to get an overall picture about the phenomenon with a lack of academic research. This research introduces various definitions to the term astroturfing, as well as, various subjects that astroturfing has been connected with. It also introduces astroturf cases that have been reported in academic literature or in the media. Related vocabulary and concepts are also explained. The detection of astroturfing practices is also one focus point of this research. This study intends to clarify what kind of phenomenon astroturfing is, and this kind of research about astroturfing is lacking at the moment.

1.3 Research problem and research questions

This study has been carried out in order to find out what kind of research has been conducted about astroturfing. It also focuses on the typical aspects of astroturfing, and what kind of topics astroturfing is linked to. The study gives an overall picture of the phenomenon and explains how astroturfing

has evolved in the course of time. The concerns and critique towards astroturfing have also been taken into consideration. The research questions are the following:

Q1: What kind of phenomenon astroturfing is?

Q2: What are the concerns around astroturf?

1.4 Research structure

The first part of the study is the theoretical part, which explains the basic features of astroturfing based on the academic literature, and other selected sources. The first section of the theoretical part introduces various definitions to astroturfing. The second section demonstrates what kind of phenomenon astroturfing is in practice by giving case examples. After that, online astroturfing is explained. Astroturfing has engendered special terminology, which is explained in the first part of this research as well. The last two sections of the first part of the study deal with detection of astroturf practices and illegality of astroturfing.

The second part of this study explains the method used in this research. Literature review is introduced in the first section. The second section explains in detail, how the study has been conducted. The last section of the third part presents the research data in a table.

The third chapter introduces the results. The themes are the following: astroturfing as a phenomenon, the evolution of astroturfing, and concerns and critique towards astroturfing. The themes have arisen from the selected articles.

The fourth part of this research concludes the study. The results are discussed and the implementation of this study is evaluated. The last part of the study also provides ideas for future research.

2 ASTROTURFING

This chapter first introduces a variety of definitions to the term astroturfing with classifying them under different themes. It also introduces both political and corporate astroturf cases including online astroturf efforts as well as explains special terminology related to the subject. The last part presents some measures when detecting astroturf efforts and considers the legality of astroturfing.

2.1 Definitions

There is no single way to define astroturfing. In literature, topics such as politics, grassroots movements and lobbying have been connected with astroturfing. Some of the definitions focus only on the political aspects of astroturfing, and leave out, for example, online environment. This can be explained by the fact that the earliest definitions have been made in 1995, and the latest in 2013. Much has changed in 18 years, and nowadays one cannot exclude online environment when talking about astroturfing. In fact, it seems as astroturfing has shifted to online environment during the years, and the emphasis is nowadays in online astroturfing efforts.

The term astroturf, or AstroTurf, has its roots in 1966, when a form of artificial grass was first installed in Houston, Texas (Tigner 2010). Furthermore, astroturf is a brand name of American artificial turf (Inoue,

2011). This turf is designed to look like natural grass but it is, in fact, fake grass. The grass is generally used in sports fields. (Cho, Martens, Kim & Rodrigue 2011, 572). The term astroturfing has been later coined from astroturf. According to Lyon and Maxwell (2004, 563), a senator called Lloyd Bentsen has coined the term astroturf lobbying, which means artificial grassroots campaigns that are created by PR companies. Also, Klotz (2007, 5) mentions senator Lloyd Bentsen's adaptation of astroturf in his study. According to Klotz (2007), Bentsen used the term astroturfing for the first time in 1986. However, Malbon (2013, 146) states that the term astroturfing was first used in 1985 by a former US senator. According to Malbon (2013, 146) astroturfing referred then to lobbying letters the senator had received. He believed that the letters were generated by the insurance industry.

2.1.1 Astroturfing and grassroots

According to Tigner (2010), one cannot understand the meaning of astroturfing without knowing what a grassroots movement is. Grassroots organizations or movements typically operate at the local level with community volunteers. Their primary goal is to work their way upward from collective efforts in order to support a local or even global cause that they consider as good for society. Thus, grassroots movements connect people with pro-social and pro-environmental issues. (Cho et al. 2011, 573.) The difference between astroturfing and grassroots movements is that grassroots movements are created spontaneously whereas fake grassroots movements are created by, for example, organizations or the state. Successful astroturf efforts resemble actual grassroots efforts.

Truett (1996) defines astroturfing simply as fake grassroots. Dworkowitz (2005) adds only support ("fake grassroots support") to Truett's definition. McNutt's and Boland's (2007, 165) definition about astroturfing is also short, meaning synthetic advocacy efforts. Beder (1998) sees astroturfing simply as a grassroots program. These definitions are somewhat narrow, since they do not take into account the actors behind fake grassroots, and the motives for this kind of action. Henderson (2007), however, defines astroturfing as an artificial grassroots movement, which is bankrolled by an organization. Shippey (2013), too, defines astroturfing as phony grassroots movements. According to him, these movements are created by "sock puppets", or online fake personalities, who are controlled by sophisticated "persona management software". All in all, defining astroturfing simply as fake

grassroots is a tunnel vision. Actors behind these fake grassroots need to be included into the definition in order to understand the phenomenon better.

Astroturfing can also be defined in a way that includes more information about the forces behind the phenomenon. As already mentioned above, organizations can be behind astroturf efforts. According to Johnson (2009), lobbyists and PR experts are usually behind fake grassroots movements. Monbiot (2010) adds state as one of the actors behind astroturfing. According to him, astroturfing is a weapon that state and corporate players use. Monbiot defines astroturfing as a technique, which mimics spontaneous grassroots mobilizations. However, they have been organized. According to Christianson (2007) astroturfing happens when an organization sets up a fake non-profit organization in order to lobby legislators. These organizations act as they are grassroots-based groups, and prefer to be seen like that. However, they are representing only organization's interest. Lyon and Maxwell (2004, 573) state that the most common examples of astroturfing include hiring PR or lobbying firms to stimulate artificial grassroots campaigns. The subsidies can be monetary payments. However, they can also be providing free use of the companies' phone bank equipment as well as personnel. If using personnel, the employees of the PR firms will act as if they are members of the grassroots groups when they contact the citizens. According to the definitions above, organizations, PR experts, lobbyists, and state can all be behind astroturf efforts. Public relations associations do not encourage the use of astroturfing in their codes of ethics. That is because of the deceptive nature of the activity. (Cho et al. 2011, 572.) Still, many PR firms have been caught astroturfing.

2.1.2 Astroturfing and politics

Several academics define astroturfing as a political term. In fact, it seems that the environmental political arena seems to generate the most astroturf activity (McNutt & Boland 2007, 167). This may be due to the direct confrontation of environmental groups that have corporate interests. McCough (2004) sees astroturfing as political slang that represents letters (to the editor), which pretend to be grassroots opinions. Ivins (1995) also refers to astroturfing as a political term. According to her, astroturfing stands for phony grassroots organizations that are supported with corporate money. Gordon (2012), too, refers to astroturfing as a political term, and sees astroturfing as phony movements, which appear to arise from the grassroots.

When used in political parlance, astroturfing means, according to Wirzbicki (2007), campaigns organized by PR firms in order to create a false image of grassroots.

Some researchers consider politicians and political action as the motivation behind astroturf efforts. Kolbert (1995) defines astroturfing as efforts that are trying to influence politicians indirectly. This is possible by changing the public opinion by, for example, television advertising. Victor (1995) describes astroturfing as a practice that involves calling citizens, describing legislative proposals to them, and convincing them to give a permission to use their names when communicating with the Congress. Kolbert's definition does not reveal the forces that are trying to influence the politicians, to be precise, who are behind astroturfing. Victor's approach only includes phone calls to citizens as a means of astroturf. However, astroturfing is a multidimensional phenomenon, and there are many ways to practise it.

The connection between astroturfing and politics is clear. However, organizations such as Pfizer and Microsoft have been caught astroturfing, and these corporations might not have a political agenda behind their actions. In other words, defining astroturfing simply as a political term is a somewhat narrow perspective.

2.1.3 Astroturfing in online environment

In the era of social media, also astroturfing efforts have moved on to online environment. For example, Shippey (2013) sees traditional write-in campaigns as old-style. Fake online reviews and paid blog posts, to name a few examples, are as practical options, or even better ones, to present astroturfers as the traditional astroturf efforts.

Still, there are not many academics that refer to online activities when defining astroturfing. This may be due to the fact that there is a lack of academic research concerning the subject overall. According to Simpson (2011, 37) astroturfing is a practice used by organizations. In this practice organizations are paying people a small fee to talk up their products and services on the Internet. Also, Wright (2004) defines astroturfing as a practice of posting messages online anonymously, or by using false names, in order to generate buzz or ill will for an organization. Also, Bruinius (2013) sees astroturfing as an online technique, which aims at building a better online

ranking to an organization or a product. These definitions, however, do not take into account, for example, the print media.

All in all, it seems that a new, and wider definition to describe astroturfing is needed. Many of the definitions mentioned above are somewhat narrow, and focus often only on one aspect. However, astroturfing is a phenomenon with many aspects. Wang, Wilson, Zhao, Mohanlal, Zheng & Zhao (2011) consider astroturfing as information dissemination campaigns, which are sponsored by an organization. These campaigns are yet obfuscated so as they appear to be spontaneous decentralized grassroots movements. According to Wang et al. (2011) astroturfing campaigns usually involve spreading legally grey, or illegal content, which can be defamatory rumors, false advertising, and suspect political messages. This definition takes into account the various aspects of astroturfing. It includes the forces behind the phenomenon and provides examples of astroturf actions. Therefore, the definition made by Wang et al. (2011) is used as a basis in this research.

2.2 Introduction to astroturf cases

There seems to be a dichotomy when it comes to the means of astroturfing now and, for example, ten years ago. The earlier research emphasizes bogus letters to the editor, television advertising, and grassroots movements, whereas nowadays the main focus seems to be in online actions, such as fake online reviews. The change seems natural while the media is going through major changes at the moment. This chapter introduces various astroturf cases and provides a deeper look at the specific terminology related to the topic.

2.2.1 Political cases

The traditional astroturf efforts include letters to the editor, which can be referred as astroturf letters. All newspapers seem to have a policy that letter writers have to write the letters themselves. Despite this, advocates tend to ask regularly people to send prewritten letters as their own to newspapers. The practice can be seen in all dimensions of the political spectrum. An example of this is the Republican Party that encourages supporters to submit prewritten letters to the editor in their own website. The practice seems to be so widely spread that an Arizona Daily Star editor has estimated that more

than 50 per cent of all letters received are part of an organized campaign. (Klotz 2007, 5.)

Pfister (2011, 137) introduces several cases where politicians have hired bloggers to campaign. Usually bloggers are ordered to write praising posts about the politicians who hired them and criticize the negative press. The purpose is to attract positive attention around the campaign. In the 1990's, when the use of internet was much more limited, politicians hired people to act in television advertisements. This was the case in 1993 when Harry and Louise criticized the Clinton administration's health care reform effort in television commercials. Harry and Louise were portrayed as an average American couple. They were hired by a lobbying group for the health insurance industry, though. (Geewax 2007.)

Deal & Doroshov (2003) point out CALAs, which refer to a network of supposed grassroots organizations, such as Citizens Against Lawsuit Abuse. These grassroots organizations appear to be formed spontaneously in order to confront lawsuit abuse. However, the groups actually are funded and represented by major corporations and industries that are trying to escape liability for the harm they cause to consumers. Insurance companies, manufacturers of dangerous products and chemicals, and the tobacco industry, being the leading supporter, are typically behind CALAs. According to Deal & Doroshov (2003) CALA phenomenon is nationwide in the USA, and it is now a permanent part of the political landscape of the nation. Some CALAs seem to have a fleeting existence. Nevertheless, some CALAs, such as the Texas CALAs, appear to have a significant staying power in consequence of the ongoing infusion of corporate funding.

When trying to influence the public opinion, for example, politicians usually tend to portray their own agenda in a good light, and the competitors' efforts in a bad light. A different approach was yet used in Canada when Toronto mayoral candidate Rob Ford was campaigning. He and his staff decided to create a fake Twitter account with a name of Karen Philby. They made Philby as a supporter of Ford's competitor, George Smitherman. However, Philby later realized that she appreciated Ford's values more. Ford's deputy communications director Fraser McDonald ran Philby's account. The distinct campaign appeared to be successful. (Russell 2012.)

Some astroturf campaigns recruit people openly. In 2012 a classified ad was posted to Craigslist recruiting writers to post right-wing comments in social media. The ad was posted by a social media company called Blog Right Canada, and the ad was so exceptional that it was suspected satirical. The company has not come forward about the case. (Russell 2012, 8.) A PR company called Davies Communication states in their advertising that traditional lobbying is not enough anymore, thus, one must create grassroots support. Davies Communication is using telephone banks to generate grassroots letter-writing campaigns. In short, they call people and offer to write letters on behalf of them. (Lyon & Maxwell 2004, 563.)

Nonprofit theorists see that the advantages of political and civic participation are a healthier society, a more robust democracy and the building of social capital. The difference between astroturf and other political participation might not be clear in all cases. The key difference relates to the use of deception. When thinking about the damage that this deception has caused, there is a danger that astroturf efforts could erode the positive effects of political participation. (McNutt & Boland 2007.)

The US military and a private organization are developing specific software, which aims at posting information on social media websites with fake online identifications. The goal is to speed up the distribution of pro-American propaganda. (Chen et al. 2011, 1.)

Another wide spread example is from the Bush campaign, when a teenager called Kyle submitted prewritten letters to editor more than 14,000 times in order to win prizes from the campaign (Klotz 2007, 5).

2.2.2 Corporate cases

Many organizations have been caught astroturfing. Often times it seems that organizations hire PR agencies to run astroturf campaigns on behalf of them. When Microsoft was planning an astroturf campaign, the company hired one of the largest PR companies in the USA to run the campaign. The campaign did not, however, go as planned, since the prepared documents were leaked to the Los Angeles Times before the campaign was even launched. (Gillmor 1998.) Wal-Mart and their PR firm Edelman created a blog called “Working Families for Wal-Mart” in order to counter the negative press Wal-Mart had received online (Pfister 2011, 157). PR firms have also created grassroots

coalitions for their clients. In 1993 Burson-Marsteller, which is known as one of the largest PR firms in the world, created the National Smokers Alliance for Philip Morris. The alliance gained members by using full-page advertisements, direct telemarketing as well as other high-tech campaign techniques. (Beder 1998.)

In addition to PR companies, organizations may also use front groups when promoting corporate causes. One example of this is The American Council on Science and Health, which has been funded by food processing and beverage corporations such as Burger King, Coca-Cola, PepsiCo, NutraSweet and Nestlé USA, as well as chemical, oil and pharmaceutical companies including Monsanto, Dow USA, Exxon, Union Carbide and others. These kinds of front groups tend to sound scientific instead of having actual scientist working for them. (Beder 1998.)

A Canadian telecommunications company called Rogers Communications launched an astroturf campaign in 2011 in order to protest the Canadian government's upcoming spectrum auction. A website "I want my LTE" was created and citizens were encouraged to write comments that would harm the smaller providers. According to the campaign, leaving the smaller providers aside would give consumers faster speeds and lower prices. This would, however, mean the end to potential competition, and give more power to Rogers Communications as well as the other telecommunications giants in the country. (Russell 2012, 8.)

Elsevier, an academic publishing company that publishes medical and scientific literature, offered a voucher worth of \$25 to academics who rated an Elsevier book with five stars online on two different websites. The offer was quickly withdrawn after it came in public knowledge. (Rohrer 2009.) There is one example of astroturfing that seems to be used commonly in the media: a large-scale campaign funded by ExxonMobil Corporation. "Think thanks" were created and they were spreading false information about global warming and climate change science. (Cho et al. 2011, 573.) Cho et al. (2011, 571) also point out that large corporate polluters tend to set up astroturfing organizations in order to undermine the importance of human activities in global warming context.

Facebook hired PR agency Burson-Marsteller to plant negative information about Google. Burson-Marsteller sent anti-Google stories to newspapers

encouraging them to investigate claims that accused Google of invading peoples' privacy. Burson-Marsteller also contacted a well-known blogger encouraging him to write Google-bashing op-ed's to well-known newspapers. The plan failed when the blogger rejected the offer and released the e-mails that Burson-Marsteller had sent him in his blog. (Carveth 2011.)

An astroturf organization can be incorporated and it can have a local office with employees and a website. It can also advertise and use direct mail. Money is not the barrier for astroturf organizations funded by corporate money as opposed regular to grassroots groups. (McNutt & Boland 2007, 167.)

One should keep in mind that not all corporate grassroots political efforts are astroturf. Corporations tend to engage in legitimate attempts in order to influence public opinion. The effort is astroturf when there is a front group whose task is to mask the true identities and interests being represented. (McNutt & Boland 2007, 168.) Cho et al. (2011, 572) argue that astroturfing, when purposefully designed to fulfill corporate agendas, manipulate public opinion and harm scientific research. This way it also represents a serious lapse in ethical conduct.

2.2.3 Astroturfing in China / Online astroturfing

There are approximately 457 million internet users in China, thus, around 35 per cent of the population is using internet. In addition to this, there are over 1,91 million active websites in China. The record-breaking development of the internet in the country has made people and organizations courageous in taking advantage of the opportunities it offers. (Chen, Wu, Srinivasan and Zhang 2011, 1.)

Online posting has created a new job opportunity to people, mostly to college students and the unemployed, in China. Chinese people get paid for posting comments and new topics to different online communities and websites in order to influence public opinion. This can create a negative effect on the online communities, since the information these people are spreading is typically not trustworthy. (Chen, Wu, Srinivasan and Zhang 2011, 1.)

The paid posters are called the Internet water army in China, since there are a large number of people involved and they are organized to “flood” the internet with their comments and articles. These people are typically hired by PR companies. Online posters are a powerful and efficient strategy for organizations, since they produce a large amount of information online and this information is likely to attract attention of common users and influence their opinion. (Chen, Wu, Srinivasan and Zhang 2011, 1.)

The use of online paid posters is nowadays common in other countries as well. The broad use of paid posters has caused damages. However, there is no systematic study that would have resolved the issue. (Chen et al. 2011, 2.) Nowadays more and more people and organizations are using reviews in their decision-making. Opinion spamming has become more popular, since organizations can benefit from it financially as well as when building their brand image. Opinion spamming refers to human activities aiming at misleading readers by reviewing entities under false pretences. The purpose is to promote the entities or to damage their reputation. (Mukherjee et al. 2012.)

2.3 Special terminology

Astroturfing can still be a somewhat unknown term and phenomenon to the majority, and this paper focuses on, amongst other thing, explaining astroturfing thoroughly. There are also various concepts related to astroturfing, such as sock puppets and online water army, which may be yet unfamiliar to the majority of people. This chapter introduces these astroturfing related terms, and explains them.

2.3.1 Sock puppets

When looking at the astroturfing literature, the term sock puppet, or sockpuppeting comes up especially when discussing about astroturfing in online environment. According to Johnson (2009), sock puppets are fake online identities, which are created in order to support an argument. Sock puppets are typically untraceable. Wirzbicki (2007) indentifies sock puppets as bloggers who pretend to be grassroots political commentators. However, they are really paid PR agents. In this case Johnson’s definition could be more suitable, since Wirzbicki only refers to bloggers with political agenda.

Typically, a sock puppet is a single person, who has multiple online identities (Mukherjee, Liu & Glance 2012).

Johnson (2009) mentions that it usually is impossible to trace sock puppets. However, several academics have been focusing on detecting fake reviewers in recent years. Mukherjee, Liu & Glance (2012) found out that labeling individual fake reviews or reviewers is difficult, however, labeling groups is not as demanding. Fake online review detection is discussed more widely in the next chapter.

2.3.2 50 Cent Party

50 Cent Party is special group that operates in China. The country has employed people, who are called “50 cent bloggers”, to post Beijing-defending text on their blogs. These bloggers get paid 50 cents for each blog post (Gordon 2012). This group of bloggers is also called the 50 Cent Party. According to Monbiot (2010) members of the 50 Cent Party get five mao from Chinese government for each post. These people are hired by members of the parties in order to drown out critical voices (Monbiot 2010).

2.3.3 Internet / online water army

The Chinese people who are paid to post content online, are called the Internet water army or online water army. The name comes from the fact that there is a large well-organized group of people who are “flooding” the Internet with their comments and articles. Internet water army is a special group of online users, also called as hidden paid posters. This type of activity has created a new job opportunity to people. According to Xu et al. (2013, 979) each person gets only 0,10 to 0,50 RMB for each posting. The purpose of this activity is to influence the opinion of other people towards social events or business markets. In other words, it is a business marketing strategy. The majority of online water army consists of college students and unemployed people. They are typically employed by PR organizations. The origins of paid online posting are in e-marketing. Online paid posting has become popular due to the fast expansion of the Internet. (Chen et al. 2011.)

2.3.4 Crowdturfing

Crowdturfing is a combination of two words: crowd-sourcing and astroturfing. The power of astroturfing has increased, since one is now able to mobilize quickly large groups via crowd-sourcing systems, and this combined threat is called crowdturfing. Crowdturfing poses a threat to security measures protecting online communities, since it uses real humans instead of automated scripts or bots. Online crowdturfing campaigns include three different factors: customers, agents, and workers. Customers are the ones who initiate the campaign, agents are in charge of campaign planning and management, and workers perform the specific tasks ordered by agents. Workers are rewarded with a fee if the customer is satisfied with the outcome. Crowdturfing systems are active at least in China, USA, and India, which demonstrates the global nature of the problem. (Wang et al. 2012.)

2.4 Detection of astroturf practices

When astroturf efforts are done well, they can look a lot like the efforts they are intended to replicate. The techniques are advanced and the results are convincing, even if one is a seasoned observer. (McNutt & Boland 2007, 167.) Consumers rely nowadays heavily upon consumer reviews, when they are making decisions about what kind of products and services to purchase online. Sellers are aware of this, and some of them are tempted to generate fake consumer reviews. There are laws to prohibit misleading and deceptive conduct. However, detecting fake reviews has proven to be complex and difficult. (Malbon 2011, 139.)

The traditional way to practice astroturfing is writing letters to the editor on behalf of others. The letters are usually prewritten, and the people who submit them are somehow rewarded. Many newspapers devote much time to prevent astroturf letters. Editorial page directors are using search services, such as Google, LexisNexis, and Hotbot, to scan letters. (Klotz 2007, 5.)

Spam that is found in product review websites is typically referred as review spam or opinion spam. Review spam is created in to give unfair view of some products in order to influence consumers' opinion about the products.

10-15 per cent of online reviews can be influenced by review spam. Spam detection is a difficult task, since one cannot know the amount of spam in existence. Review sites are open so that anyone can post as different users. (Lim et al. 2010.) Opinion spam detection is also difficult, since it is almost impossible to recognize spam by simply reading individual reviews (Mukherjee et al. 2012).

When detecting online astroturf efforts, one can take a look at individual reviews, reviewers, or spammers. Detecting fake reviewer groups is also possible. The general way to tackle review spam approaches is to extract engineered strong indicators from review contents or review behaviors. Contents and behaviors are used afterwards for modeling and learning (Xu et al. 2013). Group spamming means that there is a group of reviewers writing fake reviews together in order to promote or demote some target products. The practice can be highly damaging, since it is more effective than individual efforts. Though, labeling group spamming is easier than labeling individual fake reviews or reviewers. (Mukherjee et al. 2012.)

IP mapping is one way to trace the origin of online content. The problem is, however, that IP addresses are usually dynamic and are not sufficient in identifying the people behind the online actions. In addition to this, the practice involves cooperation with the Internet Service Provider, which can raise privacy issues. (Tigner 2010.) Chen et al. (2011, 2) have studied behavioral patterns of online astroturfers. They identified several and useful key features to detect online astroturfing through statistical analysis. Based on their study the semantic feature can be considered as a useful and important supplement to other detection methods. Semantic analysis improves performance, since online astroturfers tend to post many comments with some minor edits, which leads to similar sentences. Hence, online astroturfers are able to post a large amount of comments and complete the assignments rapidly. However, this helps the classifier developed by Chen et al. to detect the comments more easily. (Chen et al. 2011, 9.)

One can also develop new computer programs to detect large-scale astroturfing. The practice includes counting the number of similar occurrences of an online review, or performing an analysis of the frequency of online reviews. One may also require identification for posting messages online, and use anti-bot technology. (Tigner 2010.)

Bloggers have been able to identify astroturfing in some occasions with the expense of harming the credibility of the organizations, which attempted to influence public opinion. However, bloggers have not been able to catch all instances of astroturf. (Pfister 2011, 158.)

Awareness-raising campaigns are one countermeasure against astroturfing. Raising peoples' awareness by ensuring that, for example, online reviews can be self-serving and untruthful. (Tigner 2010.) Reducing and eliminating information asymmetry could enhance consumer confidence, increase consumer participation, increase competition, and reduce adverse selection, which would increase fairness (Malbon 2011, 153).

Simpson (2011, 35) avoids technical mechanisms when trying to detect Astroturf actions. Simpson (2011, 35) suggests that truthful online reviewers could be rewarded and reviewer anonymity could be denied. He also points out that the reviewer entitlement could be assured so as only the ones that have actually bought and item or used a service would be allowed to write a review. Review site Tripadvisor has a policy to remove businesses, which have submitted fake online reviews, from their listings. Simpson (2011, 36) suggests other players to follow this example. Simpson (2011, 37) also proposes legal sanctions for organizations that systematically attempt to pervert online reviews.

2.4.1 Illegality of astroturfing

The US Federal Trade Commission has formally instituted guidelines that cover online testimonials and endorsements. The guidelines include four requirements, one of them stating that "the endorser has a duty to write an honest review". Violations are offended with fines, and violators can be ordered to make refunds to customers as well as to make corrective advertisements. (Malbon 2013, 147.)

The European Union has an Unfair Commercial Practices Directive, which states that "the use of editorial content in the media in order to promote a product where a trader has paid for the promotion without making that clear is prohibited". According to the directive, it is also prohibited to falsely represent oneself as a consumer. The EU has also a directive on Misleading and Comparative advertising, which requires prohibitions on unfair trading

practices. This means that one cannot denigrate competitors and create confusion in the mind of consumers. The UK has also regulations similar to the EU directives. One can get two years imprisonment or an unlimited fine when representing oneself falsely as a consumer. (Malbon 2013.)

The European Union's Unfair Commercial Practices Directives has put astroturfing towards consumers in its Black List of practices, which means that astroturfing is considered unfair in all circumstances (Tigner 2010). The list is valid in all member states. However, the sanctions are different.

All in all, the laws and supervision mechanisms for e-marketing are not well developed in many countries. This enables spreading false and negative information about competitors without any penalties. This is why it is necessary to create mechanisms to help the public, administrators, and law enforcers to identify online astroturfing. (Chen et al. 2011, 1.)

3 METHODS

This chapter explains first, what kind of research method literature review is, and how the method is implemented in this study. After that, the research process is explained in detail, and research material as well as data is introduced.

3.1 Literature review as a research method

Literature review can be defined as a written appraisal of existing knowledge of a particular topic (Jesson, Matheson & Lacey 2006, 10). In short, it is a summary of previous academic work conducted concerning the particular subject. Literature review can aim at either researching the present state of a specific subject or it can help to justify the research problem, as well as indicate the necessity of the research (Mach & McEvoy 2009, 2).

There are several different methods one can choose from, when conducting a literature review. The purpose of a traditional literature review is to densify and evaluate information gathered from different sources. This gives a basis for drawing conclusions about the current state of the phenomenon. (Machi & McEvoy 2009, 2.) Fink (2010, 3) describes literature review as a method,

which is systematic, clear, and repeatable. According to Fink (2010, 3) with the help of literature review, one can identify, evaluate, and connect previous studies with one another.

Literature review should follow the same principles as any other research method (Boaz & Sidford 2006, 4). Jesson, Matheson & Lacey (2006) emphasize the importance of the systematic nature of literature review. Also, transparency is significant. Transparency means that the researcher needs to report specifically how the study has been conducted. Also, the researcher has to evaluate and justify the decisions made during the research process. (Boaz & Sidford 2006, 8.) One significant aspect of literature review is source criticism. The researcher must be able to evaluate the sources critically and consider the scientific reliability of the studies. (Fink 2010, 14.)

Literature review was chosen as the research method for this particular research, since the purpose of this study is to inspect the current state of astroturfing. Moreover, the objective is to observe, how the topic has been portrayed in earlier studies and what kind of results the studies have provided.

3.2. Conducting the study

The literature chosen for the study was discovered through University of Jyväskylä's Nelli-portal. Several keywords were tested using the advanced search engine. First searches were conducted with words 'astroturf' and 'astroturfing'. Astroturf as a keyword gave mainly irrelevant results, since astroturf is a brand of artificial turf, and AstroTurf is also a name of an organization. Thus, astroturfing was found to be a more suitable keyword. More keywords were added later when an overview of astroturfing was drawn.

A total of 58 articles were chosen via Nelli-portal, and via Google Scholar search engine. Google Scholar search was added in order to get more relevant information about astroturfing. Some of the articles chosen via Nelli were short newspaper articles, for example columns, giving only a superficial and non-academic overview of the subject. Thus, more material was needed in order to get the best possible results. The main focus in the study is, however, in the academic literature. Non-academic sources only

give additional information to the subject, and they are applied as supportive sources.

As already mentioned above, the primary search engine chosen for this study was Nelli-portal. The databases that University of Jyväskylä has subscribed and that were accessible were included in this study. The first searches were conducted in October 2013 by using words "astroturf" and "astroturfing". The next searches were conducted by using terms "astroturf" AND "lobbying". The searches were limited to Business-Communication databases. After conducting these searches, it appeared that the majority of the search results were newspaper or magazine articles. Thus, the amount of academic articles was limited.

All of the articles were thoroughly read, keeping the focus on the information needed for this particular research. An excel table was made including the most relevant information of each article. The table included the following titles: author and title, topic, context, definition of astroturfing, central statements, conclusions, and possible additional information, which could be relevant for the study. After going through the articles chosen in the first phase, more searches were conducted. The keywords used in the second phase were "astroturfing" AND "grassroots", "astroturfing" AND "spin", "50 cent party", "sock puppets", "meat puppets", and "fake reviews". All of the searches were conducted including the word "astroturfing", as well as excluding it.

The definition of astroturfing chosen to be used as a basis in this particular research was decided after reading all the articles found for this study. This is why some of the articles chosen for this research, as well as the analysis, do not mention the word "astroturfing" at all. This means that astroturfing exists even though the term might not be mentioned in all circumstances. The main inclusion criterion was the content of the articles and that the articles should be available online. English language was also one criterion. The publishing date was not relevant in this research, since the purpose was to examine, how astroturfing has evolved in the course of time.

All in all, 58 articles were thoroughly examined. 15 of them were chosen to be included in the analysis. All of the articles chosen for the analysis are in an academic form. However, not all of them are considered as academic articles. The rest of the articles were excluded, since they did not reach the criteria. In

other words, the main focus was not on astroturfing. There were, for example, many newspaper and magazine articles, which are not considered as suitable for academic research. Nevertheless, some of them were used in the theoretical part of this study due to the low amount of academic sources.

3.3 Research data

The research material and data are presented in the table below. The table includes the basic information of the article, as well as the topic, and the context. The articles are presented in alphabetical order.

Article	Subject	Context
Chen, C., Wu, K., Srinivasan, V. & Zhang, X. 2011. Battling the Internet Water Army: Detection of Hidden Paid Posters. URL: http://arxiv.org/pdf/1111.4297.pdf	A systematic study to help distinguish a special group of online users, called hidden paid posters, or termed "Internet water army" in China, from the legitimate ones.	Fake online posting detection
Cho, C. H., Martens, M. L., Kim H. & Rodrigue M. 2011. Astroturfing Global Warming: It Isn't Always Greener on the Other Side of the Fence. <i>J Bus Ethics</i> . 104, 571-587.	Study of the effectiveness of astroturf organizations in the global warming context.	Global warming, rhetoric, grassroots
Inoue, H. 2011. Processes of "Astroturfing" by Power On Environmental Movements in Today's Japan; Some Examples in Aichi Prefecture. URL: http://www.nagoya-bunri.ac.jp/information/memoir/files/2011_08.pdf	Paper presents results of an investigation conducted over the last 14 years in the Aichi prefecture and the idea of astroturfing.	Astroturf cases
Klotz, R. J. 2007. Internet Campaigning for Grassroots and	This paper explores how participation was promoted	Politics

Astroturf Support. Social Science Computer Review. Vol. 25. No. 1.	on the web sites of U.S. Senate candidates in the 2004 election.	
Lankes, D. 2008. Trusting the Internet: New approaches to credibility tools. URL: http://quartz.syr.edu/rdlankes/Publications/Chapters/Credibility.pdf	The paper presents reasons why the society has moved to online environment and the consequences of the paradox of so called information self-sufficiency.	Online credibility
Lim, E-P., Nguyen, V-A., Jindal, N., Liu, B., & Lauw, H. 2010. Detecting product review spammers using rating behaviors. CIMK '10. October 26-30, 2010, Toronto, Ontario, Canada.	This study aims at detecting users generating spam reviews or review spammers. The paper identifies several characteristic behaviors of review spammers and presents a model for detecting the spammers.	Review spam detection
Lyon, T. P. & Maxwell, J. W. 2004. Astroturf: Interest Group Lobbying and Corporate Strategy. Journal of Economics & Management Strategy. Vol. 13. No. 4. 561-597.	A study of three corporate nonmarket strategies designed to influence the lobbying behavior of other special interest groups.	Lobbying, politics
Malbon, J. 2013. Taking Fake Online Consumer Reviews Seriously. J Consum Policy. 36: 139-157.	The paper argues that policymakers and regulators should take fake reviews seriously.	Fake online reviews, astroturf cases
Mattingly, J. E. 2006. Radar Screens, Astroturf, and Dirty Work: A Qualitative Exploration of Structure and Process in Corporate Political Action. Business and Society Review. 112:2. 193-221.	Exploratory qualitative study seeks to discover whether negotiation with sociopolitical actors external to the firm is sometimes an important determinant of firms' public policy preferences.	Corporate political action, grassroots, lobbying
McNutt, J. & Boland, K. 2007.	The paper presents the	Politics,

<p>Astroturf, Technology and the Future of Community Mobilization: Implications for Nonprofit Theory. <i>Journal of Sociology & Social Welfare</i>. Vol. XXXIV. No. 3. 165-178.</p>	<p>astroturf phenomenon, reviews pertinent nonprofit theory and considers the impact of astroturf for society and the further development of nonprofit theory.</p>	<p>nonprofit theory</p>
<p>Mukherjee, A., Liu, B. & Glance, N. 2012. Spotting Fake Reviewer Groups in Consumer Reviews. <i>WWW 2012</i>, April 16-20, 2012, Lyon, France.</p>	<p>The paper studies spam detection in the collaborative setting, i.e., to discover fake reviewer groups.</p>	<p>Fake review detection</p>
<p>Pfister, D. S. 2011. The Logos of the Blogosphere: Flooding the Zone, Invention, and Attention in the Lott Imbroglia. <i>Argumentation and advocacy</i>. 47. 141-162.</p>	<p>The paper identifies how “flooding the zone” has been adopted by organizations and the state in order to blunt spontaneous argumentation emerging from the periphery of communication networks.</p>	<p>Politics, blogging, rhetoric</p>
<p>Simpson, T. W. 2011. eTrust and reputation. <i>Ethics Inf Technol</i> 13. 29-38.</p>	<p>The paper focuses on one of the devices used to secure others’ trustworthiness: tracking past conduct through online reputation systems. The study analyses these, and develops some principles for system design, towards overcoming these challenges.</p>	<p>Online reputation, online behavior, online reviews</p>
<p>Wang, G., Wilson, C., Zhao, Y., Mohanlal, M., Zheng, H. & Zhao, B. Y. 2011. Serf and Turf: Crowdturfing for Fun and Profit. <i>WWW 2012</i>, April 16-20, 2012, Lyon, France.</p>	<p>The paper presents crowdturfing systems in the Internet today. The study also compares the source of workers on crowdturfing sites in</p>	<p>Crowdturfing, detection of astroturf efforts</p>

	different countries.	
Xu, C., Zhang, J., Chang, K. & Long, C. 2013. Uncovering Collusive Spammers in Chinese Review Websites. CIKM'13, Oct. 27-Nov. 1, 2013, San Francisco, CA, USA.	The study presents an empirical analysis of recently crawled product reviews from a popular Chinese e-commerce website.	Fake online review detection

4 RESULTS

This chapter introduces the main findings based on the literature included in the analysis. The theoretical part of this research already explains the main issues concerning astroturfing, for example, by defining the core concepts. The focus in this chapter is in the themes that have arisen from the articles. This chapter also answers to research questions.

4.1 Astroturfing as a phenomenon

Astroturfing is a multidimensional phenomenon that deals with organizations, politics, the public as well as the state. One of the key issues concerning astroturfing is support. Astroturfing efforts are typically conducted in order to gain support. Traditional lobbying efforts can seem ineffective, thus reaching out to create grassroots support might seem tempting when trying to gain as much support as possible (Lyon & Maxwell 2004).

The means of astroturfing were discussed in all of the selected articles. The difference between grassroots support and astroturfing support is that

grassroots organizations are created spontaneously whereas astroturfing organizations are not. There are many ways to create synthetic grassroots support and carry out astroturfing. According to McNutt & Boland (2007, 167) the actors are using public relations methodology, meaning audience analysis, news media, and advertising, when simulating grassroots organizing. The techniques are so advanced that astroturfing is difficult to detect, and it is difficult to distinguish real support from fake one. Klotz (2007, 5) points out that astroturfing has become a significant business for PR organizations. Wang et al. (2012) state that organizations create synthetic grassroots support by spreading dubious content, which can mean offensive rumors, false advertising, and suspicious political messages. Malbon (2013, 145) points out that organizations can have dubious and illegal means when promoting their products and services.

The forces behind astroturfing were discussed in detail in all of the articles. As already stated earlier, astroturfing deals with organizations and the state. According to McNutt & Boland (2007, 168), commercial corporations are typically behind astroturf employment. However, nonprofits and governmental organizations can also mount astroturf efforts. Chen et al. (2011, 1) suggest that PR companies typically employ online astroturfers. McNutt & Boland (2007, 167) and Cho et al. (2011, 572) suggest that environmental politics arena is the most common place for astroturf efforts.

The structure of astroturfing management was discussed in one of the articles. According to Chen et al. (2011, 3) the management and structure of online astroturfing is well organized. Above all is the mission that needs to be accomplished. The mission has a project manager, who coordinates the process. There are four teams: trainer, posters, public relationship, and resources. Trainer team is responsible for the schedule, posters team is employed to post information online, public relationship team contacts and maintains good relationship with other webmasters so that the posted content will not be deleted, and resources team is responsible for gathering and creating user IDs and registration information that online astroturfers use. (Chen et al. 2011, 3.)

The objectives to mount astroturfing practices were also discussed in all of the articles. There are different reasons for astroturfing. McNutt & Boland (2007, 169) suggest that astroturfing aims at political gain. Cho et al. (2011, 572) also suggest that astroturfing is commonly used for political causes. The

objective of astroturf organizations is seen as creating uncertainty and confusion among people about a sensitive issue (Cho et al. 2011, 574). Xu et al. (2013, 979) propose that the goal of astroturfing is to promote the reputation of the organization, which orchestrates the practice, and demote the competitors. Astroturf organizations are trying to control the flow of information in order to manipulate the public in favor of the corporate agenda (Cho et al. 2011, 582). Chen et al. (2011, 1) suggest that making the information diffusion process more efficient is one core issue of astroturfing. According to Chen et al. (2011, 1) the main goal of astroturfing is to attract attention and trigger curiosity. This can be done, for example, by posting both positive and negative comments online about a product or service. Lim et al. (2010, 2) suggest that online astroturfing affects the sales performance of an organization. Astroturfing can have either positive or negative impact on sales depending, for example, on the tone of the online reviews.

Two of the articles pondered why astroturfing is effective. The affectivity of astroturfing can be explained due to monetary issues. According to Lyon & Maxwell (2004, 564) astroturfing is effective because of the corporate funding. The corporate money enables bigger campaigns and actions when compared with ordinary grassroots efforts. McNutt & Boland (2007, 167) also point out the financial issues and state that money can be a barrier for grassroots groups, especially when organizing campaigns. Corporately-sponsored astroturf efforts do not have same kind of financial difficulties. Some people might consider an astroturf effort as a well-funded nonprofit. However, astroturf efforts are not driven by the will of the local people.

Three articles dealt with the success of astroturfing. The success of astroturfing is defined "in terms of attainment of the client's desired political outcome" (McNutt & Boland 2007, 168). Astroturf organizations are successful only when they are not recognized as such (McNutt & Boland 2007, 169). Astroturf organizations succeed in being persuasive, since they are hiding their true identity and create a shared identity. Thus, astroturfing organizations are able to exploit the pre-existing beliefs of the public (Cho et al. 2011, 575). Inoue (2011, 73) argues that astroturfing is so powerful and successful in Japan that it has made Japanese social movements weak, at least compared with other developed countries. Lyon & Maxwell (2004, 594) suggest that a law, which would require reporting of astroturf lobbying expenditures, would make astroturf lobbying ineffective. This would also be favorable to public decision-makers.

There are a limited number of prior studies on astroturfing. The earlier studies focus on the organizational side of the phenomenon. More specifically, the focus is on the identification of astroturf organizations. There is a limited amount of research conducted at the individual level, for example, examining what kind of astroturfing strategies are effective. (Cho et al. 2011, 574.)

The ethical problems and other concerns that astroturfing raises are discussed later in this chapter.

4.2 The evolution of astroturfing

None of the articles selected for the analysis considered the evolution of astroturfing. The results presented below are based on the articles selected for the analysis. The focus was on time period: on the one hand, when the articles were published, and on the other hand, how the articles referred to the timing in the source material.

Two of the articles mentioned when the term astroturfing was born. Astroturfing predates the internet. According to Klotz (2007, 5) the term was used for the first time in 1986. However, Malbon (2013, 146) argues that the term was invented already in 1985. Unambiguous knowledge does not exist but one can assume that astroturfing was born around 1985. This does not yet mean that astroturfing was not practiced before 1985.

One of the articles discussed, how the term astroturfing has evolved. Malbon (2013, 146) describes the evolution of the term astroturfing in his research. Originally astroturfing referred to a fake grassroots campaign. Nowadays the term also refers to the methods used by organizations when they give potential customers the impression that ordinary online users are recommending their products and services. The recommendations are, however, made by or on behalf of the marketer. Malbon's description gives an overview of the development of astroturfing. The focus was previously on political grassroots campaigns, whereas nowadays astroturfing is practiced more likely online and the target group is typically consumers.

The articles that were published earlier dealt with traditional astroturf practices. Astroturf tactics that were used before the expansion on the Internet are called traditional astroturf efforts in this research. Traditional astroturf practices include, amongst other things, hand-written letters. Lyon & Maxwell (2004) point out letter-writing campaigns, which were orchestrated with the help of telephone banks. PR firms called people and offered help in writing letters. The letters were written with different handwriting, and the stamps and envelopes varied. Klotz (2007, 5) mentions letters to the editor as well. Newspapers' policy is that letter writers have to do their own work. Still, Klotz (2007, 5) found out that advocates are regularly asking people to send prewritten letters as their own. These efforts are referred as astroturf letters. Pfister (2011, 156) calls more modern astroturfing digital astroturfing. This research uses the term online astroturfing instead.

All of the articles mentioned online astroturfing, at least in some manner. McNutt & Boland (2007, 168) suggest that information and communication technology is able to accelerate astroturfing campaign creation. Websites are created for simulated organizations, complex technology is used in order to identify and reach potential supporters, and e-marketing with its wide range is used. McNutt & Boland (2007) are convinced that technology is going to hasten the progress made by providers of astroturf and that technology can make astroturfing more effective. Also Klotz (2007, 10) believes that computers may speed up astroturfing activities. However, McNutt & Boland (2007, 174) believe that technology can make astroturfing more easily detected. If advocacy groups would employ two-way communication online, it would be easier to see which organizations are fake (McNutt & Boland 2007, 174). Klotz (2007, 10) found out that in 2004 election the participation promoted by campaign web sites emphasized traditional activities, such as using mail and telephone. Klotz (2007, 11) states that in 2004 the preference for grassroots mobilization outweighed astroturf efforts.

The latest articles discussed more online water army and online paid posting. Organizations are constantly trying to build effective strategies in order to draw public attention towards their products and services. Online paid posting can be compared with word-of-mouth advertisement. An organization employing a significant amount of online users is able to create topical themes to gain positive attention. The content created by online astroturfers are likely to draw attention of common people and influence

their decision. Thus, online astroturfing is a powerful and efficient strategy for organizations. (Chen et al. 2011, 1.) According to Mukherjee et al. (2012) positive reviews may result in significant financial gains for organizations, which gives a strong incentive for online astroturfing.

The latest research on astroturfing focuses more or less on the detection of astroturfing, and especially online astroturfing, which is discussed more widely in the theoretical part of this study. New astroturfing detection mechanisms are designed and validated to identify online astroturfing. However, detection of online astroturfing has proven to be a difficult task due to the vast amount of information the Internet provides nowadays. The attitude towards identifying astroturfing has changed in the course of time, since Mattingly (2006, 204) stated that legislators are able to tell the difference between grassroots and astroturf. He also argued that astroturfing is not that difficult to acknowledge.

Chen et al. (2011) as well as Cho et al. (2011) have come up with technical mechanisms to detect online astroturfing. Mukherjee et al. 2012 developed a method, which is able to label spam reviewer groups. Simpson (2011, 35) has come up with a somewhat different approach, which is more practical than technical. Simpson (2011) proposes rewards for truthful online reviewers and suggests prohibition of reviewer anonymity. He is also in favor of legal sanctions for organizations that have been caught astroturfing. Pfister (2011, 158) argues that when astroturf blogs are caught, the bloggers face a vast amount of criticism. Wang et al. (2012) state that information technology has increased the power of astroturfing drastically. Malbon (2013, 140) also points out that consumers rely more and more to the information about products and services found online and base their purchasing decisions upon these reviews.

The articles chosen for the analysis were published between 2004 and 2013. The earlier articles, published between 2004 and 2007, had somewhat of a political perspective. Only one other article, published in 2011, also had the main focus on politics. However, the perspective in this particular article was more in blogging and rhetoric. Two of the earlier articles had a focus on lobbying. One of the earlier articles concentrated on nonprofit theory.

The shift from political perspective to online aspect in the articles happened after 2007. The later articles, published between 2008 and 2013, all discussed

somehow the online nature of astroturfing. The main focus in these articles was in the techniques, which are created in order to distinguish real support from fake one. Online credibility, crowdturfing, the effectiveness of astroturfing, and global warming were also discussed.

4.3 Concerns and critique towards astroturfing

Two of the articles considered astroturfing as a threat to nonprofit and grassroots movements. According to McNutt & Boland (2007, 165) the rise of astroturfing creates a significant dilemma for nonprofit advocacy organizations as well as for nonprofit theory. Nonprofit organizations assume that advocacy works better when people are involved. The assumption is as well that the political system is more responsive to people than to faceless organizations. Nonprofit organizing is time-consuming and it is considered as difficult. Cho et al. (2011, 571) also point out that astroturfing poses a considerable threat to the legitimacy of grassroots movement. Astroturfing creates uncertainty among people, since people cannot know which organizations are genuine and which are fake. This may be likely to reduce people's enthusiasm in participating legitimate grassroots movements as well as supporting them financially. (Cho et al. 2011, 582.) Not only does astroturfing pose a threat to the legitimacy of grassroots movements but it also poses a global and growing threat overall in the Internet today (Wang 2012).

Three of the articles pointed out that astroturfing deals with trust and credibility. McNutt & Boland (2007, 169) as well as Simpson (2011, 29) see that the key issue and concern about astroturfing is trust. To be precise, can community efforts or online reviews be trusted. People may not realize that they are participating in astroturf efforts and decision makers can misread the results of astroturf efforts as pulse of the community. The latter is, in fact, the purpose of the actors of astroturf efforts. The lack of trust among people, especially consumers, concerns Simpson (2011). Fake online reviews have reduced the amount of trust consumers have towards review websites, which could lead to severe trust issues towards the Internet overall. According to Simpson (2011, 37) organizations behind online reputation systems should invest time and resources in improving the evidence of trustworthiness they provide. Lankes (2007, 23) is also concerned about the credibility of any piece of information since the rise of astroturfing.

Three of the articles described astroturfing as a deceptive practice. McNutt & Boland (2007, 169) Malbon (2013, 153) as well as Cho et al. (2011, 582) suggest that a central issue in astroturfing is deception. The people involved in astroturf efforts are deceiving the public and public officials and they are aware of it. As already mentioned before, people might not always know that they are a part of astroturf efforts, thus, they have been duped. The damage of this deception needs to be considered, since astroturfing might erode the positive effects of political participation. (McNutt & Boland 2007, 170.) The newspaper editors are primarily blaming PR firms and organizations of astroturf efforts instead of, for example, the citizens who submit astroturf letters to newspapers. It seems, however, that the citizens are not aware of the fact that the efforts they are conducting are wrong. (Klotz 2007, 5.)

Astroturfing was also considered as fraud and damaging practice, which threatens the legitimacy of online communications. McNutt & Boland (2007, 176) compares astroturfing with contributions fraud. Synthetic nonprofits organize fundraising efforts and the money comes from well-intentioned contributors. Mattingly (2006, 204) describes astroturfing as a potentially damaging activity. Pfister (2011, 156) argues that digital astroturfing jeopardizes the legitimacy of deliberation, since communication no longer emerges spontaneously from the life world. Legitimacy is better achieved when deliberation is initiated through spontaneous communication instead of communication, which is manufactured by the state or organizations. According to Pfister (2011, 158) astroturfing is a threat to communication in a networked society.

The ethical aspect of astroturfing was discussed in two of the articles. Cho et al. (2011, 571) point out the ethical and societal concerns that astroturfing raises. Astroturfing is designed to fulfill corporate agendas, manipulate public opinion, and harm scientific research, which raises multiple business ethics issues (Cho et al. 2011, 572). Astroturfing global warming is also against the ethics of environmental protection (Cho et al. 2011, 582). Also Simpson (2011) points out the ethical problems related to astroturfing. His focus is on the trust and reputation issues, which astroturfing raises. Pfister (2011, 158) is concerned about the credibility of the organizations that have been trying to influence public debate.

Two of the articles pointed out the negative impact astroturfing poses to online communities and online marketplace. Online astroturfing creates a significant negative effect on the online communities, since the information provided by online astroturfers is not trustworthy. Two rival organizations may employ people to produce fake online content about the competitor, which may lead to confusion among normal online users. The risk is that consumers will not be able to trust any information they acquire from the internet in the future. (Chen et al. 2011, 1.) Malbon (2013, 148) suggests that astroturfing has led to a real risk of eroding consumer confidence in the online marketplace. Thus, astroturfing undermines the economic efficiency of the online market as well as leads to misallocation of resources. It is also possible that astroturfing reduces competition.

One problem of online astroturfing is information spamming. A specific software aiming at posting information online with fake identification is under development in the USA. This could encourage organizations to use the same strategy when disseminating information online, which would lead to a significant spamming problem. The problem is that there is no systematic study that would solve online spamming issue. In addition to this, detecting fake reviews has proven to be a difficult and complex task (Malbon 2013, 139). Online astroturfers are difficult to identify, since they work “underground”. Thus, their behavior is difficult to study. (Chen et al. 2011, 1.)

The importance of spam review detection was emphasized in four of the articles. Lim et al. (2011, 2), Malbon (2013, 139), as well as Mukherjee et al. (2012) argue that detecting review spam is an important task, since consumers’ and product vendors’ genuine interests need to be protected in an era when online sales are growing rapidly. In fact, Malbon (2013, 140) found out that consumers rely heavily upon online reviews. Mukherjee et al. (2012) also point out that spammer groups can be severely damaging, since it is able to take a control of a sentiment on a product. Wang et al. (2012) found out that spammers are able to generate large information cascades and they are able to avoid the security systems created for spam detection. Wang et al. (2012) also emphasize the global nature of astroturfing problem.

One article pointed out that astroturfing threatens the democratic theory. Klotz (2007, 7) writes about plagiarized participation and with that he refers to, for example, prewritten letters to the editor (astroturf letters). He finds

plagiarized participation troubling from the perspective of democratic theory. Democracy is in danger when people are speaking with the words of others. Plagiarized participation cannot be considered as copyright infringement, since the candidate organizations have offered to use their texts without restrictions. In fact, the candidate organizations want the texts to be used. Plagiarized participation is, however, considered as plagiarism in the academy. (Klotz 2007, 7.)

5 CONCLUSIONS

The core idea of this study was to find out, what kind of research has been conducted about astroturfing, and provide a basis for future research. The results of this research introduced astroturfing as a phenomenon and explained how astroturfing has evolved during the years. Astroturfing has also raised concern and criticism, and these aspects were also discussed. This chapter concludes this study by discussing the results from different aspects, evaluating the study, and providing suggestions for future research.

5.1 Discussion

The results indicate that commercial corporations, nonprofit organizations, governmental organizations, and PR firms are typically behind astroturfing activities. Astroturfing has become a significant business especially for PR organizations. These results raise concerns in terms of credibility and reliability of organizations. Also, the ethical perspective needs to be taken into consideration. Astroturfing is practised in order to create uncertainty and confusion among consumers and the public, as well as, to promote the reputation of a particular organization and demote the competitors of that organization. Illegal means are being used: offensive rumors are spread and false advertising is made. Organizations need to consider, if this is the business strategy they will choose for themselves.

Astroturfing is effective because of the corporate funding. Money enables astroturf organizations to use more expensive methods and practices than,

for example, nonprofit and grassroots organizations. This means larger campaigns allocated to a larger audience. Does this mean that organizations struggling with financial problems might not be able to practice astroturfing? The results did not indicate the financial situation of astroturf organizations. Online astroturfing might be yet less expensive than traditional astroturfing. Nonetheless, the results emphasized that astroturfing practices are well organized and structured. This could indicate that more people are involved in the practice, which stands for larger expenses.

Astroturfing is considered as deceptive and the expression fraud was also mentioned to describe the practice. People are deceived, when they are a part of astroturfing practices and they are not aware of it. The public is also deceived, since astroturfing practices involve spreading dishonest content and influencing people with false intentions. Astroturfing campaigns can also include fundraising efforts. Organizations and other funders are deceived, since they do not know that they are funding a fake campaign.

Astroturfing is considered as successful when desired political outcome has been reached and when astroturfing is not recognized. Astroturfing can also lead to significant financial gains. As stated before, astroturfing is successful when people will not recognize it such. In other words, one way to make astroturfing unsuccessful is to discover techniques, which aim at detecting astroturfing. These techniques have already been developed but future research is yet required. If astroturfing becomes unsuccessful for organizations, it might reduce its popularity. It could also mean that organizations would to develop new methods and techniques to practise astroturfing.

Astroturfing has created uncertainty among people, and nowadays people are finding it difficult to distinguish, when the information found online is real and when fake. Consumers seem to suffer from lack of trust. Because of this, organizations are trying to put more effort in activities that would increase their trustworthiness. This could be the next focus point of organizational communication as well. Corporate social responsibility, as well as, environmental responsibility have been trending topics among organizations recently. Efforts to increase the trustworthiness and reliability could be the next trends among organizational communication. Another direction organizations could follow in the future, is to define themselves as

anti-astroturfing or non-astroturfing organizations. Especially, is astroturfing continues to increase with gathering pace.

The development of astroturfing from 1985 to 2014 has been significant. Astroturfing was practised mostly in the political arena in the early years of its existence. Traditional techniques included hand written letters and the use of telephone banks. The articles published in 2007 mentioned that technology can make astroturfing more effective and IT can speed up astroturfing activities. The assumption also was that IT can make astroturfing easier to detect. The latest research proves that IT has, in fact, increased the power of astroturfing. It also proves that astroturfing is difficult to detect and acknowledge, and much this is due to development of IT. Astroturfing is practised these days largely in online environment, which has made astroturfing more powerful and efficient.

As already stated before, astroturfing was practised earlier for political purposes. Desired political outcome as an objective has shifted to influencing public opinion in order to receive financial gains. The most common place for astroturfing activities is nowadays review websites. The target group is consumers, otherwise common people. Nowadays people read product and service reviews with an increasing enthusiasm. People also rely on these reviews and base their buying decision on them. Astroturf organizations have noticed this and are trying to take advantage of the situation. Nevertheless, it also seems that consumers have also noticed the practices of astroturf organizations, since the latest research shows that consumers are losing their trust towards the information they find online. All things considered, astroturfing has a negative effect on the online community as a whole. This creates significant challenges to organizations operating in online environment.

The article "War against astroturfing" was discussed in the introduction of this study. Astroturfing seems to attract military related terminology, which reflects the attitude towards the phenomenon as well as the seriousness of the matter. Chinese online water army has expanded and it operates like a real army in online environment. It is well organized and it has a clear mission: to flood the Internet with paid postings. Organizations and consumers need to consider, how to react to this army and perhaps, how to attack against it.

One of the core issues concerning astroturfing is support. In many cases astroturfing is practised in order to gain support. Different organizations may have different reasons to gain support. Political organizations may use dubious techniques to win supporters. PR firms usually practice astroturfing on behalf of other organizations, for example, commercial organizations. Fake online reviews and untruthful texts are written in order to attract positive attention around the organization, and perhaps to gain negative publicity to competitors. Astroturfing means creating fake support, thus, the support is artificial.

Support can signify different thing to different players. In political context, gaining support can mean, for example, winning the election. Commercial corporations can benefit financially, when they gain support. Support can also improve organization's reputation and image. On the contrary, astroturfing can ruin all of these positive results that the players have accomplished. Astroturfing can lead to penalties and cause reputational damage to an organization. One can only consider, whether astroturfing is worthwhile. Do the possible positive results offer greater benefit than the potential risks astroturfing causes? This could be one theme for future research.

There are many ways to practise astroturfing. The techniques are so advanced that astroturfing has become difficult to distinguish. Different kinds of methods have been developed to identify astroturfing practices. However, there is no single continuous method that would resolve the growing problem of astroturfing. Thus, future research is needed also in terms of detecting astroturfing actions.

5.2 Evaluation

There was a lack of academic research and articles concerning astroturfing, which impeded the implementation of this study. However, all the academic material that was found and that was accessible concerning astroturfing was included to this research. Astroturfing has been widely acknowledged in the media, thus, certain magazine and newspaper articles were used as sources in the theoretical part of this study. Nevertheless, the main focus was in the academic articles and the secondary sources were only used to give additional information on the subject.

There were some academic articles, which might have given additional value to this research. However, these articles were not accessible. Some other database instead of University of Jyväskylä's Nelli portal could also have been used. Nelli portal is yet a database with a wide selection of sources, thus, it can be considered as an extensive database. Google scholar was also used as a search engine after it was discovered that there was a limited amount of academic research concerning astroturfing. Articles found via Google scholar were considered as secondary sources.

The results of this study are based on 15 articles. When conducting a literature review, one can select a period of time and choose articles that fit the selected time range. This was however not the case in this research due to the low amount of academic articles concerning the subject. The articles selected for this study provided a general view about astroturfing, which was the main purpose of this research.

All of the articles selected for the analysis did not mention astroturfing. These were the latest articles that focused on fake online reviews. However, the definition chosen for astroturfing in the beginning of this research indicates that fake online reviews are considered as astroturfing, when there is a player controlling these fake reviews and paying people for writing them. Thus, it was not significant, whether the term astroturfing was used to describe the practice.

5.3 Future research

This research gives a basis for future studies concerning astroturfing. The main findings of this research include the global and concerning nature of astroturfing phenomenon. Astroturfing cases have also increased, thus, future research is needed in order to resolve and monitor the issue.

Some of the articles provided suggestions for future research. Cho et al. (2011, 582) propose that future research could focus on investigating how astroturf organizations employ different aspects of deception when influencing the public opinion. They also suggest that the impact of astroturf organizations' message on different audiences could be examined. The impact of astroturf organizations on the legitimacy of grassroots organizations could also be a subject for future research.

Astroturfing detection methods and techniques could also be researched further. As a matter of fact, they have been the main focus of the research in the previous years. However, it seems that especially online astroturfing is difficult to detect and it is possible that there is no single method or technique, which could resolve the issue.

Future research could also focus on organizations. The target could be the organizations that have been caught astroturfing. Their motivation and intentions could be one object of observation. Another object could be to find out, how getting caught affected these organizations. Another aspect could be, what kind of influence astroturfing has to the legitimacy, image and reputation of organizations, especially PR organizations that have been connected with astroturfing practices.

This study offers a basis for future research by providing an overall picture of the topic. Astroturfing has proven to be such a multidimensional phenomenon that future research could be conducted from various aspects. Considering the amount of the concern and critique astroturfing has risen, future research is justified.

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