

# **Legal status of search engine result manipulation**

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**Should the European Union take additional legal measures  
against search engine result manipulation due to unfair online  
competition?**

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# Abbreviations

|        |                                   |
|--------|-----------------------------------|
| CTR:   | Click through rate                |
| HTML:  | HyperText Markup Language         |
| SE:    | Search engine                     |
| SEO:   | Search engine optimization        |
| SERM:  | Search engine result manipulation |
| SERPs: | Search engine result pages        |
| PR:    | PageRank                          |
| URL:   | Uniform resource locator          |

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# Chapter 1: Introduction

## 1.1 Introduction

When you search the internet on a certain subject by using a search engine, have you ever thought about the trustworthiness of the search results you receive? You might be tempted to think all results are legitimate, trustworthy and what they appear to be because you used a well-known search engine that has been around for years, like Google<sup>1</sup> or Bing<sup>2</sup>. You might think that their algorithms are so sophisticated that they are bullet-proof and can withstand and filter out the websites that are not relevant to your search or contain bogus material. Well, they try, do a pretty good job most of the time but sometimes also fail.<sup>3</sup> The search engine landscape is changing into a game of cat and mouse between search engines, web developers, search engine 'optimization' companies and eager businesses who want to rank at the best possible positions on the search engine's result pages. This has led to a whole new arsenal of methods which are used to try to manipulate the search engine's results and which have to be continuously countered by the search engines in order to keep their results clean and trustworthy.

For companies who succeed the reward is great, they gain more profit when their website ranks higher in the search engine results because they will receive (much) more traffic. Research shows that almost 50% of all the clicks go to the top three positions in the search results. The first result gets about 27% of the clicks, the second roughly 11% and the third place gets near 8% of the clicks, so it is a must for businesses to rank high.<sup>4</sup> These high rankings can be achieved in two ways, by using methods conforming to the search engine's guidelines, or methods in violation of them. Manipulation or optimization of your website or other websites can affect the search engine's results. These methods can also be used in two ways, to make your own website rank higher, or on the other hand, to decrease the ranking of your competitor's site. These techniques might typically be used by businesses as they are best served by high rankings in search engine results, but search engines themselves have also been accused of unfair manipulation of the results by manually raising the rankings of some of their own product's websites in their search engine's results.<sup>5</sup>

These practices, which are mostly in violation of the search engine's guidelines, could have a great effect on the internet, on small, medium and large companies, the internet users (consumers) that use the search engines, the search engines themselves and how their results are trusted by all these parties.

So subsequent to these observations the main question of my thesis will be: "Should the European Union take additional legal measures against search engine result manipulation due to unfair online competition?"

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<sup>1</sup> <http://www.google.com> by Google Inc.

<sup>2</sup> <http://www.bing.com> by the Microsoft, which since July 29, 2009, also powers the Yahoo! search engine.  
<http://www.microsoft.com/Presspass/press/2009/jul09/07-29release.msp>

<sup>3</sup> Sophos has more than 20 years of experience protecting businesses from known and emerging threats.  
<http://www.sophos.com/security/technical-papers/sophos-seo-insights.pdf>

<sup>4</sup> I took the average of the 2 studies, as click through rates depend on the keywords used in the research:  
<http://www.internetmarketingninjas.com/blog/search-engine-optimization/click-through-rate/>

<sup>5</sup> Antitrust: The European Commission probes allegations of antitrust violations by Google:  
<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/1624>

## 1.2 Angle and scope

I will answer the main question of my thesis from the European Union's perspective, so through a government's angle. I chose this for several reasons. First of all, unfair competition could be an unwanted consequence of search engines result manipulation and this affects the companies and citizens in the whole of Europe. Second, governments have inter alia the duty to maintain order, protect citizens and companies and make or adjust laws if needed. Third, answering the main question from a search engine's angle would not provide a neutral perspective as they have also been accused of manipulating their search results.<sup>6</sup> This would be similar to asking a person accused of burglary if he thinks it should be punishable. I am also not using a consumer's or company's perspective because they are not the ones designated to detect possible unfair competition, instead they should be protected against it. Second, the only action they could take if they detect unfair competition would be to report it, while the European Union could take legal action like adjusting the law or giving a fine.

## 1.3 Methodology

This thesis will mainly be a literature study. I will also explain different types of search engine result manipulation that have occurred or are possible and how they are committed. I will explain this so the reader gets a better idea of what is actually possible in searchengineland and to provide a better understanding of how the manipulation of search results affects consumers and companies.

### 1.3.1 Roadmap

The main question is: "Should the European Union take additional legal measures against search engine result manipulation due to unfair online competition?" To be able to answer this question I will have to investigate if:

- Search engine result manipulation is possible (SERM)
- How SERM is committed and preferably on what scale
- If this also leads to unfair online competition
- If the parties involved like consumers, companies, search engines, government also experience this and how they are affected by it.
- If the problem is serious enough so that the European Union should take additional legal measures

### 1.3.2 Search engine

The search engine I will focus on during this thesis will be Google, because it has a worldwide market share of 85%, 65% in the United States and no less than 94% in Europe.<sup>7</sup> As I am also focussing on the European Union's legislation, it is an obvious choice to focus on Google with its 94% market share.

### 1.3.3 Resources

The resources I use in the first 4 chapters are twofold. In these chapters I will explain the basics of search engine result manipulation, but because there is no scientific literature on how to perform these actions I will base my writings on specific websites, blogs or forums, which I will refer to in the footnotes, and my own knowledge. I have been programming websites for about 12 years, during this

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<sup>6</sup> Antitrust: Commission probes allegations of antitrust violations by Google:

<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/1624>

<sup>7</sup> Search Engine Market Share - March 2012: <http://www.karmasnack.com/about/search-engine-market-share/>  
Search Engine Market Share - December 2011: <http://www.workinghomeguide.com/index.php/9807/search-engine-market-share-december-2011>

period I have learnt a lot about search engine manipulation and optimization; hence, the knowledge from personal experience will also be used as a resource. I gained my knowledge by reading articles, forum posts and blogs on various websites throughout the years and through expert community websites like experts-exchange.com<sup>8</sup> and also by a lot of trial and error. The other literature I will use will be from as much reliable sources as possible, like universities, experts on this topic, governments and non-governmental-organisations.

### 1.3.4 Cases

I will use cases of search engine result manipulation as examples to explain the different types of manipulation where applicable.

## 1.4 Outline

This outline shows the structure of my thesis and what will be discussed in each chapter. In chapter one I will start with an introduction to the subject and the main question. Second, I will provide my approach to the subject by giving the angle and scope, why the European Union's angle is chosen and which methodology will be used, like the chosen method to write this thesis and why. Chapter one ends with this outline which provides the framework of my thesis. In the second chapter I will give an explanation about what search engine result manipulation is and answer questions as: what is a search engine, what are the search engine result pages, what are search engine webmaster guidelines, what are sanctions search engines can impose and what is search engine result manipulation? Chapter three will give information on the different purposes for which search engine result manipulation can be used, like to increase a website's ranking to get a higher click through rate, or, to decrease a website's ranking, like that of a competitor's website or to get rid of negative content about your company which is ranking high in the search results. In chapter four I will discuss what the different methods are that can be used to manipulate the search results and how they work. For example: link spamming, Google Bowling, cloaking, infecting a site with malware, snitching, creating duplicate content, clone a website to get it banned and denial of service attacks (DOS). Chapter five will answer the question about why search engine result manipulation is a problem, who is affected hereby and what the consequences are. The following issues will be reviewed: the quality and trustworthiness of the search results, the ignorance of the search engine user, unfair commercial practices, unfair competition and extortion by search engine manipulation. Chapter six will address the legal status of the different types of search engine result manipulation regarding European law like the Cyber Crime Convention, the E-Commerce Directive and the Unfair Commercial Practices Directive. The types of manipulation will also be compared to the Google's search engine guidelines to show what they do or do not allow. In the conclusion I will finally answer the question if the European Union should take additional legal measures against search engine result manipulation due to unfair online competition.

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<sup>8</sup> Experts Exchange is a technology help site. People ask questions and experts from around the world provide reliable answers. <http://www.experts-exchange.com/aboutUs.jsp>

# Chapter 2: What is search engine result manipulation?

To provide the best insights on what search engine result manipulation is I will start at the basis and explain all the relevant steps involved.

## 2.1 What is a search engine?

An online search engine (SE) is a program written to make the internet searchable for its users. A program, also called a spider, is designed to crawl the internet by following links on each of the webpages it visits. Which of the links on a page it follows and how many is determined by the configuration of the algorithm. The algorithm is the computer program which determines the websites to crawl, how often and how many pages to fetch from the particular website.<sup>9</sup> Each webpage is subsequently analysed and indexed. During the analyses of a page the algorithm determines which parts are relevant. The HTML<sup>10</sup> codes for example, which give the webpage its layout, are often present in a greater abundance than informative text on a page and are thus not interesting for users of search engines so there is no need for the algorithm to store them.<sup>11</sup> The relevant pieces of information of a webpage are the texts we as users see and the texts used in certain (code-) tags. The title of a page for example is placed between the title-tags in the page's code: <title>Joe's web shop for rare baseball cards</title> and as Google's algorithm cannot read images they should have the "alt"-attribute (alternative) specified with informative explanatory relevant (key)words.<sup>12</sup> This alt-tag is, in turn, a part of the image-tag.

After the analysis most or all relevant parts are stored into the search engine's index.<sup>13</sup> This is done so the SE can quickly find the relevant information you are looking for based on the search terms you entered, also called the search query. Search engines only crawl publicly available pages and content as they do not have any usernames or passwords to access specific parts of websites which require login information. Web developers also have the possibility to exclude their whole website or parts of it from being indexed by the spiders by denying it access to these parts. This can be done in several ways, but the most common and preferred method is by using a robots.txt file in the root directory of a website. Before a page is crawled by a spider the robots.txt file is checked to evaluate if it is granted access or not. If its access is denied, this could be a denial for a specific spider or all spiders, the corresponding pages are not crawled. Google's spider obeys the rules set out in the robots file.<sup>14</sup> Spam robots, which crawl the web to harvest email addresses for example, could ignore these rules and crawl your pages anyway.

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<sup>9</sup> Google Basics (<http://support.google.com/webmasters/bin/answer.py?hl=en&answer=70897>)

<sup>10</sup> HTML: HyperText Markup Language, the main markup language for web pages.

<http://en.wikipedia.org/wiki/HTML>

<sup>11</sup> The pages that are indexed are often also stored in the cache memory, including the webpage's HTML code; Google uses this cache to provide previews of websites in its search results.

<http://www.google.com/landing/instantpreviews/#a>

<sup>12</sup> See 11.

<sup>13</sup> The Anatomy of a Large-Scale Hypertextual Web Search Engine (Google), by Sergey Brin and Lawrence Page <http://infolab.stanford.edu/~backrub/google.html>

<sup>14</sup> Block or remove (a crawlers access to specific) pages using a robots.txt file

<http://support.google.com/webmasters/bin/answer.py?hl=en&answer=156449>

## 2.2 What are the search engine result pages?

When a user types his search query into the search field the SE will quickly run through its index and grab the most relevant webpages based on the query entered and show them on the result pages (SERP).<sup>15</sup> The determination whether a page is relevant for the search or not and should thus be shown, is based on the search engine's algorithm. Google says its algorithm takes approximately 200 variables into account when determining the relevance of an indexed page for the entered query.<sup>16</sup> Although Google has revealed some of these variables, most of it is as heavily guarded secret as the Coca-Cola formula.

One of the variables that Google is known to take into account in its algorithm is PageRank (PR).<sup>15</sup> This name is actually not chosen because it calculates the authority of a webpage, it is named after its inventor, Larry Page, one of the founders of Google.<sup>17</sup> The authority or quality of a page is determined, among other things, by the amount and quality of links that point to it. When pages with much authority enter thus a high PR link to another page some PR is also passed through, giving the targeted page more PR. Pages with a high PR also pass more PR than pages with a lower PR. PageRank is expressed with a number from 0 to 10. Most of the webpages are PR0 and only ten have PR10 at the moment, like Twitter and the United Nations website.<sup>18</sup> The following example will show the importance of receiving links from pages with high PR. Say you have a webpage that has PR7<sup>19</sup>, it will only take one link to turn a PR0 page into one with PR5.<sup>20</sup> Google sees the page with PR7 as highly authoritative and when a page with this level of authority links to another page, Google assumes it is authoritative too and credits it likewise. Because the PR0 page is now PR5 its ranking in the search result will probably rise on certain search queries as Google now sees the page as more relevant on these subjects. In comparison, it would take 16803 links from PR1 pages to make the targeted page reach PR5.<sup>20</sup>

One of the pages with PR10 gives an indication on another factor Google uses to determine the relevance of a page: 'the anchor text', this is the text of a link which is clickable. When 'click here' is searched for with Google, the download page of Adobe's Reader is the first result. Is this because that page contains the phrase 'click here' multiple times? No. That page does not contain that phrase even once. So why does it rank number 1 on the SERPs? Many webpage use PDF-files to serve their visitors extra information, to assist visitors that do not have Adobe's PDF Reader installed for opening the file with, often a link with the anchor text 'click here'<sup>21</sup> is placed to download the PDF Reader. So not only the amount of links or the quality of the pages the links are on determines its relevance, the anchor texts of the links are also one of the algorithms variables used to determine how relevant a webpage is compared to the given search query and thus on which position it should rank in SERPs.

### 2.2.1. Algorithm changes

Besides your own and someone else's actions that can intentionally or unintentionally affect the order of the SERPs, Google does this on an almost daily basis. In 2012 Google expects to update its search

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<sup>15</sup> Google Basics - Serving results: <http://support.google.com/webmasters/bin/answer.py?hl=en&answer=70897#3>

<sup>16</sup> How Google search works - Algorithms Rank Relevant Results Higher:

<http://www.google.com/competition/howgooglesearchworks.html>

<sup>17</sup> PageRank History - <http://en.wikipedia.org/wiki/PageRank#History>

<sup>18</sup> PageRank 10 sites on 06-02-2012 - <http://www.searchenginegenie.com/pagerank-10-sites.htm>

<sup>19</sup> Like <http://rechten.uvt.nl/koops/cryptolaw/>

<sup>20</sup> How Many Backlinks Required for Google PageRank? <http://curiouslittleperson.com/backlinks-for-google-pagerank/>

<sup>21</sup> Try it: <http://lmgty.com/?q=click+here>



algorithm about 500 times.<sup>22</sup> Most of their algorithm updates do not affect more than 1 or 2 per cent of the searches but some updates, like the first Panda update in February 2011<sup>23</sup>, affected almost 12 per cent of all the searches.<sup>24</sup> On a scale of over 1 billion searches a day<sup>25</sup>, 12 per cent is a huge number. So a sudden shift in a webpage's ranking on the SERPs could be caused by one of these daily algorithm updates. With each update Google changes, removes or adds the variables that the algorithm uses to index and rank webpages. A webpage can be affected negatively and positively, causing a decrease or an increase in the page's ranking.

## 2.3 Webmaster guidelines

Google has created a set of webmaster guidelines in order to help getting a site found, indexed and ranked.<sup>26</sup> A webmaster or web developer is a general term for somebody who creates, modifies, updates, manages and in general maintains websites.<sup>27</sup> Some of these advices are content and design related, to assure their crawler is able to reach and thus index all the pages of a website. Like the recommendation to check your website for broken links, if you cannot reach a page because the link does not work, the crawler cannot either. Or to create a sitemap, this is a specific page that contains links to all the pages of a website. Visitors can use this map to quickly find a page they are looking for, that is if the sitemap is well structured and organised. Subsequently the search engine's crawler will have access to all the pages of the site via this sitemap. Other guidelines are of technical or qualitative nature. A technical advice is to check whether crawlers have access to the site, as it could have been accidentally blocked.<sup>28</sup> Or to assure that pages and links created by a content management system can be crawled. The quality guidelines will be discussed in the next sub-chapter.

Beside the SE's guidelines, the World Wide Web Consortium (W3C) develops protocols, guidelines and standards on how websites should be coded. Thanks to these standards the long term growth of the web can be assured and web developers are able to read each other's code and have guidance on how to deliver quality coding.<sup>29</sup> W3C's standards determine key parts of what makes the World Wide Web work like the Hyper Text Markup Language (HTML), this is the language in which websites are displayed.<sup>30</sup>

## 2.4 Search engine sanctions

Following Google's guidelines is not obligatory to get a site ranked or indexed, but the quality guidelines provide some illicit practices that could result in a site being removed from Google's index or otherwise receive a punishment by either an algorithmic or manual spam action by Google's web spam team<sup>31</sup>. A

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<sup>22</sup> Page layout algorithm improvement: <http://googlewebmastercentral.blogspot.com/2012/01/page-layout-algorithm-improvement.html>

<sup>23</sup> Google Algorithm Change History: <http://www.seomoz.org/google-algorithm-change#2011>

<sup>24</sup> Panda Update: Finding more high-quality sites in search: <http://googleblog.blogspot.com/2011/02/finding-more-high-quality-sites-in.html> and not the Caffeine update which noticeably impact was only 6 - 10% of searches (<http://insidesearch.blogspot.com/2011/11/giving-you-fresher-more-recent-search.html>)

<sup>25</sup> Google numbers: <http://www.google.com/ads/answers/numbers.html>

<sup>26</sup> Google's webmaster guidelines: <http://support.google.com/webmasters/bin/answer.py?hl=en&answer=35769>

<sup>27</sup> Webmaster: <http://en.wikipedia.org/wiki/Webmaster>

<sup>28</sup> I ran into this lately, I checked a website for a friend that did not appear in Google's search results and found this piece of code: `<!-- delete this line when launching website --><meta name="robots" content="noindex" />`

<sup>29</sup> W3C's Standards: <http://www.w3.org/standards/>

<sup>30</sup> The HTML standards are developed by W3C: <http://www.w3.org/Provider/Style/Standards.html>

<sup>31</sup> Quality guidelines: <http://support.google.com/webmasters/bin/answer.py?hl=en&answer=35769#3>

spam action is a penalty that Google gives a certain page or website when they have detected a violation of typically the quality guidelines. The kind of penalty that is invoked depends on the severity of the violation<sup>32</sup>, but can vary from being lowered in the search results for a few weeks to several months. Or if the violation is an illicit practice like placing paid links on a website in order to flow PageRank, a complete removal of the site from the search results could be the consequence.<sup>33</sup>

Google has two kinds of spam actions. One is a manual action taken by the Google web spam team primarily in reaction to a manually submitted spam report.<sup>34</sup> A spam report can be submitted by anyone who runs into spam on a webpage<sup>35</sup>, like the use of hidden text or doorway pages. These and other kinds of web spam and illicit practices will be explained in chapter 4. If the manual submitted spam report is validated and accepted an appropriate penalty will be applied to the corresponding website.

The other is an automated spam action invoked by Google's algorithm. While the search engine's crawler crawls the internet to add, update or remove pages from its index, the crawler runs into violations with the guidelines as well. When this occurs, the algorithm can automatically raise a penalty on the corresponding site. This penalty will at least last until the site is crawled again, if the violating content is removed on a subsequent crawl, the automatically invoked penalty could and probably will be removed.

If you want to speed up this process and you believe the violating content in question is removed from the site, a reconsideration request can be submitted to Google.<sup>36</sup> The request should inter alia state why the penalties may have been imposed, the actions taken to remove the violating content, that the site currently is not in violation with the guidelines and if a search engine optimization company was used, which it was. If the web spam team acknowledges all necessary steps have been taken, the reconsideration request could be granted and the site will be added to the index again.

## 2.5 What is search engine result manipulation?

When a search is conducted the results you receive are based on the variables in the SE's algorithm that judge the indexed pages in the index. So, if you know or try to find out what (some) of these variables are, you can take them into account when developing a website. By 'optimizing' your webpage to please the algorithm the goal is to rank high on the SERP's and by doing this, the results are manipulated or at least different from what they would have been without these actions taken. The different techniques available to accomplish this will be discussed in chapter 4.

So, search engine result manipulation (SERM) is the comprehensive term used to describe the methods available to manipulate the SERPs by adapting or altering your website's content or that of other websites to change the order the SE displays the results. Why one would do this and what it is used for will be discussed in the next chapter.

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<sup>32</sup> Google Groups Discussion: "How long does it usually take after Google revokes the manual spam action?" (see "best answer") <http://groups.google.com/a/googleproductforums.com/forum/#!category-topic/webmasters/crawling-indexing--ranking/GUcuPEuLv3k>

<sup>33</sup> Paid links: <http://support.google.com/webmasters/bin/answer.py?hl=en&answer=66736>

<sup>34</sup> Webspam refers to pages that try to trick Google into ranking them highly, these can be reported here: <https://www.google.com/webmasters/tools/spamreport?hl=en>

<sup>35</sup> How to help Google identify web spam: <http://googlewebmastercentral.blogspot.com/2010/11/how-to-help-google-identify-web-spam.html>

<sup>36</sup> Ask Google to reconsider your site: <https://www.google.com/webmasters/tools/reconsideration>

## Chapter 3: For which purposes can search engine result manipulation be used?

A disturbing fact is that experts<sup>37</sup> recently claimed Google is fuelling negative search engine optimization or SERM business by making it easier to ‘take down’ or demote a website due to recent updates to its algorithm. It now seems easier to demote another website than to boost your own site in the rankings. In March 2012 an experiment was conducted to prove the recent change in Google’s algorithm made it an easy practice. Two websites were selected as test candidates and were scraped and blasted<sup>38</sup>, this means, simply said, many links were automatically placed on thousands of blogs containing certain keywords. The results of the experiment are shared on trafficplanet.com<sup>39</sup> by a forum member where he shows two websites losing rank for certain keywords and dropping from place 3 to 34<sup>40</sup> and place 1 to 13<sup>41</sup>. Other targeted pages were even nowhere to be found in the top thousand results. Google probably demoted the websites for these specific keywords because these keywords were also placed in the anchor texts of the links that were spread. Google subsequently noticed all these links suddenly appearing and associated them with an attempt to manipulate the search results and as these links all pointed to the two websites, Google demoted them for the keywords used in the anchor texts. In an open letter to Google a SEO expert<sup>42</sup> recently underlined the seriousness of the possibility to perform these practices. Search engine result manipulation is used in a variety of ways, some are legitimate, some are debatable others are against SE guidelines or even illegal. For which purposes are they used?

### 3.1 Optimizing a website

The most used and broadly accepted, legitimate method is search engine optimization (SEO). Owners and developers of websites like their sites to be used, read and able to generate traffic and income. One of the methods to achieve higher volumes of traffic to a website is to rank high in the SERPs. The top three spots on the first page are most desirable because they have a combined click through rate<sup>43</sup> (CTR) of about 50% as we have seen in the introduction chapter. The click through rate is the amount of times that a link is shown divided by the amount of times the link is actually clicked, thus higher CTRs result in more people visiting your site.

When trying to achieve these rankings, a developer should optimize the websites he creates by building them in accordance with the technical requirements and standards<sup>44</sup> and the search engine’s guidelines and fill them with relevant content. But, the starting point should always be to develop and design a website for the best possible user experience and not for search engines. When creating a site that sells baseball caps for example, put something like: ‘Buy baseball caps? We have the best priced baseball

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<sup>37</sup> Google Creates Massive Growth in the “Negative SEO” Industry by Will.Spencer: <http://www.tech-faq.com/negative-seo.html>

<sup>38</sup> Trackback is one of three types of linkback methods for Web authors to request notification when somebody links to one of their documents. <http://scrapeboxblasts.com/welcome-to-scrape-box-blasts/>

<sup>39</sup> Case study: Negative SEO – Results: <http://trafficplanet.com/topic/2369-case-study-negative-seo-results/>

<sup>40</sup> Website: seofaststart.com, keyword: “seo book”

<sup>41</sup> Website: negativeseo.me, keywords: “destroy your competitors”

<sup>42</sup> Philip Nikolayev’s, PhD, letter: <http://forums.seochat.com/google-optimization-7/seo-anarchy-or-web-freedom-an-open-letter-to-google-458102.html>

<sup>43</sup> CTR = is the amount of clicks on a link compared to the times the link is shown. (clicks / impressions = CTR) <http://support.google.com/adwords/bin/answer.py?hl=en&answer=107955&from=6305&rd=1>

<sup>44</sup> The World Wide Web Consortium (W3C) is an international community where Web standards are developed. <http://www.w3.org/standards/>

caps' in your page's title-tag, instead of only 'Home'. The former provides much more relevant information to the visitors and subsequently to the SE's spider than the latter. So using SEO does not only serve the potential visitors of your site, it also helps to improve the website's findability in the SERPs. SEO could thus be seen as positive and desired form of SERM, to make a website findable.

This is called white-hat SEO, optimizing a website in accordance with the guidelines and the technical standards set out by the W3C<sup>45</sup>.<sup>46</sup> So instead of trying to manipulate the SERP's and demote a competitor's site or one with bad publicity for your business, one could try to increase the ranking of sites that speaks positively about its business. This can be achieved by creating more high quality links that link to these sites. These links could be created on pages relevant to the subject of one's own website and by using anchor texts that also correspond with it. If I would own a car repair shop and have a section with "customer's opinions" on my site, I could place a link from this page to the other website, maybe a rating site, where other customers have expressed their satisfaction about my services. The anchor text (link name) I should use would be something like: "Also read the experience of other satisfied customers". Next, the SE's crawler will find this link and associate the rating site even more with 'satisfied customers' as the inbound link says this in the anchor text. But because one link would not really boost a page in the SERPs, links pointing to this rating site could also be placed on social networking sites like Facebook and Twitter. Other locations to place the link on could be the company's blog or forum. A link could even be submitted for placement on so called online directories like the Open Directory Project<sup>47</sup>, which is a huge collection of manually categorised links. Furthermore, advertisements linking to the rating site could be bought or the site could be mentioned in the company's newsletter. When all these methods are used the ranking of the site could be positively affected.

### 3.2. Promote site

When web developers exaggerate the SEO to a website, they do this deliberately to rank higher on the SERPs. They shift their focus from users and their experience to search engines and how to get the highest possible rankings. At this point I would call search engine optimization, search engine result manipulation because the methods used are often explicitly prohibited by the search engine guidelines. Their site or other sites are modified with the sole purpose of increasing its ranking. One of the methods Google uses to determine the relevance of a page and thus at which spot it should appear in the results is how many links on other sites point to your website.<sup>48</sup> The more inbound links containing, preferably with relevant keywords in the anchor texts, a page has, the more relevant it is considered to be and the higher it will rank. With this in mind JC Penney, a chain of American mid-range department stores, wanted to rank better for a bunch of their products so they hired a company called SearchDex<sup>49</sup> to achieve this. This company created or modified a fair amount of the 2015 webpages Blue Fountain Media found<sup>50</sup> which were used to host even more (back)links with anchor texts like 'Samsonite carry on

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<sup>45</sup> W3C's primary activity is to developing protocols and guidelines that ensure long-term growth for the Web. <http://www.w3.org/Help/#activity>

<sup>46</sup> Advanced Search Engine Optimization: A Logical Approach, By Terry Dunford II - Lulu.com, 2008, p59.

<sup>47</sup> The most comprehensive human-reviewed directory listing of the web. ([www.dmoz.org](http://www.dmoz.org))

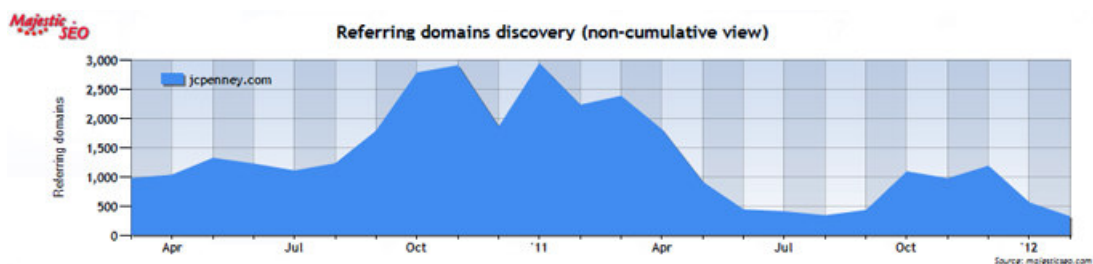
<sup>48</sup> Google's official webmaster blog: <http://googlewebmastercentral.blogspot.com/2008/10/good-times-with-inbound-links.html>

<sup>49</sup> SearchDex, an Internet Marketing Development Company <http://www.searchdex.com/>

<sup>50</sup> By Doug Pierce of Blue Fountain Media who was hired by the New York Times to investigate the links. See footnote 51.

luggage’ that linked to the corresponding page on JC Penney’s website where you could buy the cases in question. Thanks to the link scheme JC Penney’s webpage ended up ranking even higher on the search query than Samsonite’s website.<sup>51</sup>

In comparison with the 2015 webpages with links Blue Fountain Media found, the first chart<sup>52</sup> below shows almost 3000 different domains which host pages with links pointing to JC Penney’s site in the period October to December 2010. The graph shows the number of domains increasing from July 2010 with peaks around the beginning of November and the end of December. I cannot explain the dip around the beginning of December, it could be that some domains were unreachable for a period of time or some links were removed and others created again. The decrease which starts around March 2011 is probably caused by JC Penney’s reaction to Google’s spam penalty, which was imposed around the second week of February 2011.<sup>53</sup> JC Penney began their effort to get the links removed from the domains that hosted these paid links in order to get back in conformity with Google’s guidelines in an attempt to regain their natural rankings in the search results as they had before the link scheme. The effect of Google’s spam penalty shows even better on the second graph on the next page where a direct drop in traffic from Google’s search results to jcpenny.com can be seen around February 2011.



Referring domains: the amount of different domains on which the backlinks are placed<sup>54</sup>

The graph below indicates the link scheme possibly resulted in a major increase of traffic to jcpenny.com via Google starting around October 2010. More visitors on your website lead to more potential buyers and thus a potential increase of sales for JC Penney during the holiday period in November / December 2010. The amount of traffic to jcpenny.com jumps from around 4,3 million to about 7,5 million in December 2010.

<sup>51</sup> The Dirty Little Secrets of Search, by David Segal, New York Times 2011

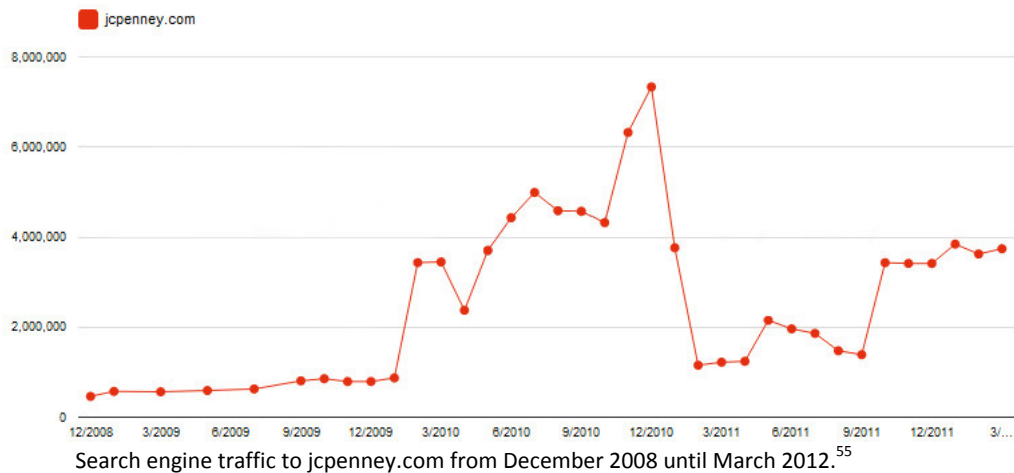
<http://www.nytimes.com/2011/02/13/business/13search.html?pagewanted=1&r=2&ref=internet>

<sup>52</sup> A 2 year overview of the amount of websites with links and the amount of links pointing to jcpenny.com:

<https://www.majesticseo.com/reports/compare-domain-backlink-history?d0=jcpenny.com&d1=&d2=&d3=&d4=&type=0&ctype=3&entries=24&IndexDataSource=H>

<sup>53</sup> Around 23 May, Google removes the 90 day lasting spam penalty: <http://searchengineland.com/90-days-later-google-lets-j-c-penney-out-of-timeout-78223>

<sup>54</sup> Majesticseo.com, referring domains: <https://www.majesticseo.com/reports/compare-domain-backlink-history?d0=jcpenny.com&d1=&d2=&d3=&d4=&type=0&ctype=3&entries=24&IndexDataSource=H>



In their monthly sales report JC Penney stated the following about their (online) sales:

Report November 2010: “Customers also chose to shop for holiday gift items through jcp.com, as traffic and conversion on the Company’s ecommerce site were well-ahead of last year throughout the holiday weekend.”<sup>56</sup>

Report December 2010: “The Company reported a successful holiday season as its compelling gift assortments, promotional events, and industry-leading customer service drove performance. [...] Internet sales through jcp.com also posted strong growth in December, with significant increases in traffic and orders for the key holiday shopping periods of the week after Thanksgiving and the week before Christmas.”<sup>57</sup>

This overview of JC Penney’s web sales over the last quarters of the last four years also shows a peak in sales in the fourth quarter of 2010, the same period their link scheme was most active.

| Web sales | Q4 2008 <sup>58</sup> | Q4 2009 <sup>59</sup> | Q4 2010 <sup>60</sup> | Q4 2011 <sup>61</sup> |
|-----------|-----------------------|-----------------------|-----------------------|-----------------------|
| JC Penney | 445.3mln (-8,6%)      | 464.1mln (+4,3%)      | 495mln (+6,7%)        | 480mln (-3,0%)        |

This does not automatically mean that the link scheme paid off in the sense that it caused the whole 2,4% increase in web sales compared to 2009, but it is a good indication that the link scheme JC Penney used worked and resulted in a significant increase of web sales, especially when compared to the negative sale percentages in 2008 and 2011.

<sup>55</sup> Semrush.com tracks the search engine traffic to different websites:

[http://www.semrush.com/info/history/index.html?domains\[\]=jcpenny.com&gtype=1&db=us#domains:jcpenny.com;type:1;db:us](http://www.semrush.com/info/history/index.html?domains[]=jcpenny.com&gtype=1&db=us#domains:jcpenny.com;type:1;db:us)

<sup>56</sup> JC Penney reports November 2010 sales results:

<http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9NzI4NzZ8Q2hpbGRJRD0tMXxUeXBIPtM=&t=1>

<sup>57</sup> JC Penney reports December 2010 sales results:

<http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9NzY3NzN8Q2hpbGRJRD0tMXxUeXBIPtM=&t=1>

<sup>58</sup> JC Penney web sales Q4 2008 in percentage: <http://www.internetretailer.com/2009/02/25/q4-web-sales-drop-8-6-for-j-c-penney>. Knowing the percentage and amount of dollars over Q4 2009 the amount of dollars for Q4 2008 can be calculated.

<sup>59</sup> JC Penney web sales Q4 2009 in percentage: <http://www.internetretailer.com/2010/03/08/j-c-penney-reshuffles-its-e-commerce-leadership>. In dollars: <http://www.internetretailer.com/2011/02/25/web-sales-grow-slightly-jc-penney-2010>

<sup>60</sup> JC Penney web sales Q4 2010 in percentage and dollars: <http://www.internetretailer.com/2011/02/25/web-sales-grow-slightly-jc-penney-2010>

<sup>61</sup> JC Penney web sales Q4 2011 in percentage and dollars: <http://www.internetretailer.com/2012/02/24/jc-penney-treads-water-web>



Macy's, one of JC Penney's competitors, does not state its amount of web sales in dollars, but over 2010 Macy's web sales grew with about 29%.<sup>62</sup> I do not think this figure can be used when judging if the JC Penney link scheme had a significant impact on their web sales or not. These are different companies, with different (online) strategies and possibly have a big dissimilarity in web sales in dollars so an increase of 29% of one could mean much less than an increase of 6,7% of the other. For example, making a 2 dollar profit is 100% more than 1 dollar profit.

In such a link scheme like JC Penney's, links are bought that pass PageRank and are deliberately used to rank higher and thus manipulate the search results. This is in violation of Google's Webmaster Guidelines and can negatively impact your site's ranking in search results according to Google.<sup>63</sup> Interesting to notice here is that Google did not detect the scheme<sup>64</sup>, a New York Times reporter did<sup>51</sup>, and JC Penney's ranking did not decrease, in fact their rankings increased from having about 110.000 keyword phrases in Google's top 20 results to 129.000 in the period October – December 2010<sup>65</sup> and their holiday sales boosted accordingly as stated in their monthly sales reports mentioned above. This means that during this period JC Penney's website would show up in the top 20 search results on 19.000 more searched keyword phrases than before.

The use of link schemes which include purchasing links is a type of black-hat SEO. This is in violation of Google's guidelines and also considered unethical.<sup>66</sup> Their guidelines explicitly state that purchasing links with the purpose to pass PageRank and participating in link schemes is prohibited. Google does on the other hand allow certain types of paid links, but only when they carry a specific "nofollow"-tag<sup>67</sup> that indicates it is a paid link, like an advertisement, and thus will not pass PageRank. By using black-hat SEO you can do harm to your competitors, JC Penney ranked top 3 for a period of time on a lot of keywords and product names and therefore sold dresses, suitcases, swimsuits, baby cribs and pearl earrings<sup>68</sup> which otherwise could have been sold via other online stores, such as Sears or Macy's which are competitors of JC Penney. Their websites could have ranked higher than JC Penney's site and thus have generated more traffic than they now did, if the search results had not been manipulated which consequently could have resulted in more profit and sales for the competitors.

### 3.3. Get rid of negative content

A third reason why people would want to manipulate the SERPs is to get rid of negative or burdensome content like reviews or complaints that can be found on other websites about their company or

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<sup>62</sup> This was over the first 10 months of 2010, but November and December will probably transcend that.

<http://www.internetretailer.com/2011/01/04/macys-boosts-e-commerce-hiring>

<sup>63</sup> Link schemes: <http://support.google.com/webmasters/bin/answer.py?hl=en&answer=66356>

<sup>64</sup> Although Matt Cutts head of Google's Web Spam Team said they had detected previous guidelines violations related to JCPenney.com on three occasions, most recently last November 2010, but that was before this scheme.

<http://www.nytimes.com/2011/02/13/business/13search.html?pagewanted=1&r=2&ref=internet>

<sup>65</sup> SEMRush.com tracks ranking and keywords of many large websites:

[http://www.semrush.com/info/history/index.html?domains\[\]=jcpenney.com&gtype=1&db=us#domains:jcpenney.com;type:0;db:us](http://www.semrush.com/info/history/index.html?domains[]=jcpenney.com&gtype=1&db=us#domains:jcpenney.com;type:0;db:us)

<sup>66</sup> Proven Methods for Successful Search Engine Marketing (SEO) by Johannes Selbach - p17, Black hat and white hat SEO.

Google's policy concerning paid links that pass PageRank: they can negatively impact a site's ranking in the search results: <http://support.google.com/webmasters/bin/answer.py?hl=en&answer=66736>

<sup>67</sup> The rel="nofollow" tag, is an indication the link is an advertisement and should not pass PageRank.

<sup>68</sup> According to Doug Pierce of Blue Fountain Media who examined J. C. Penney's ranking on Google for the New York Times: <http://www.dougunplugged.com/2011/02/12/jcpenney-black-hat-seo-analysis/>

products. This can be done in two ways, one is promoting and thus increasing the ranking of sites that talk positive and gracefully about your company, by increasing these site's rankings the site with the negative content is automatically forced down the search results. If these positive pages do not yet exist, they can be created and then floated to the top search result rankings, this is called Google insulation.<sup>69</sup> Or, you can target the website with the burdensome content directly and try to demote it in the SERPs by using all kinds of black-hat methods on this site in the hope that Google will find out and penalize it, or you could report it yourself to Google.

As example, JC Penney eventually got caught using the link scheme and received a 90 day penalty from Google and dropped about 50 to 80 places on average in the SERPs for most of their keywords as the result of a manual penalty imposed by Google.<sup>53</sup> So if you can cause your own website to drop unintentionally in the SERPs, how easy could it be to deliberately achieve a dropping in the search results for websites that contain negative content about your company or product? You could buy a similar scheme to JC Penney's or an even worse one containing links from obvious link-farms<sup>70</sup>, and target these blogs or review pages with the negative content. The page's ranking could rise for a few days (like JC Penney's did), but once Google finds out, or when you report 'their' manipulative practices a spam penalty will probably be imposed by Google, like lowering its ranking or completely removing the webpage from the search results. There are various other methods with which this can be achieved, these will be discussed in the next chapter.

### 3.4. Demote sites

As in the real world where harm can be done with a gun to yourself, you can also do harm to others. This analogy also applies to SERM. Link schemes can be used to (temporary) boost traffic to your own website, or if the link scheme is setup dirty enough it can also demote a website in the search results. The dirtier the links used are the bigger the chance of success is. If a site receives thousands of links in a few days, from webpages which have nothing to do with the topic of the targeted site and originate from link-farms or blogs with automatically generated content a spam penalty could be imposed quickly.

On webmasterworld.com I found several threads on their forum with people complaining their ranking in Google had dropped dramatically due to a great amount of links that were suddenly linking to their websites. Webmasterworld.com user "Steelbank" said the following:<sup>71</sup>

*"I realized today, via google webmaster tools, that one of my sites had over 2000 links to one of our landing pages. The links were run-of-site links on spammy looking websites i.e., viagra, pharma. I don't know how the links got there or why they are there - other than to think a competitor may have put them there.*

*I started investigating the issues of our site because of a sudden drop from page 1 on google to page 8. The site no longer pulls up for any of our searches whereas we were between the top 5 on page one."*

User "Realmaverick" even said he recently tried demoting one of his own websites himself. He bought 150 links for the site he was not too concerned about and within a week its rankings were gone.<sup>72</sup> When he got the links removed the original ranking eventually returned.

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<sup>69</sup> ReputationDefender's founder Michael Fertik calls this "Google Insulation"

[http://www.forbes.com/2007/06/28/negative-search-google-tech-ebiz-cx\\_ag\\_0628seo.html](http://www.forbes.com/2007/06/28/negative-search-google-tech-ebiz-cx_ag_0628seo.html)

<sup>70</sup> Link-farms, also called bad neighbourhoods, are websites created to the purpose to link to other webpages and increase their ranking by passing PageRank.

<sup>71</sup> Google SEO News and Discussion Forum: Spam links to my site got me penalized  
<http://www.webmasterworld.com/google/3964441.htm>



I have not found any case law on this topic probably due to a couple of reasons. The people who want to take down a competitor's site usually sign a nondisclosure agreement with the person or company that will take the necessary actions.<sup>73</sup> Or they could take the necessary actions themselves, without anyone knowing. When a website is banned from Google's search result you can only guess what the reason was. Google has the policy to not acknowledge why a manual or automatic spam penalty was imposed on a site as this could be used as a confirmation tool to find out which of the techniques used work to trigger a penalty resulting in a demotion in the search results.<sup>74</sup>

Victims of these practices sometimes post their experience on forums like webmasterworld.com where they complain about it happening, share thoughts and request help on what are considered to be the best methods to recover from schemes like this.<sup>75</sup> They know they are victim of something, because their site is not appearing in Google anymore or fifty places lower than usual. So the first thing is to find out what happened. Was it just an algorithmic change? Did I cause the penalty myself? Or is something else going on? What this could be will be discussed in the next chapter.

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<sup>72</sup> Google SEO News and Discussion Forum: The return of competitors hurting your backlink profile?  
<http://www.webmasterworld.com/google/4434181.htm>

<sup>73</sup> The Saboteurs Of Search by Andy Greenberg on <http://forbes.com>  
[http://www.forbes.com/2007/06/28/negative-search-google-tech-ebiz-cx\\_ag\\_0628seo.html](http://www.forbes.com/2007/06/28/negative-search-google-tech-ebiz-cx_ag_0628seo.html)

<sup>74</sup> Matt Cutts (head of Google's Webspam team) - Gadgets, Google, and SEO:  
<http://www.mattcutts.com/blog/confirming-a-penalty/>

<sup>75</sup> How to come out of a manual ban? <http://www.webmasterworld.com/google/4389692.htm>

## Chapter 4: What are the different methods used?

Search result engine manipulation can be achieved with various methods. To give an idea of the methods which are used to manipulate search engine results, I will explain some of the most commonly used. The techniques evolve quickly, where keyword stuffing and hidden texts<sup>76</sup> were used a decade ago, the currently used methods are getting much more sophisticated. This can be attributed to the increasingly sophisticated algorithm that is used by the search engines. Where they used to only crawl and index the texts on a page, since 2003 Google has the ability to know what background colour your website has and what the colour of the text on it is.<sup>77</sup> If they are the same the algorithm can conclude that you are probably trying to hide text from your visitors but not from the SE's crawler, so this could cause your site to be automatically penalized.

### 4.1. Spam indexing

Spam indexing, spamming or search engine poisoning, are collective terms for deliberately manipulating the search engine index and thus its search results. It refers to any deliberate human action that is meant to trigger an unjustifiably favourable relevance or importance for some web page, considering the page's true value. Spam is all those web objects like page content items or links that are the result of some form of spamming.<sup>78</sup>

There are two forms of spam indexing, the first is on page the second is off page.<sup>79</sup> On page spam are typically methods that are in your control like keyword stuffing, redirecting, hiding text or cloaking. Off page is spam that is more out of your direct control, like the links to your site on other webpages, duplicate content that is scraped from your site and used on another or denial of service attacks. The types mentioned here will be discussed below.

So spam is typically content on the web that violates specific search engine guidelines. It is the main reason why pages get demoted in the search results or complete websites get banned. Recently Google banded a great part of buildmyrank.com's network<sup>80</sup>, a website that spread your written articles and inserted one backlink per 150 words. Buildmyrank.com would spread these articles randomly on one of their high PageRank domains and also distribute them via other channels.<sup>81</sup> As this was a disguised attempt to manipulate the search engine's index and manipulate the results in order to get participating sites rank higher.

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<sup>76</sup> Google's hidden text and links policy:

<https://support.google.com/webmasters/bin/answer.py?hl=en&answer=66353>

<sup>77</sup> Timeline of changes to Google's algorithm: <http://www.seomoz.org/google-algorithm-change#2003>

<sup>78</sup> Web Spam Taxonomy by Gyongyi and Garcia-Molina of the Computer Science Department Stanford University <http://airweb.cse.lehigh.edu/2005/gyongyi.pdf>

<sup>79</sup> Presentation by Aaron D'Souza of Google: <http://searchengineland.com/what-is-search-engine-spam-the-video-edition-15202>

<sup>80</sup> As of March 19, 2012 the overwhelming majority of buildmyrank.com's network has been de-indexed by Google, this ends their business: <http://www.buildmyrank.com/news/its-been-a-great-run>

<sup>81</sup> How buildmyrank.com works and spread your articles: <http://www.buildmyrank.com/how-it-works>

## 4.2. Link spamming

Link spamming<sup>82</sup> is the excessive distribution of links with the purpose to change a website's ranking on the SERPs, as one of the factors search engines use to rank a website is the amount and quality of links that refer to it. Depending on the quality of the links the site's ranking will increase or decrease. Link spamming comes in several variants like: link building, comment spamming, social link building, link farms and directory spamming. All variants can be paid or unpaid, by either doing it yourself or by hiring a company to do so. When link building, a link is placed on a normal looking website, often somewhere in the footer<sup>83</sup> and frequently has no similarity to the subject of the page, although this would be desirable. This is the technique JC Penney used, many of the links pointing to their site were placed in the footer of webpages. Comment spamming is the placing of links in reactions or comments on websites, typically blogs. The comments could be relevant to the subject of the article, which will also reduce the chance of it being deleted by the site's administrator. When the comments are placed by an automated process this will likely not be the case, being the reason why old, inactive blogs are often preferred for automated comment spamming. Social link building is the placement of links on social media websites like Facebook and Twitter, by creating (multiple) accounts with links back to the website in question. Link farms are websites which mainly consist of links. The links could be about a mutually related subject, but often they are not as the links are mostly placed by an automated process controlled by a webmaster or company who asks money for placement. Directory spamming is the submission of the website to a directory's administrator and requesting placement of a link on the page. Directories are websites which also mainly consist of links, but contrary to link farms, they are manually managed and are often free, of better quality and about the same topic. As directories are manually managed, misuse will be limited, as will the chance to get multiple links placed.

## 4.3. Google Bowling

Google Bowling is a SERM technique mainly used for lowering or removing a competitor's website from the SERPs by using methods that are in violation of search engines' guidelines, like Google link Bombing<sup>84</sup> or URL<sup>85</sup> manipulation. When a Google link Bomb is purchased the company executing it will create a large number of links on spammy<sup>86</sup> websites called bad neighbourhoods or link farms and automatically generated web pages. If thousands of links are created to the competitor's website in a few days and if they are noticed by the SEs, this can trigger a spam alert and negatively affect the rankings of the site concerned. It should be noticed that the website could rank (much) higher in the days prior to the discovery precisely because there are so many links referring to it.

Another way to accomplish this is to find a page on the competitor's website which has a dynamic URL and outputs the same content when changed. If a webpage has the following URL for example: 'http://example.com/home.php?page=55' and displays text about a car, the website would be vulnerable to Google Bowling by URL manipulation if the webpage would display the exact same content about the car if the URL is changed from page=55 to page=56. Many of these changed URLs could be placed as links on forums, blogs, directories and link farms. When a SE crawls them it will notice a lot of

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<sup>82</sup> [http://en.wikipedia.org/wiki/Spamdexing#Link\\_spam](http://en.wikipedia.org/wiki/Spamdexing#Link_spam)

<sup>83</sup> The footer of a webpage is the bottom section, which is mainly the same on every page of a website.

<sup>84</sup> Google link bombing: [http://en.wikipedia.org/wiki/Google\\_bomb](http://en.wikipedia.org/wiki/Google_bomb)

<sup>85</sup> URL: Uniform resource locator, the name of the website like "www.google.com".

<sup>86</sup> Spammy websites are websites that mainly contain automatically generated content, mostly incoherent, with an excessive use of keywords, with the purpose of gaining high page rank and SERP rankings.

links pointing to different pages which all have the same content, this will probably result in the removal or drastically demotion of the site.

Victims of Google Bowling could have difficulty appealing the ranking decrease because Google does not explain its penalties, avoiding to educate actual offenders. However if there is good evidence you were a victim of Google Bowling, they could lift the penalty after accepting a reconsideration request.<sup>87</sup>

An example of a Google Bomb: a search for 'miserable failure' or 'failure' on September 29, 2006 brought up the official George W. Bush biography as number one on Google, Yahoo!, and MSN as the anchor texts of the many links spread throughout the internet were 'failure' or 'miserable failure' and referred to the biography's webpage.<sup>88</sup>

## 4.4. Cloaking

Cloaking is a technique used to serve different types of content to different visitors. It is mostly used to serve SE crawlers other content than to 'normal' visitors.<sup>89</sup> The content the crawler sees is often organised so that the site will rank high in the search results. This could be done by stuffing it with trending news or search phrases. When users perform a search on one of these trending topics and click on the cloaked site they will expect to see information relevant to their search phrase, and so will the delivering search engine, but the human visitor will see something different, most likely a spam site with ads, porn, drugs (Viagra) or casino promotions. The trending topics or search phrases can be found on [twitter.com](https://twitter.com)<sup>90</sup> or [google.com/trends/](https://trends.google.com/trends/)<sup>91</sup>, information is then scrapped from other websites or automatically generated. The judgement on whether a visitor is a crawler or not will in most cases be made on its IP-address<sup>92</sup> or by its name, the User-Agent<sup>93</sup>. The IP-address<sup>94</sup> is, simply said, the numeric location of a computer, because this is not easy to remember IP-addresses are linked to URL's.<sup>95</sup> For example, if you type this IP-address: "http://74.125.224.72/" into your browser you will see google.com. So by committing a reverse IP-address lookup for the visitors of a site, the reverse lookup of Google's crawler would return a name containing at least 'google.com'. The User-Agent method is more easy to use because it can be extracted with one line of code, but it is easy to fake or spoof a User-Agent<sup>96</sup> which makes this method less desirable for detecting the type of visitor visiting a cloaked website.

## 4.5. Infecting a site with malware

When a website is infected by malware, which is short for malicious software, like a virus or Trojan horse Google's web crawler will probably detect that and 'flag' the site in the search results by showing a 'This site may be compromised' warning message.<sup>97</sup> This will not directly lower the site's ranking in the

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<sup>87</sup> Reconsideration requests: <http://support.google.com/webmasters/bin/answer.py?hl=en&answer=35843>

<sup>88</sup> Other search engines affected by Google link Bombing

[http://en.wikipedia.org/wiki/Google\\_bomb#Beyond\\_Google](http://en.wikipedia.org/wiki/Google_bomb#Beyond_Google)

<sup>89</sup> Cloaking is a (black hat) search engine optimization technique. <http://en.wikipedia.org/wiki/Cloaking>

<sup>90</sup> When logged-in to [http://twitter.com](https://twitter.com) you can see the trending topic of that moment

<sup>91</sup> 10 hot searches in the USA: [http://www.google.com/trends/](https://www.google.com/trends/)

<sup>92</sup> How to verify Googlebot: <http://googlewebmastercentral.blogspot.com/2006/09/how-to-verify-googlebot.html>

<sup>93</sup> Verifying Googlebot: <http://support.google.com/webmasters/bin/answer.py?hl=en&answer=80553>

<sup>94</sup> An IP-address is a numerical label assigned to a device to communicate in a network, for more information:

[http://en.wikipedia.org/wiki/IP\\_address](http://en.wikipedia.org/wiki/IP_address)

<sup>95</sup> A hostname is a label that is assigned to a website for instance google.com

<http://en.wikipedia.org/wiki/Hostname>

<sup>96</sup> User agent spoofing: [http://en.wikipedia.org/wiki/User-Agent#User\\_agent\\_spoofing](http://en.wikipedia.org/wiki/User-Agent#User_agent_spoofing)

<sup>97</sup> About malware and hacked sites <http://support.google.com/webmasters/bin/answer.py?hl=en&answer=163633>

search results but the warning could cause a great decrease in traffic as people are alerted the site is infected and therefore probably will not click on it. Other websites that link to this site might remove the links because they do not want to be associated with websites that spread malware. Linking to sites that spread malware can cause a drop in that site's ranking in the search results as the owner has control over who he links to, in contrast to who links to his site. Eventually the decrease in links and traffic for Google could cause the site's ranking to decrease.

Several methods can be used to infect a website with malware. A common tactic is to make use of vulnerabilities in outdated software. Wordpress<sup>98</sup> is web software that can be used as a framework to create a blog or a website. As millions of people use it worldwide, knowing one vulnerability provides a window for infecting many sites.<sup>99</sup> Updates do appear quite often, but in many cases a website is developed by a company with Wordpress as framework and once finished never updated again. The owner might not know he should, and the web developer has finished his job and delivered the working website. Other methods to deliver malware are by infected advertisements<sup>100</sup>, outdated server software of the hosting company<sup>100</sup>, badly written code or flaws in the security of handling user content like uploaded documents, pictures or (blog) posts. Or the intruder could gain control over the site's administrator control panel by any of the previously mentioned methods, or by using default login usernames and passwords. When control is gained over the administrator panel, all kinds of malware can be placed on the site, like iFrames<sup>101</sup> which link to malicious code hosted on other websites. Once the iFrame is placed, the malicious code can be replaced from outside.<sup>100</sup> A website can regain its ranking after the malware is removed by filling a reconsideration request to Google.<sup>102</sup>

## 4.6. Snitching

Snitching is the art of finding evidence of search engine manipulation techniques used by others which violate Google's guidelines and subsequently report this to the search engine by submitting a so called spam report. Google has several online forms that can be used to report violations such as for: paid links<sup>103</sup>, malware<sup>104</sup>, use of copyrighted material<sup>105</sup>, phishing<sup>106</sup> and webspam<sup>107</sup> which include most methods used to try to get better placement in Google's search results. After the submission Google will evaluate the filled report and take action if deemed necessary, which could mean a lowering in the site's ranking or it being completely removed from the index.

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<sup>98</sup> WordPress is web software you can use to create a website or blog. <http://wordpress.org/>

<sup>99</sup> FAQ My (Wordpress) site was hacked [http://codex.wordpress.org/FAQ\\_My\\_site\\_was\\_hacked](http://codex.wordpress.org/FAQ_My_site_was_hacked)

<sup>100</sup> Google Technical Report provos-2008a - All Your iFRAMEs Point to Us  
[http://static.googleusercontent.com/external\\_content/untrusted\\_dlcp/research.google.com/en//archive/provos-2008a.pdf](http://static.googleusercontent.com/external_content/untrusted_dlcp/research.google.com/en//archive/provos-2008a.pdf)

<sup>101</sup> An iFrame is a frame which web developers can place on a website which links to external content like advertisements or other webpages.

<sup>102</sup> Request a malware review

<http://support.google.com/webmasters/bin/answer.py?hl=en&answer=168328&topic=2365140&ctx=topic>

<sup>103</sup> Report paid links: <https://www.google.com/webmasters/tools/paidlinks?pli=1&hl=en>

<sup>104</sup> Report malicious software: [http://www.google.com/safebrowsing/report\\_badware/?hl=en](http://www.google.com/safebrowsing/report_badware/?hl=en)

<sup>105</sup> Removing Content From Google: <http://support.google.com/bin/static.py?hl=en&ts=1114905&page=ts.cs>

<sup>106</sup> Report Phishing Page: [http://www.google.com/safebrowsing/report\\_phish/?hl=en](http://www.google.com/safebrowsing/report_phish/?hl=en)

<sup>107</sup> Webspam pages try to get better placement in Google's search results by using various tricks such as hidden text, doorway pages, cloaking, or sneaky redirects:  
<https://www.google.com/webmasters/tools/spamreportform?hl=en>

## 4.7. Duplicate content

This could also be called “online piggyback riding” as you let your competitor write new content for his website and all you do is copy it to your site, just make sure Google indexes your website first. The copying is often done by so called content scrapers<sup>108</sup>, which are web crawlers that harvest the new content from specific websites and place it on yours.<sup>109</sup> Your competitor’s content will probably be ignored as being duplicated content when his site is crawled. There are various methods to get the site with scrapped content crawled and indexed first. One is to update the sitemap<sup>110</sup> and notify Google about it, Google also offers a function in Google’s Webmaster Tools to notify when your site has new content.<sup>111</sup> This tactic is not only useful to piggyback ride on your competitors’ content and even rank better for it than he does in the search results, it could also get the site which is considered to have the duplicated content demoted in the search results or even completely removed from the index.<sup>112</sup>

## 4.8. Clone to get banned

Create a website loaded with all kinds of spam and copy the content of a competitor’s website and place it on the recently created one. Subsequently try to get this site banned from Google’s search results. This could be achieved by filing a spam report to Google as discussed previously. Now redirect the pages of the website to the corresponding pages of the competitor’s site, within a fair amount of time his site’s ranking should start to decrease. Google will probably see this setup as a violation of their guidelines because both websites have cross-domain duplicate content, the domain names could be very similar and the spammy site could also be seen as a cluster of doorway pages to the competitors site as the pages redirect to his corresponding pages.<sup>113</sup> It is even possible that both websites do not get demoted, but removed from the index instead.

## 4.9. (Distributed) Denial of Service ((D)DoS) Attack

There are two types of denial of service attacks, an attack from a single computer is called a denial of service attack and an attack from multiple computers is called a distributed denial of service attack.<sup>114</sup> A (distributed) denial of service ((D)DoS) attack is successful when so much traffic is sent to a specific website that it cannot handle the requests anymore, maybe also crashes and becomes unavailable to the public.<sup>115</sup> The tens of thousands of requests are often sent by computers (DDoS attack) infected with malware and which have become part of a botnet, a network of hacked, infected, computers.<sup>116</sup> These computers are now called ‘bots’ and must be connected to the internet, which is probably also how it got infected. The person who spread the malware can, among other things, take control over these

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<sup>108</sup> Scraper sites [http://en.wikipedia.org/wiki/Scraper\\_site](http://en.wikipedia.org/wiki/Scraper_site)

<sup>109</sup> Duplicate content due to scrapers: <http://googlewebmastercentral.blogspot.com/2008/06/duplicate-content-due-to-scrapers.html>

<sup>110</sup> A sitemap is a page on a website that contains links to (often) all of the pages on the site, search engine crawlers often use this file as a guide to find (all of the) pages to crawl.

<sup>111</sup> Google Webmaster Tools provides various tools to help webmaster maintain their sites

<https://www.google.com/webmasters/tools/home?hl=en>

<sup>112</sup> Duplicate content <http://support.google.com/webmasters/bin/answer.py?hl=en&answer=66359>

<sup>113</sup> Around 02:00 min. Matt Cutts, head of Google’s web spam team, explains why:

[http://www.youtube.com/watch?v=2oPj5\\_9WxpA](http://www.youtube.com/watch?v=2oPj5_9WxpA)

<sup>114</sup> Network security: DoS vs DDoS attacks: <http://www.crime-research.org/articles/network-security-dos-ddos-attacks/>

<sup>115</sup> Denial-of-service attack. [http://en.wikipedia.org/wiki/Denial-of-service\\_attack](http://en.wikipedia.org/wiki/Denial-of-service_attack)

<sup>116</sup> A botnet is a collection of compromised computers, each of which is known as a ‘bot’, connected to the Internet. <http://en.wikipedia.org/wiki/Botnet>

computers and instruct them to continuously visit a website. A famous example of a botnet is the Bredolab botnet<sup>117</sup> which was estimated to have around 30 million compromised bots in its network. Targeted sites will probably not be able to handle this kind of traffic, or even tens of thousands of requests, at once and become unavailable. The more servers a website has to handle the traffic, the bigger the botnet has to be to generate enough traffic to take it down. A website like google.com with hundreds of millions of visitors each day is estimated to have around 900.000<sup>118</sup> servers which will be too big to take down, but an average large website will not be a problem, MasterCard and PayPal were recently victims.<sup>119</sup>

So why is a denial of service attack a type of search engine result manipulation? During an attack and often a while after, due to recovery activities, the website will not be reachable. If Google's crawler visits the site during this period it will not be able to reach and thus crawl the site. If the attack, or multiple attacks and recovery operations take too long, Google will start demoting the site in the search results or even remove it from its index, as it makes no sense to list an unreachable site in the search results. Sites that are under continuous denial of service attacks exist, like pastebin.com.<sup>120</sup> This site is used among hackers to share their attacks and compromised material, but recently pastebin.com came under heavy attack by a botnet attack involving more than 22,000 unique IP-addresses, which lasted 48 hours. These hackers appear to have also made it a habit to test their DOS attacks on pastebin.com and therefore it seems under permanent attack. The effect that a website being unreachable has on its position in the search results is also dependant on the crawl rate<sup>121</sup>. Most small websites are probably not crawled more than about once every two weeks, so Google's web crawler which indexes the pages, will often not (immediately) detect a site being temporarily unreachable. On the other hand, large news sites like bbc.co.uk are crawled much more frequent, up to once every several minutes. When a website of this scale is unreachable due to an attack, the search engine's crawler will quickly notice that and will not be able to index new articles and re-crawl others. The recent American online protest on the 18<sup>th</sup> of January 2012 against the Stop Online Piracy Act (SOPA)<sup>122</sup> is a nice example.<sup>123</sup> To express their aversion against the proposed Act, many websites like wikipedia.com took their services offline for that day and only served one page explaining why they were offline. In reaction to this blackout of many websites, Google decreased the crawl rate of its crawler by 60% to prevent the rankings of the participating sites from being (negatively) affected.<sup>124</sup>

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<sup>117</sup> The Bredolab Botnet, also known by its alias Oficla, was a Russian-founded (<http://en.wikipedia.org/wiki/Bredolab>). The Russian cybercrime mastermind Georgy Avanesov was found guilty of computer sabotage by an Armenian court on 22 May 2012 and sentenced to four years in prison. (<http://www.bbc.com/news/technology-18189987>)

<sup>118</sup> Estimated by Jonathan G. Koomey, Ph.D. <http://www.koomey.com/post/8323374335> and to download the paper: <http://www.mediafire.com/file/zzqna34282fr2f/koomeydatacenterlectuse2011finalversion.pdf>

<sup>119</sup> WikiLeaks protests use botnets to attack websites [http://www.usatoday.com/tech/news/2010-12-10-wikileaks10\\_ST\\_N.htm](http://www.usatoday.com/tech/news/2010-12-10-wikileaks10_ST_N.htm)

<sup>120</sup> Pastebin: Running the site where hackers publicise their attacks. <http://www.bbc.co.uk/news/technology-17524822>

<sup>121</sup> Changing Google's crawl rate <http://support.google.com/webmasters/bin/answer.py?hl=en&answer=48620>

<sup>122</sup> Stop Online Piracy Act [http://en.wikipedia.org/wiki/Stop\\_Online\\_Piracy\\_Act](http://en.wikipedia.org/wiki/Stop_Online_Piracy_Act)

<sup>123</sup> Google's Call to Action: Tell Congress to Vote NO on #SOPA <http://searchenginewatch.com/article/2139829/Googles-Call-to-Action-Tell-Congress-to-Vote-NO-on-SOPA>

<sup>124</sup> Google Slowed Crawl Rate to Aid Websites Protesting SOPA <http://searchenginewatch.com/article/2140446/Google-Slowed-Crawl-Rate-to-Aid-Websites-Protesting-SOPA>



Finally, it must be noticed that websites which are unreachable due to the fact that they cannot handle the traffic anymore is not always due to a DOS attack. These outages can also occur unintentionally, for example when a website is named on television or when a shocking event happens, like the death of Michael Jackson.<sup>125</sup>

### Concluding

The SERM technique which probably is being used the most is link spamming. There are many companies<sup>126</sup> on the internet that offer these services and if done well, without it being noticed by Google or an observant journalist, companies can profit from it within weeks. Besides this, it is also very cheap, 3000 links can be purchased for less than \$40 a month. Also, other types will be harder to acquire or setup, or carry a higher risk as I will show in chapter 6. Snitching could also be a commonly used method as it does not cost much time to file a report and the effect could be a competitor's website from being removed or lowered in ranking. Google receives hundreds of paid link reports every day.<sup>127</sup>

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<sup>125</sup> This occurred when Michael Jackson died in 2009 [http://en.wikipedia.org/wiki/Denial-of-service\\_attack#Unintentional\\_denial\\_of\\_service](http://en.wikipedia.org/wiki/Denial-of-service_attack#Unintentional_denial_of_service)

<sup>126</sup> Link Building Services: <http://www.textlinkbrokers.com/link-building-services.html> or Quality backlinks at great price: <http://www.seomso.com/>

<sup>127</sup> The Impact of User Feedback, Part 1: <http://googlewebmastercentral.blogspot.nl/2008/06/impact-of-user-feedback-part-1.html>



## Chapter 5: Why is search engine result manipulation a problem, who is affected and what are the consequences?

After having discussed the various methods of search engine result manipulation in the previous chapter, the question why SERM is a problem will be discussed here. When search results are manipulated, the entire group of people and companies active on the internet is affected. Google's core business is challenged, their guidelines are violated, consumers get unreliable results and are misinformed, companies' websites rankings rise and fall in the search result due to their own actions or that of others, or are even completely removed from the index.

Several different types of relationships can be distinguished when categorising who is affected, which are the business to consumer (B2C) relationship, the business to business (B2B) relationship and third the relationship between consumers and the search engine. This last relationship is also a B2C relationship, but a special one, with great self-regulatory effect. Because the search engine maintains its own guidelines which must be obeyed to maintain ranking, has a filtering system which decides if your website will be indexed or not, handles complaints about abuse and selects what information is relevant to a search query, thus what information I will receive. Due to the special circumstances of this relationship, I will call it a search engine to consumer relationship (SE2C). Also, the B2B relationship includes the business – search engine relationship as they both operate as professional parties.

What are the main problems that arise when search engine results are manipulated and why is it a problem to each of the parties in the relationships? Five problems will be discussed: quality and trustworthiness, ignorance of the search engine user, unfair commercial practices, unfair competition and extortion.

### 5.1. Quality and trustworthiness

When an average search engine user performs a search, would he think the results he receives are possibly manipulated and not the most relevant for his entered search query? Would he keep using the search engine when he discovers most of the results are of bad quality and are not what he is looking for? Maintaining the quality and trustworthiness are probably two of the main reasons why Google or any other search engine tries to prevent manipulation of its search results as much as possible<sup>128</sup>, as it forms a threat to their core business. If searches would only return manipulated or paid for results, the information people expect to receive will not be served. After some time the low quality of the results will be noticed and other methods to gather the required information will be used. Less users of Google's search engine would result in less advertisement income, and could eventually cause other search engines to gain its market share. So for the continuation of a search engine the quality and trustworthiness of its results is crucial. Google's founders Larry Page and Sergey Brin also realised this

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<sup>128</sup> Google search and search engine spam: <http://googleblog.blogspot.nl/2011/01/google-search-and-search-engine-spam.html>

and when Google went public (NASDAQ)<sup>129</sup> in 2004, they wrote an accompanying letter, an owner's manual for Google's shareholders, for its future shareholders in the prospectus stating the following:

*"Google users trust our systems to help them with important decisions: medical, financial and many others. Our search results are the best we know how to produce. They are unbiased and objective, and we do not accept payment for them or for inclusion or more frequent updating. [...] We believe it is important for everyone to have access to the best information and research, not only to the information people pay for you to see."*<sup>130</sup>

As the trustworthiness of the results is at the core of Google, this also applies to its users, the consumers and companies. When too many results, especially in the top 3, are polluted the few companies showing lower in the rankings would probably not stand out as the entered search query will often be adjusted. The fact that the results can be and sometimes are manipulated, which makes them less trustworthy and lowers the quality, is one of the problems that affect the entire group of users. The search engine in question can lose market share, the consumer does not find the information he seeks and companies will advertise elsewhere. Relationships affected here are: B2B, B2C and SE2C.

## 5.2. Ignorance of the search engine user

Not all internet users are equally equipped with great internet skills. Research by the Dutch statistical office shows that the older the people in the research study are, the less internet skills they possess.<sup>131</sup> The Netherlands are, compared to other European countries, in the highest regions of most skilled internet users, so other European countries will have more low skilled internet users. In 2010, about 33% of the internet users between 25 and 45 years claim to have none or just a few internet skills. In the age 45 to 65 this is around 50% and in the 65 to 75 year olds category 63% has none or little internet skills. These numbers show that the Netherlands still have quite some internet users with few to no internet skills. Will this group ever think about the possibility of the search results being manipulated or do they doubt whether the website they visit is legitimate and therefore think twice before they enter bank or credit card information? Probably not, they have most likely never heard of these types of manipulation being possible.

Therefore not every average search engine user has the knowledge to distinguish trustworthy information in the search results from ones manipulated. This could lead to people being misinformed without knowing it, which could lead to dangerous situations. For example when somebody searches for a drug store online to buy medicine, he could end up on a website of a bogus drug store which offers phoney medicine from China for a good price, and he found it because it ranked top three in the search results being the reason he clicked on it. He will probably not question the safety of the drugs because of his lack of experience, while the drug could contain not working or on the other hand dangerous substances which could result in the buyer becoming sick or worse.

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<sup>129</sup> Google Inc. (GOOG) –NasdaqGS:

<http://finance.yahoo.com/echarts?s=GOOG+Interactive#symbol=goog;range=my;compare=:indicator=volume;charttype=area;crosshair=on;ohlcvvalues=0;logscale=off;source=undefined>;

<sup>130</sup> Securities and exchange commission - Washington, D.C. 20549, p 32

[http://www.sec.gov/Archives/edgar/data/1288776/000119312504142742/ds1a.htm#toc59330\\_1](http://www.sec.gov/Archives/edgar/data/1288776/000119312504142742/ds1a.htm#toc59330_1)

<sup>131</sup> Research by the Dutch statistical office (CBS.nl) - ICT, kennis en economie 2011:

<http://www.cbs.nl/NR/rdonlyres/C31A3A4F-D5C6-442D-ACD4-E0C3FA797B2F/0/2011i78pub.pdf> (p. 209)

The same holds for phishing<sup>132</sup> websites, the search results are manipulated to increase their rankings which could result in the less experienced often elderly internet users entering sensitive information on a website they assume is from their own bank, but actually is an exact copy created to trick them into giving sensitive information.<sup>133</sup>

SERM is a bigger problem among elderly than high educated youngsters because of the big difference in internet skills.<sup>131</sup> In case they receive results irrelevant to their search query, the elderly also lack the ability to notice it and act accordingly. This could result in dangerous or unwanted situations and even plundered bank accounts. Relationships mainly affected: B2C and SE2C.

### 5.3. Unfair commercial practices

Unfair commercial practices are commercial practices with which a company harms the consumers' economic interests. With the Unfair Commercial Practices Directive<sup>134</sup> (Directive 2005/29/EC) the European Parliament and the Council wanted to contribute to the proper functioning of the internal market and achieve a high level of consumer protection by approximating the laws, regulations and administrative provisions of the Member States on unfair commercial practices harming consumers' economic interests.<sup>135</sup>

To be able to determine if unfair commercial practices also are a consequence of search engine manipulation, and thus a problem, I will first provide some brief information on what unfair commercial practices are. According to article 5 of the Unfair Commercial Practices Directive, unfair commercial practices shall be prohibited.<sup>136</sup> A commercial practice shall be unfair if it is contrary to the requirements of professional diligence<sup>137</sup>, and materially distorts or is likely to materially distort the economic behaviour of the average consumer with regard to the product whom it reaches or to whom it is addressed.<sup>138</sup> Paragraph 5 of this article refers to Annex I of the Directive that contains a list of commercial practices which shall in all circumstances be regarded as unfair.

Point 11 of Annex I states *"Using editorial content in the media to promote a product where a trader has paid for the promotion without making that clear in the content or by images or sounds clearly identifiable by the consumer (advertorial)."*

Point 22 says *"Falsely claiming or creating the impression that the trader is not acting for purposes relating to his trade, business, craft or profession, or falsely representing oneself as a consumer."*

Recently the website higherlevel.nl discovered<sup>139</sup> that Groupon<sup>140</sup>, a website that provides daily deals for stuff to do, see, eat and buy in 48 countries, hired personnel to create profiles on relevant, high ranking

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<sup>132</sup> Phishing is a way of attempting to acquire information such as usernames, passwords, and credit card details by masquerading as a trustworthy entity in an electronic communication. <http://en.wikipedia.org/wiki/Phishing>

<sup>133</sup> Phishing victims' losses are own fault – court: <http://www.thelocal.de/national/20120425-42161.html>

<sup>134</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:149:0022:0039:EN:PDF>

<sup>135</sup> See Article 1 (Purpose) of Directive 2005/29/EC

<sup>136</sup> Article 5 paragraph 1 of Directive 2005/29/EC

<sup>137</sup> Article 5 paragraph 2 sub A of Directive 2005/29/EC

<sup>138</sup> Article 5 paragraph 2 sub B of Directive 2005/29/EC

<sup>139</sup> 'Groupon gebruikt linkspam eigen medewerkers als marketingstrategie' (Groupon uses linkspam created by its own personnel as marketing strategy)

<http://www.higherlevel.nl/forum/index.php?board=40;action=display;threadid=41332;start=0>

<sup>140</sup> <http://www.groupon.com/about>

forums on which they placed links to one or multiple of the daily deals then praised it by saying how much they liked it.<sup>141</sup> They even created an account and placed a link to a personal trainer deal on [groupon.nl](http://groupon.nl) on a forum for people with Multiple Sclerosis<sup>142</sup>, saying she also suffers from the disease.<sup>143</sup> Groupon employees placed these links on all these different forums for mainly two reasons, to rank higher in the search results because of all these extra backlinks pointing to the [groupon.nl](http://groupon.nl) webpages and second to hopefully even sell the deals by getting the members of the forums enthusiastic to purchase the deals.

This action results in all circumstances in a prohibited unfair commercial practice as it is in violation of point 22 of Annex I of the Unfair Commercial Practices Directive. As a trader is also anyone acting in the name of or on behalf of a trader<sup>144</sup>, the company's employees who masqueraded themselves as enthusiastic customers to praise their company's products on the forums and websites, fall within this scope and committed a type of search engine result manipulation which is considered an offence.

Not only Groupon falsely influences its potential customers, other (Dutch) companies like PON, Randstad, Douwe Egberts and KPN were recently caught using similar techniques.<sup>145</sup> With the only difference that these companies hired another company, the Conversion Company, to place the reviews and posts on their behalf, which still falls within the previously mentioned scope of a trader. The employees of the Conversion Company<sup>146</sup> posted messages on all types of forums as if they were normal members, but in the meanwhile the seemingly innocent posts contained links to products or services of the companies they worked for. GoDaddy, an American hosting provider, is placing links on homepages of their customers which use their web-editor tool. These links cannot be turned off and link to [godaddy.com](http://godaddy.com)<sup>147</sup> landing pages using anchor text corresponding to services they offer.<sup>148</sup>

All these companies have the same goal: get higher rankings in the search engines and have their products or services promoted on topic-related user forums. Such activities put companies in discredit with their customers at the expense of their (formerly) good reputation. The short term results are probably higher sales and ranking, but these customer misleading activities could really damage a company's reputation and trustworthiness in the long run. If customers are seduced into buying a product or service promoted on a forum they visited, they will probably feel cheated by the company when they find out the product was promoted by its own employees. It is estimated that it can take up

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<sup>141</sup> Maxazine Forum - CD-recensies: <http://www.maxazine.nl/forum/view-postlist/forum-2-cd-recensies/topic-88-ontdekking-van-2011>

<sup>142</sup> An inflammatory disease in which the fatty myelin sheaths around the axons of the brain and spinal cord are damaged, leading to demyelination and scarring as well as a broad spectrum of signs and symptoms: [http://en.wikipedia.org/wiki/Multiple\\_sclerosis](http://en.wikipedia.org/wiki/Multiple_sclerosis)

<sup>143</sup> The forum post is removed in the meanwhile, but copied to the page note 139 links to.

<sup>144</sup> Article 2 sub B of the Unfair Commercial Practices Directive

<sup>145</sup> Douwe Egberts, KPN, Randstad en Pon betrokken bij comment spam (Eng: Douwe Egberts, KPN, Randstad en Pon involved in comment spamming): <http://www.molblog.nl/bericht/douwe-egberts-kpn-pon-en-randstad-betrokken-bij-comment-spam-i/>

<sup>146</sup> Online marketing campaigns enable companies to reach people, to serve them, to influence them, and to "convert" them: <http://www.conversioncompany.com/en/>

<sup>147</sup> Go Daddy is the world's largest domain name registrar and Web hosting provider: <http://www.godaddy.com>

<sup>148</sup> GoDaddy's spammy link building techniques: <http://yoast.com/godaddy-link-building/>

to approximately three and a half years for a company to rebuild its damaged reputation.<sup>149</sup> Relationship mainly affected: B2C.

## 5.4. Unfair competition

To determine whether unfair competition is a consequence of search engine result manipulation, a description of what unfair competition actually is, is needed. Unfair competition occurs, in contrast to unfair commercial practices, when an act of competition is contrary to honest practices in industrial or commercial matters<sup>150</sup>, or, when commercial or business conduct does not satisfy the generally accepted requirements of fairness.<sup>151</sup> Unfair competition mainly occurs when a company gains profit by means of dishonest, illegitimate, unjust or misleading practices, which subsequently lead to less profit for other companies in that same field of trade.

With this in mind, can we speak of unfair competition when the search engine results are manipulated with huge link schemes like JC Penney's or that of GoDaddy? As I have shown before, the first spot in the search engine results receives considerably more clicks than the second and third, although these spots are not so bad either. Consequently, the higher you rank in the search results, the more clicks you receive on your link, thus more visitors on your site, and more visitors means more potential buyers who can spend money in your web shop, the more they spend in your web shop, the less they can spend in another, like a competitors'. It does not matter if the technique used raises the ranking of your site or lowers the ranking of a competitor's site, in both cases the effect is the same, visitors are gained either by you having a higher position or your competitor having a lower position. But I would deem the level of unfairness more significant in the latter variant, as the competitor's site is deliberately demoted and risk of your website being penalised and thus demoted or removed from the index for artificially raising the ranking is taken away, this goes a step further compared to only manipulation of one's own website.

Who benefits from these negative search engine optimization (SEO) or black hat techniques? Not the search engines as their index gets polluted, not the consumer as he is misinformed or deceived, leaving business competitors as the short run winners.

Unfair competition seems an increasing and unwanted result of search engine result manipulation and is probably one of the big concerns of companies doing online business and, because it is becoming more easy and effective, companies could be seduced to try it before their competitors do. Relationships mainly affected are: B2C and B2B.

## 5.5. Extortion by threatening

The search engine result manipulation instruments I mentioned in chapter 4 are also being used to scare, threaten and extort website owners and eventually use them if the demands are not met. This happened in 2006 to the owner of [milliondollarhomepage.com](http://milliondollarhomepage.com)<sup>152</sup>, Alex Tew, a student from Wiltshire England. He sold 1 million pixels of that webpage for one dollar each to raise money for his university

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<sup>149</sup> Corporate Reputation: 12 Steps to Safeguarding and Recovering Reputation by Leslie Gaines-Ross (p. 27) - John Wiley and Sons, Jan 2, 2008

<sup>150</sup> Article 10bis sub 2 of the Paris Convention

<sup>151</sup> Unfair Competition Law, European Union and Member States by Frauke Henning-Bodewig (p1.) – Kluwer Law International 2006.

<sup>152</sup> <http://www.milliondollarhomepage.com/>

education.<sup>153</sup> On the third day before the auction of the last thousand pixels on Ebay<sup>154</sup> were due, he received an email in which the sender demanded \$5,000. If the money was not paid before the tenth of January 2006 they would bombard his site with a DDoS attack. A week later he received another email which he ignored again, and now they demanded \$50,000. Not much later the website was flooded with loads of traffic and emails, the attack had begun and lasted a week. During that period the site was unreachable to the public and the Federal Bureau of Investigation started an investigation on the extortion and attack.<sup>155</sup>

Corero<sup>156</sup>, a provider of innovative security technologies, held a survey<sup>157</sup> in the first quarter of 2012 among 200 IT directors of medium to large enterprises in the United States and concluded that 38% of the companies were victim of a DDoS attack in the previous 12 months. 52% of the companies that were victim blamed the attack to a competitor trying to gain an unfair business advantage. Another result of the survey indicated that in 12% of the times financial extortion and thus threatening with a DDoS attack for ransom was the motive. There are more examples<sup>158</sup> of people and companies being extorted with the threatening of a DDoS attack or with other kinds of SERM techniques.<sup>159</sup>

The extortion can be done for ransom or other reasons like the demand for removal of links.<sup>160</sup> This behaviour is especially encouraged when companies like negativeseo.me arise to provide services to: *"Destroy your competitor's Google ranking, while staying completely in the framework of US legislation"*<sup>159</sup>, or when Google changes its algorithm so that demoting a website in the result pages has become child's play.<sup>39</sup> This possibility to affect another's ranking also feeds vigilantism, like in situations where a company threatens to demote a competitor's site because it is suddenly outranking their site, due to the competitor recently purchasing a bunch of links to its site and refusing to remove them. Relationship mainly affected: B2B.

## 5.6. Why is search engine result manipulation a problem?

Search engine result manipulation is a problem because it leads to a reduction of quality and trustworthiness of the search results and could lead to consumers purchasing dangerous drugs, unfair commercial practices, unfair competition and even extortion. Almost every internet user will encounter it to some extent as people and companies with dishonest intent are continuously trying to find new techniques to manipulate the search results to be able to influence the position of websites. The search

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<sup>153</sup> The Million Dollar Homepage: [http://en.wikipedia.org/wiki/The\\_Million\\_Dollar\\_Homepage](http://en.wikipedia.org/wiki/The_Million_Dollar_Homepage)

<sup>154</sup> With more than 100 million active users globally (as of Q4 2011), eBay is the world's largest online marketplace: <http://www.ebay.com/>

<sup>155</sup> DDoS attack: [http://en.wikipedia.org/wiki/The\\_Million\\_Dollar\\_Homepage#DDoS\\_attack](http://en.wikipedia.org/wiki/The_Million_Dollar_Homepage#DDoS_attack)

<sup>156</sup> Corero is uniquely positioned to build upon and extend its suite of industry-leading Intrusion Prevention System (IPS) and DDoS Defense System (DDS) <http://www.corero.com/en/company/corero>

<sup>157</sup> Corero Research Finds DDoS Attacks are Used as a Competitive Weapon Against Online Businesses: [http://www.corero.com/en/company/news\\_and\\_events?item\\_id=26](http://www.corero.com/en/company/news_and_events?item_id=26)

<sup>158</sup> Webb on the Web: What's a DDoS Attack? And Why Should You Care - Part One: <http://ijnet.org/es/stories/136>  
Or: Search Engine Blackmail And Those Who Profit From Playing Around With YOUR Popularity!: <http://elle-kynzer.wrytestuff.com/swa827429-Search-Engine-Blackmail-And-Those-Who-Profit-From-Playing-Around-With-Your.htm>

<sup>159</sup> Destroy your competitor's Google ranking, while staying completely in the framework of US legislation. <http://www.negativeseo.me/>

<sup>160</sup> Hackers Take Down Largest Survival Web Site; Threatening Email Sent Prior to Attack: [http://www.shtfplan.com/headline-news/hackers-take-down-largest-survival-web-site-threatening-email-sent-prior-to-attack\\_05272012](http://www.shtfplan.com/headline-news/hackers-take-down-largest-survival-web-site-threatening-email-sent-prior-to-attack_05272012)

engines on the other hand try to prevent and combat attempts of manipulation, which results in a continuous game of cat and mouse, being one of the reasons why Google updates its algorithm over 400 times a year.

SERM is not necessarily always harmful to users, for example in the situation when a company (A) demotes the website of its direct competitor (B), who also sells barbeques online, to page three of the search results, the user shopping for a barbeque could be offered a much lower price on the website of company (A) than on that of company (B). On the other hand, I am affected by this practice if I would search for the barbeque of company (B), as I could have a hard time finding it or when I might want to compare multiple models before purchasing one. This effect will however depend on the circumstances of each case and will hereby vary, but will in any case affect one's decision, with or without knowing it.



# Chapter 6: What is the legal status of the different types of search engine result manipulation?

In chapter four I explained what the main SERM techniques are and roughly how they work. In this chapter I will review these different methods again and address their legal status, whether it is allowed or forbidden to use the method in question. I will discuss the legality by using European law as this paper is written from a European Union's perspective. The pieces of legislation I will use are the Cyber Crime Convention (CCC), the E-Commerce Directive (ECD), the Treaty on the Functioning of European Union (TFEU) and the Unfair Commercial Practices Directive (UCPD).

The primary purpose of the CCC is to harmonise domestic substantive criminal law offences and investigation procedures between the Parties.<sup>161</sup> The convention does not have direct effect, the Parties need to implement the articles in their domestic (criminal) legislation first. This also applies to the ECD and the UCPD, these directives need to be incorporated into national legislation to have effect, although there are exceptions to this general rule.<sup>162</sup> Treaties have direct effect from the moment they are ratified.<sup>163</sup> Beside the European legislation I will also take notice of Google's guidelines concerning the different methods of SERM.

## 6.1. Link spamming

Link spamming is one of the techniques that can be used to raise a website's ranking in Google. I have shown various ways in which companies have used this technique to get higher rankings, JC Penney hired a firm to place tens of thousands of links on all kinds of websites linking to their product pages and Groupon hired employees to place promotional texts disguised as comments on forums to praise some of their daily deals and also include links to corresponding pages.

### 6.1.1. Unfair Commercial Practices Directive

The Unfair Commercial Practices Directive contains one article and two provisions that are of particular interest to these types of link building. Article 5 refers to Annex I, a list containing 31 provisions with commercial practices which are in all circumstances considered unfair.<sup>164</sup>

Point 11 on the list marks the use of editorial content in the media to promote a product where a trader has paid for the promotion without making that clearly identifiable for the consumer in the content by either text, sound or an image as a practice that is considered unfair in all circumstances.<sup>165</sup> Does a

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<sup>161</sup> §16 of the the preamble of the Convention on Cybercrime (Budapest, 23.XI.2001)  
<http://conventions.coe.int/Treaty/en/Treaties/Html/185.htm>

<sup>162</sup> Directives can have direct effect in certain circumstances, this was decided by Judgment of the Court of Justice of the European Communities of 4 December 1974 in the Yvonne van Duyn v Home Office case (Case 41-74)  
[http://eur-lex.europa.eu/smartapi/cgi/sga\\_doc?smartapi!celexplus!prod!CELEXnumdoc&numdoc=61974J0041&lg=en](http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!CELEXnumdoc&numdoc=61974J0041&lg=en)

<sup>163</sup> This was decided by Judgment of the Court of Justice of the European Communities of 5 February 1963 in the NV Algemene Transport- en Expeditie Onderneming van Gend & Loos v Netherlands Inland Revenue Administration case (Case 26-62)  
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:61962J0026:EN:NOT>

<sup>164</sup> Article 5 sub 5 of the Unfair Commercial Practices Directive, refers to Annex I: 'Commercial practices which are in all circumstances considered unfair'

<sup>165</sup> Point 11 of Annex I of the Unfair Commercial Practices Directive



website owner who buys links fall within the scope of this definition? Five conditions need to be met. First it needs to be editorial content in the media, by lack of other legal explanations the Oxford Dictionary defines editorial content as an editor's opinion on a topical issue, or, as parts of a newspaper or magazine which are not advertising.<sup>166</sup> A mass communication device like the internet would fall within the definition of media.<sup>167</sup> If the links are bought to promote the website and get higher rankings the second condition 'to promote a product' and third condition 'has paid for promotion' are met. The fourth condition states that the purchaser of the links needs to be a trader. A trader is any natural or legal person who is acting for purposes relating to his trade, business, craft or profession and anyone acting in the name of or on behalf of a trader.<sup>168</sup> So if the purchaser is acting on behalf of his business as owner for example, the fourth condition is also met. Last, the editorial content needs to be unidentifiable to the consumer as a paid for advertorial. Now one question remains, is placing a paid link on a website editorial content that needs to be marked as an advertorial? Probably one link which is placed on a website is not editorial content as that is possibly insufficient to represent an opinion, however, a link named 'hire the best cars in town' could be enough to represent an opinion. If the link is placed within a text on a website or blog, it could much easier fall within the definition of editorial content as the text and the link together would represent the editor's opinion. A collection or list of links could consequently also represent an editor's opinion as this provides more editorial context. As the criteria are broadly defined, depending on the circumstances of each occurrence like style, placing, surrounding content, paid links which fall within the definition of editorial content and are not marked as an advertorial could be considered as an unfair commercial practice.

Annex I contains another provision of relevance concerning link spamming, namely point 22. This provision establishes the falsely claiming or creating the impression that the trader is not acting for purposes relating to his trade, business, craft or profession, or falsely representing oneself as a consumer, as an unfair commercial practice in all circumstances. Now only two conditions need to be met to result in an unfair commercial practice. The person acting must be a trader and the trader must falsely represent himself as a consumer to meet the requirements of this provision. This means that if a trader writes reviews about his own products, while actually writing these in his profession, on product-review sites or on user forums, he is falsely representing himself as a consumer which results in an unfair commercial practice under all circumstances. Groupon did exactly this by hiring personnel that was instructed to post messages on different forums and praise, promote and link to the Groupon deals.

The Unfair Commercial Practices Directive is meant to address commercial practices directly related to influencing consumers' transactional decisions in relation to products.<sup>169</sup> As the Directive directly protects consumer economic interests from unfair business to consumer commercial practices, it also indirectly protects legitimate businesses from their competitors who do not play by the rules of the Directive and thus guarantees fair competition in fields coordinated by it.<sup>170</sup>

The Explanatory Memorandum narrows the scope by adding that acts which constitute unfair competition in some Member States but do not harm the economic interests of consumers like

<sup>166</sup> <http://oxforddictionaries.com/definition/editorial?q=editorial>

<sup>167</sup> <http://oxforddictionaries.com/definition/media>

<sup>168</sup> Article 2 sub B of the Unfair Commercial Practices Directive

<sup>169</sup> Point 7 of the preamble to the Unfair Commercial Practices Directive

<sup>170</sup> Point 8 of the preamble to the Unfair Commercial Practices Directive

denigration of a competitor, are outside the scope of the Directive.<sup>171</sup> So companies are only protected against unfair competition by their competitors if their acting is an offence according to the Directive, and also harms the economic interests of consumers.

The overall essence of the Directive is to protect consumers from unfair commercial practices and prevent them from making a transactional decision that they would not have taken otherwise.<sup>172</sup> While taking into account the current state of knowledge on how consumers take decisions in the market space. For example, new insights from behavioural economics show that not only the content of the information provided, but also the way the information is presented can have a serious impact on how consumers respond to it.<sup>173</sup> Article 5 of the Directive contains the general provision on the prohibition of unfair commercial practices. It states that a commercial practice shall be unfair if it is contrary to the requirements of professional diligence<sup>174</sup> and materially distorts or is likely to materially distort the economic behaviour with regard to the product of the average consumer whom it reaches or to whom it is addressed.<sup>175</sup> To meet these requirements three conditions need to be met for determining if a practice is generally unfair.<sup>176</sup> First the practice needs to violate the professional diligence. Professional diligence means the standard of special skill and care which a trader may reasonably be expected to exercise towards consumers, commensurate with honest market practice and/or the general principle of good faith in the trader's field of activity.<sup>177</sup> The general principle of good faith in the trader's field of activity is analogous to notions of good business conduct found in most legal systems of the Member States.<sup>178</sup> It is the measure of care and skill exercised by a good businessman, in accordance with generally recognised standards of business practice in his particular sector of activity.<sup>179</sup> The second condition is that an average consumer assessing the impact of the practice is deceived. An average consumer is reasonably well informed and reasonably observant and circumspect, taking into account social, cultural and linguistic factors.<sup>180</sup> Also provisions aimed at preventing the exploitation of consumers whose characteristics make them particularly vulnerable to unfair commercial practices need to be taken into account.<sup>181</sup> The third and last condition to be met is that the practice must have a significant enough effect to change, or be likely to change, the consumer's behaviour by causing him to take a transactional decision that he would not have taken otherwise, and it must have this effect by impairing the consumer's ability to take an informed decision.<sup>182</sup> The Directive does not limit the transactional decision test to the evaluation as to whether the consumer's economic behaviour (transactional decision) has actually been distorted. It requires an assessment of whether that commercial practice is capable (likely) to have such an impact on the average consumer.<sup>183</sup>

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<sup>171</sup> § 40 of the Explanatory Memorandum to the Unfair Commercial Practices Directive.

<sup>172</sup> Article 1, 5, 6 of the UCPD and §48 – 55 of the Explanatory Memorandum on the UCPD

<sup>173</sup> §2.4.2. 'General considerations' of the Guidance on the Implementation of the UCPD

<sup>174</sup> Article 5 sub 2 sub A

<sup>175</sup> Article 5 sub 2 sub B

<sup>176</sup> §51 of the Explanatory Memorandum on the UCPD

<sup>177</sup> Article 2 sub h of the UCPD

<sup>178</sup> §53 of the Explanatory Memorandum on the UCPD

<sup>179</sup> Idem

<sup>180</sup> §2.2.1. of the Guidance on the Implementation of the UCPD + §18 of the 'Whereas' of the UCPD

<sup>181</sup> Idem

<sup>182</sup> Article 2 sub E and K of the UCPD and §2.1.3. of the Guidance on the Implementation of the UCPD and §54 and §55 of the Explanatory Memorandum on the UCPD

<sup>183</sup> §2.1.3. of the Guidance on the Implementation of the UCPD

With this general provision in mind, would paid link building with the intention to raise one's ranking in the search engines without using editorial texts and advertorial notifications fall within the scope of the general provisions and result in an unfair commercial practice? Buying paid links could be seen as a violation of the professional diligence and a violation of good business conduct because it is inconsistent with honest market practice and the general principle of good faith in the trader's field of activity.<sup>184</sup> The trader deliberately chooses to achieve a higher ranking by manipulating the search results while he could have bought advertisements to promote its business. If he wants to generate more traffic to his website, he could for example use Google AdWords<sup>185</sup> which places advertisement around the search results when certain keywords, which he can select, are searched for.

Second, the average consumer needs to be defined. In this situation the average consumer is the average internet user. As I have shown in chapter 5.2. about 33% of the internet users between the age of 25 and 45, 50% between the age of 45 to 65 and 63% between the age of 65 and 75 years old claim to have little to none internet skills. This results in a pretty unskilled average internet user. Also remember the fact that the average internet user mainly clicks on the top three results of the search engine's result pages.

The third condition to be met is the last requirement for a commercial practice to be considered unfair. The effect of the practice must be significant enough to change, or to be likely to change the average consumer's behaviour by causing him to take a transactional decision that he would not have taken otherwise. As a higher ranking is obtained by manipulation of the search results by link building, the order in which the requested information reaches the consumer is now presented differently. The order of the results has changed and thus the websites in the top three, this change in presentation is also considered to influence the economical behaviour of the consumer.<sup>173</sup> Especially because the average internet user will mainly click on the first three results, he could make a transactional decision which he would not have made otherwise.

The intention of the Unfair Commercial Practices Directive is to protect consumers against unfair practices which influence or are likely to influence their economic behaviour. Unmanipulated search results would represent a fair advice to a consumer when based on trustworthy links. If a certain new product, a television for example, is received well by the public, several people will probably write about it on their website, blog or a product review page, with maybe a link therein to the website where the television can be bought. When an average internet user subsequently searches for a television, he is actually assisted in his decision by the more skilled internet users (consumers) whose writings with links caused the product page of the new television to rank high, making it easy for the average unskilled internet user to find the television in the search results. On the other hand, if an average internet user would specifically search for this new television while it was not received well by the public, due to some technical flaws, he would probably also read about that. Thus, on the other hand, manipulated search results deliberately distort the average consumer's economic behaviour to make an informed economic decision with regard to a product, as these manipulated results supplant the organic

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<sup>184</sup> Key terms of the act:

[http://europa.eu/legislation\\_summaries/consumers/consumer\\_information/l32011\\_en.htm](http://europa.eu/legislation_summaries/consumers/consumer_information/l32011_en.htm)

<sup>185</sup> Advertise your business on Google:

[https://accounts.google.com/ServiceLogin?service=adwords&hl=en\\_US&ltmpl=jfk&passive=true&iffr=false&alwf=true&continue=https://adwords.google.com/um/gaiaauth?apt%3DNone%26ltmpl%3Djfk&sacu=1&sarp=1](https://accounts.google.com/ServiceLogin?service=adwords&hl=en_US&ltmpl=jfk&passive=true&iffr=false&alwf=true&continue=https://adwords.google.com/um/gaiaauth?apt%3DNone%26ltmpl%3Djfk&sacu=1&sarp=1)

trustworthy results and should therefore be considered an unfair commercial practice, taking into account the circumstances on a case by case basis.

### 6.1.2. Treaty on the Functioning of the European Union

Does other European legislation also provide companies an opportunity to take legal action if one believes he is victim of unfair competition due to a link building competitor whose intention is to manipulate and raise his ranking? Europe's rules on competition concerning undertakings are found in article 101 of the Treaty on the Functioning of the European Union.<sup>186</sup> It states that all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the internal market shall be prohibited as incompatible with the internal market.<sup>187</sup> For this article to apply it is, among other things, necessary that either an agreement between undertakings exists or that they are performing concerted practices. Both scenarios require at least two undertakings to fulfil the requirement. Therefore, a company claiming to be victim of unfair competition, due to a competitor who is setting up his own link scheme and manipulating the search results, cannot take action based on this article, as there are no agreements or concerted practices.

Vice versa, when a company hires another company to conduct the link building, an agreement between undertakings is made. As the scope of this article is very wide, it is sufficient that the agreement may affect trade between Member States.<sup>188</sup> The question in this situation is if it is necessary for both undertakings to operate within the same sector (horizontally) or within the same product chain (vertically<sup>189</sup>) for an agreement between companies to fall within the scope of this provision. The two companies will often not be in either together. The former will regularly be a company not active in the ICT sector, while the latter will mainly be an ICT company which is conducting the link building.

Also, trade between Member States needs to be affected. While SERM does not have territorial borders, it does have linguistic borders. Belgians speak Dutch and French and Swiss speak French, German and Italian, and also many citizens who live near a border speak multiple languages, therefore competition between Member States will probably be considered to be distorted, even if the SERM is only done in one language.

Assuming that the two companies do not necessarily have to operate within the same sector or product chain, and the trade between Member States is somewhat affected leading to a distortion of competition, trade must also be 'appreciably affected' by the action. Agreements may in addition not fall under the scope of Article 101 if they are not capable of appreciably affecting trade between Member States. Agreements between small and medium sized undertakings are rarely capable of appreciably affecting trade between Member States. Small and medium sized undertakings are currently defined as undertakings which have fewer than 250 employees and have either an annual turnover not exceeding €40 million or an annual balance sheet total not exceeding €27 million.<sup>190</sup> Many small

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<sup>186</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:083:0047:0200:en:PDF>

<sup>187</sup> Article 101 sub 1 of the TFEU.

<sup>188</sup> Barring exceptions noted in the: Commission Notice on agreements of minor importance which do not appreciably restrict competition under Article 81(1) of the Treaty establishing the European Community (de minimis)

<sup>189</sup> Établissements Consten S.à.R.L. and Grundig-Verkaufs-GmbH Vs. Commission of the European Economic Community. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:61964J0056:EN:NOT>

<sup>190</sup> §3 of the Commission Notice on agreements of minor importance which do not appreciably restrict

undertakings will hereby not fall within the scope of this article. Although article 101 is mainly written to prevent cartels and abuse of dominant market positions<sup>191</sup>, it probably could be used to take action against larger undertakings that do have an annual turnover exceeding €40 million and also meet the other requirements like having an agreement and appreciably affecting trade between Member States, as the scope of the article is very broad. But this would have to be evaluated on a case by case basis.

### 6.1.3. Concluding

Action against certain types of link building can be taken according to point 11 and 22 of Annex I of the Unfair Commercial Practices directive, but only in cases where a trader is falsely representing himself as a consumer or editorial content is being used to promote a product where a trader has paid for the promotion without making that clearly identifiable for the consumer. In both cases a consumer can take action if his transactional decision in relation to the product has been influenced. A company is protected against unfair competition of another trader, like a competitor, if his action is in violation of the UCPD and if this action has also harmed the economic interests of consumers. Other types of link building, that fall outside the scope of point 11 or 22 of Annex I of the UCPD could nonetheless be in violation of the general provision of article 5 of the UCPD. This would however be dependent on the circumstances of each separate case, like the amount, position, name and style of the links and intent of the trader. A final resort to cope with large undertakings that manipulate the search results and appreciably distort competition between Member States could be found in article 101 of the TFUE, depending on how broad or narrow an agreement between undertakings, which do not operate in the same sector or product chain, is interpreted.

## 6.2. Google Bowling

Google Bowling is the practice of setting up many links with certain anchor texts to associate these texts with the website they link to and is mainly used to lower a website's ranking. This could for example be used by a company to associate 'worst donuts in New York' with a competitor's website. This could position the rights of two parties opposite of each other, namely the right of freedom of expression<sup>192</sup> and the duty to not mislead consumers<sup>193</sup> or not cause damage by your expression (tort). This could also lead to defamation, which is a criminal offence.<sup>194</sup> The person creating links should consider if the anchor texts he uses can be supported by (some) factual evidence and could therefore be permitted as falling within the scope of freedom of expression, or accept being charged by consumers or competitors for misleading practices, tort or defamation. This will have to be evaluated on a case by case basis.

In July 2011 a Dutch court issued a ruling on a case where the right of freedom of speech and the 'duty of care' ('de zorgvuldigheid die in het maatschappelijk verkeer betaamt') where facing each other.<sup>195</sup> In this case a certain website gathered and provided information on other companies. One of the website's pages contained information on a car dealer and this same page contained a link to another article on that website which had the word 'bankruptcy' in its title. When searching Google for the name of the

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competition under Article 81(1) of the Treaty establishing the European Community (de minimis)

<sup>191</sup> The Goals of Competition Law by Daniel Zimmer p.63 - Edward Elgar Publishing, 2012

<sup>192</sup> Article 10 (Freedom of expression) of the Convention for the Protection of Human Rights and Fundamental Freedoms. <http://conventions.coe.int/Treaty/en/Treaties/Html/005.htm>

<sup>193</sup> Article 6 of the Unfair Commercial Practices Directive

<sup>194</sup> For example in the Netherlands, see article 261 of the Dutch Criminal Code

<sup>195</sup> Ruling of the Court of Amsterdam on 26-07-2011, Nr: LJN: BR3418, <http://zoeken.rechtspraak.nl/detailpage.aspx?ljn=BR3418>

car dealer and 'bankruptcy' this informative website ranked on the first position<sup>196</sup>, showing below the title the name of the car dealer and in the sentence below the phrase 'this company has gone bankrupt'. The car dealer felt he suffered by the way Google displayed both snippets of text from the informative webpage in its search results because this gave the impression the car dealer had gone bankrupt.<sup>197</sup> The judges concluded that the informative website had to alter the text on that webpage so Google would stop showing the name of the car dealer and 'bankruptcy' in the same search result.<sup>198</sup> An interesting thought of the judge was that especially because the informative website uses the services of Google, which is profitable for the business, and as the website is setup in a manner that it ranks high in Google's search results, responsibility has to be taken for these misleading textual mix ups and be removed or altered if asked.<sup>199</sup> This case could also have consequences for the way links are dealt with, placing links with anchor texts like 'bankrupt' and linking them to another website could result in the same situation where they have to be removed as the right to the freedom of speech does not justify the harm it causes to the other party.

### 6.3. Cloaking

Cloaking is a SERM technique which is used to present Google's web crawler, or that of another search engine, different content than to the human visitors of the website. This can also result in a misleading commercial practice as Google indexes the website believing its content is about a Nike<sup>200</sup> shoe for example, making it likely Google will show this page in the search results when this specific shoe is searched for, while the content that is shown to the human visitor might consist of replicas of the shoe from China or contain advertisements for shoes of a different brand. This practice could in some circumstance also be in violation of the general provision of article 5 of the Unfair Commercial Practices Directive and result in an unfair commercial practice. Namely, when the commercial practice is contrary to the requirements of professional diligence and materially distorts or is likely to materially distort, the economic behaviour with regard to the product of the average consumer whom it reaches or to whom it is addressed.

### 6.4. Infecting a site with malware

When infecting a site with malware (malicious software) one of two situations is possible. The person infecting the website can have gained access to the server on which the website is hosted and place the malware (virus, Trojan, etc.) among the files the website consists of and subsequently add links to the malware on the webpages by altering the source code.<sup>201</sup> Or the malware could be hosted elsewhere, possibly on a private server or a file sharing site, in this case the malware is placed on the webpages by making use of design flaws which infect the site without the need to gain access to the source code of the files the site consists of. These are two different approaches with the same effect; visitors' computers could get infected with malware.

According to article 2 of the Cyber Crime Convention it is a criminal offence to gain access to a whole or any part of a computer system without right and when committed intentionally. In the first situation,

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<sup>196</sup> §3.1 sub IV of the verdict

<sup>197</sup> §3.1 sub V of the verdict

<sup>198</sup> §3.15 of the verdict

<sup>199</sup> §3.2 sub (4.3) of the verdict

<sup>200</sup> Nike, a manufacturer of sportswear and shoes: <http://www.nike.com>

<sup>201</sup> The source code of a website is the HTML code it is built with like:  
[http://www.w3schools.com/html/tryit.asp?filename=tryhtml\\_intro](http://www.w3schools.com/html/tryit.asp?filename=tryhtml_intro)



where the malware was placed on the server on which the website is hosted, it can be assumed the access to the server and the hosting space of the website was gained without right and intentionally, therefore it is an illegal and punishable act.

In both cases malware was spread via the infected website. Spreading malware is a criminal offence according to article 4 and 6 of the CCC. Article 6 of the CCC establishes as a criminal offence when committed intentionally and without right, the distribution of a computer program, in this case the malware, designed or adapted primarily for the purpose of committing any of the offences established in accordance with the articles 2 through 5 of the CCC. The offences named in these articles are roughly gaining illegal access<sup>202</sup>, illegal data interception<sup>203</sup>, data interference<sup>204</sup> and system interference<sup>205</sup>. Also, the intent that it be used for the purpose of committing any of the offences established in articles 2 through 5 must be present<sup>206</sup>, if so, article 4 prohibits the damaging, deletion, deterioration, alteration or suppression of computer data without right when committed intentionally.

Malware is especially created and spread with the intention to interfere with computer systems and/or data, to intercept computer data or to gain illegal access to a system or data, thus malware falls within the scope of a computer program designed to commit the offences prohibited by article 4. Besides these conditions, the malware needs to be spread intentionally. As the website owner did not place the malware on his site himself, he is not punishable for spreading the malware because he did not spread it intentionally. Except when the situation occurs where he knows of the malware being present and spread via his website but does not take any action to remove it. Consequently, the person who used the website as a means to spread the malware is punishable as he placed the malware there intentionally to commit the data interference prohibited by article 4.

## 6.5. Snitching

Snitching is the art of finding search engine manipulation techniques used by others and subsequently reporting this to the search engines by submitting a so called spam report in the hope they take action and lower the site's ranking.<sup>207</sup> This is not an illegal action or offence, in certain cases it could even be desirable, for example when copyright violations are detected.

## 6.6. Duplicate content / Clone to get banned

These two SERM techniques will be discussed together as they are legally very similar. Creating websites with duplicate content by scraping or copying text from the website that is supposed to be demoted in the search results could raise copyright issues, to what extent is this punishable? To answer this question it is crucial to know what a copyright is. A copyright protects the rights of, among others, authors and contributes to the cultural and economic development of countries. Granting a copyright has two functions, first of all to encourage a dynamic creative culture, while returning value to the creator so that he can lead a dignified economic existence, and second to provide widespread,

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<sup>202</sup> Article 2 of the Cyber Crime Convention - Illegal accessing of a computer system

<sup>203</sup> Article 3 of the Cyber Crime Convention - Illegal interception of computer data

<sup>204</sup> Article 4 of the Cyber Crime Convention - Damaging, deletion, deterioration, alteration or suppression of computer data

<sup>205</sup> Article 4 of the Cyber Crime Convention - Serious hindering without right of the functioning of a computer system

<sup>206</sup> Article 6 sub 1 sub A (last paragraph) of the Cyber Crime Convention

<sup>207</sup> Report spam, paid links, malware, and other problems to Google:

<http://support.google.com/webmasters/bin/answer.py?hl=en&answer=93713>

affordable access to content for the public.<sup>208</sup> Copyright is received automatically at the moment an original work, here the text on a website, is created.<sup>209</sup> This means that the author of the text holds the exclusive right to use or authorize others to use the work on agreed terms.<sup>209</sup>

Website content can be copied in two ways, manually by literally copying and pasting the textual content to another website or automatically with the use of so called content scrapers.<sup>210</sup> Manual copyright infringement already is an offence by criminal or private law in most member states.<sup>211</sup> Automated copyright infringement by means of a computer system is a criminal offence through article 10 of the CCC which establishes as criminal offences the infringement of copyright where such acts are committed wilfully, on a commercial scale and by means of a computer system. The term 'wilfully' is now used instead of 'intentionally' as this is the term used in article 61 of the TRIPS Agreement<sup>212</sup>, but the same is meant with both words.<sup>213</sup> When is a copyright infringed on a commercial scale? The World Trade Organisation's (WTO) Dispute Settlement Body (DSB) answered this question in a dispute between America and China.<sup>214</sup> Counterfeiting or piracy on a 'commercial scale' refers to counterfeiting or piracy carried out at the magnitude or extent of typical or usual commercial activity with respect to a given product in a given market.<sup>215</sup> What this means is that the scope of 'commercial scale' varies from product to product and market to market, and may be large or small but in any case relates to profitability in the longer term.<sup>215</sup> So gaining a commercial advantage, what occurs when a competitor's website is demoted in the search results due to duplicate content issues, could be seen as copyright infringement on commercial scale as it increases the competitive position of the infringer at the expense of the copyright holder, as the copyright holder has lost a great deal of his commercial online position which is of relatively great effect on a usual commercial scale and profitable for the infringer. Following these definitions, is creating websites with duplicate content by means of content scraping an offence regarding article 10 of the CCC? There are permitted exceptions which are not qualified as copyright infringement like quoting and private use of copyrighted material.<sup>216</sup> However, punishable copyright infringement has occurred when the owner of the website that is scrapped is the original creator of the textual content and thus the copyright holder and this scraping is done on a commercial scale of which the infringer benefits. Assuming the content scraping is performed intentionally (wilfully), without right and automatically by means of a computer system.

## 6.7. (Distributed) Denial of Service ((D)DoS) Attack

During a (distributed) denial of service ((D)DoS) attack computers, often servers that host websites, are flooded with so much requests that they are unable to handle them anymore and fail, resulting in

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<sup>208</sup> Copyright and Related Rights: <http://www.wipo.int/copyright/en/index.html>

<sup>209</sup> General information on copyright: [http://www.wipo.int/copyright/en/general/about\\_copyright.html](http://www.wipo.int/copyright/en/general/about_copyright.html)

<sup>210</sup> Chapter 4.7 for further explanation

<sup>211</sup> Explanatory Memorandum to the Cybercrime Convention §108

<sup>212</sup> Agreement on Trade-Related Aspects of Intellectual Property Rights

[http://www.wto.org/english/tratop\\_e/trips\\_e/t\\_agm0\\_e.htm](http://www.wto.org/english/tratop_e/trips_e/t_agm0_e.htm)

<sup>213</sup> Explanatory Memorandum to the Cybercrime Convention §113

<sup>214</sup> Report of the Panel: China – measures affecting the protection and enforcement of intellectual property rights:

[http://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds362\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds362_e.htm)

<sup>215</sup> §7.577 of the Panel's report

<sup>216</sup> There are certain limitations to what can and cannot be copyright protected, article 13 of the TRIPS convention permits Members to make exceptions. Also see chapter 8 G 'Limitations on copyright protection', of an 'Introduction to Intellectual Property Theory and Practice' by the World Intellectual Property Organization, 2008, Walters Kluwer.



websites becoming unreachable. Article 5 of the CCC establishes the serious hindering without right of the functioning of a computer system by inputting, transmitting, damaging, deleting, deteriorating, altering or suppressing computer data as a criminal offence when committed intentionally. Does a (distributed) denial of service attack fulfil these requirements and result in punishable behaviour?

When is a computer system seriously hindered? According to the Explanatory Memorandum to the Cybercrime Convention a computer system is seriously hindered when the sending of data to a particular system occurs in such a form, size or frequency that it has a significant detrimental effect on the ability of the owner or operator to use the system.<sup>217</sup> Assumed that the initiator of a DDoS attack was not granted the right to do so and he intentionally instructed the malware on one or tens of thousands of infected computers, in cases of a distributed DoS attack, to send masses of requests to the targeted website which affect the computer (the server) in such a way that it cannot be operated anymore, he is punishable of seriously hindering a computer system by transmitting these requests to the server.

## 6.8. Search engine's position

Google decides how its algorithm ranks the websites in its index on the search engine's result pages for a given search query. Could Google be held accountable for ranking a website higher or lower because someone has manipulated the search results by using a technique which is in violation of their guidelines or the law and has not been detected (yet) by Google?

In April 2007 the Dutch court of Amsterdam ruled that Google is not liable for the links, or for the contents of the webpages these links refer to, as the process of generating the search results happens automatically and without interference.<sup>218</sup> It is the owner of the website that is indexed by Google and shown in the search results who can influence the search results and the contents of the webpage. Google's 'duty of care' (zorgplicht) is not of that extent that it is responsible for the accessibility of information provided by another, if Google does not know or reasonably should know that the information is manifestly unlawful.<sup>219</sup>

Google can be notified through its notice and takedown procedure<sup>220</sup>, if content is in violation of applicable laws. This will however not remove the violating content from the internet, it will still be available until it is also removed from the website it is located on.

In any case, all these previously discussed search engine manipulation methods are in violation of Google's guidelines. When detected, Google takes action on sites that violate their quality guidelines.<sup>221</sup>

## 6.9. Internet- and hosting providers

Although the E-Commerce Directive does not contain any provisions against or concerning search engine result manipulation, article 14 of this directive determines that a hosting provider, who offers a

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<sup>217</sup> Explanatory Memorandum to the Cybercrime Convention §67

<http://conventions.coe.int/treaty/en/reports/html/185.htm>

<sup>218</sup> Ruling of the Court of Amsterdam on 26-04-2007, Nr: LJN: BA3941,

<http://zoeken.rechtspraak.nl/detailpage.aspx?ljin=BA3941>

<sup>219</sup> Third paragraph of the decision of the verdict

<sup>220</sup> Removing Content From Google: <http://support.google.com/bin/static.py?hl=en&ts=1114905&page=ts.cs>

<sup>221</sup> Google search and search engine spam <http://googleblog.blogspot.nl/2011/01/google-search-and-search-engine-spam.html>

service for storing information provided by a consumer, is not liable for information stored on his servers by the consumers<sup>222</sup> on the condition that the hosting provider does not have actual knowledge of illegal activity or information.<sup>223</sup> And according to article 15, hosting providers and internet services providers are not obliged to monitor the information which they transmit or store, nor do they have to actively seek facts or circumstances indicating illegal activity.<sup>224</sup>

These provisions mean that service providers like hosting companies or internet providers are not liable for possible (criminal) offences, like copyright infringement, committed by means of their services or network on the condition that the service provider does not have knowledge it is occurring. On the other hand, the service provider could be held liable if he has the knowledge of possible offences occurring, but does not act.

In the final chapter of my thesis, the conclusion, I will evaluate the legal status of the different types of search engine result manipulation and, if deemed necessary, try to provide a satisfying solution.

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<sup>222</sup> Article 14 sub 1 of the E-Commerce Directive (L 178/1 - <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:178:0001:0001:EN:PDF>)

<sup>223</sup> Article 14 sub 1 sub a of the E-Commerce Directive (L 178/1)

<sup>224</sup> Article 15 sub 1 of the E-Commerce Directive (L 178/1)

# Conclusion: Should the European Union take additional legal measures against search engine result manipulation due to unfair online competition?

Chapter 6 showed which types of search engine result manipulation are considered an offence by law and which types or variants are not. The focus now lies on the manipulation types which are not explicitly considered an offence.

The main types of SERM that are not explicitly an (criminal) offence are unpaid link building, paid link building with links that are not considered editorial content and cloaking. These types could however, in some circumstances, fall within the scope of the general prohibition on unfair commercial practices of article 5 of the UCPD, but that needs to be considered on a case by case basis. These three forms have one thing in common: when used by a trader to manipulate the search results, the average consumer's economical behaviour is distorted without him knowing it and the trader's honest competitors' economic interest is harmed. Manipulation of the search results is not something that is done by accident. It will cost a trader effort to manipulate the results, as most traders will probably not have the knowledge to build their own link scheme or cloak a website, they will need to contract another party, or, if they have the knowledge, it will cost them a lot of time to do so. Therefore, the trader is deliberately misleading and deceiving consumers and distorting competition among his competitors, for his own economic gain. This is contrary to an honest market practice that can be expected from a trader. An honest trader would buy advertisements or commercials to sell more products or get more visitors on his website. Manipulation of the search results also makes the results biased and untrustworthy. This is not only a problem for the company behind the search engine, but also for consumers who receive wrong information and might buy fake or even dangerous products, like counterfeited drugs. This could also affect honest companies whose advertisement campaigns surrounding the search results will be less effective due to the overall loss in quality of the search results.

Consumers are to some extent protected against unfair online commercial practices, including some types of SERM. The Unfair Commercial Practices Directive is meant to address commercial practices directly related to influencing consumers' transactional decisions in relation to products. To achieve this, the Directive contains an Annex with 31 provisions which are considered an unfair commercial practice in all circumstances. Besides these explicit prohibitions, article 5 of the Directive contains a general provision that prohibits unfair commercial practices which are not explicitly named in Annex I or covered by the Directive's other articles, but still result in an unfair practice.

Does the effect of SERM on the economical behaviour of consumers require additional legal action to be taken to enhance their protection in the European Union? Because of the distorting effect SERM has on consumers' commercial decisions and broad scope of article 5 of the UCPD, it would be advisable to add a provision to Annex I which in all circumstances regards as an unfair practice: *'The manipulation of search engine's search results by a trader with the intent to change his own or another's website's position in ranking and hereby distorting consumers' economic behaviour or distorting competition.'*

This additional provision would be in line with other prohibited commercial practices already listed on Annex I, like point 11 or 22, which consider some specific variants of SERM an unfair practice. Adding a provision like previously suggested would take away any doubt whether SERM falls within the scope of article 5 and thus if it results in an unfair commercial practice.<sup>225</sup> Now it has to be decided on a case by case basis, while making these methods of SERM a prohibited practice would provide better protection to the consumer which is moreover in line with the essence of the Directive. Although a provision like this would be difficult to maintain as the internet consists of many, many websites and webpages, it would also have a preventive effect. The fact that walking through a red traffic light does not stop everybody from doing so, it does prevent most people from doing it. The same could apply to SERM and subsequently decrease the degree to which a consumer will encounter manipulated search results. Furthermore, a special website could be opened, or an existing one adapted, where unfair commercial practices due to SERM can be reported.

Besides consumers, also companies, especially those who are active in the same field of trade as the company using SERM, are economically harmed by these practices. This leads to the answering of the main question of the thesis: *‘Should the European Union take additional legal measures against search engine result manipulation due to unfair online competition?’*. As companies cannot invoke the effects of the UCPD directly, it is advisable to add a provision to the Directive or the Annex, which would make it possible for companies among each other to invoke some or all provisions of the UCPD, without the condition that the consumers’ economical behaviour has to be distorted likewise. The UCPD should be adapted because the prohibitions listed in Annex I are considered the most serious forms of unfair commercial practices as they are in all circumstances an offence, making at least these provisions enforceable among companies would therefore immediately provide them extra protection and possibilities, without having to review the circumstances on a case by case basis, thus providing a clear set of boundaries.

The Commission was advised to investigate carefully if the need exists to provide Community action in the field of unfair competition beyond the remit of the UCPD and if necessary make a legislative proposal to cover these other aspects of unfair competition.<sup>226</sup> Momentarily the Directive does not provide companies the opportunity to invoke the provisions of the Directive against competitors committing unfair commercial practices harming their economic interests. My proposal could fulfil this need and provide a solution for this legislative gap.

As there are often multiple ways to solve a problem, I also considered these alternative options:

1. Leave the situation as it is and let companies among each other deal with unfair competition caused by competitors’ manipulation of the search results. They could take civil action against each other based on tort for example.
2. Leave the situation as it is and let search engines deal with the manipulation, their search results are being affected including its trustworthiness. If consumers find the results unsatisfactory they can switch and use another search engine.
3. Leave the situation as it is, companies using SERM on a large scale will probably eventually get caught which will result in reputation damage and will take years to recover from.

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<sup>225</sup> §17 of the ‘Whereas’ of the UCPD

<sup>226</sup> §8 of the ‘Whereas’ of the UCPD

4. Impose civil fines in the Terms and Conditions by search engines and websites to prevent violation of guidelines, forum spamming or search engine result manipulation.

These alternative proposals could be easier to maintain, but might not be as effective as adjusting the UCPD. As the use of the internet keeps growing and online sales keep increasing year over year the amount of manipulation is also likely to increase. The aim of the Directive is to protect consumers' economical interest, now and in the future. To be able to maintain the desired amount of protection for consumers and companies across the whole of the European Union, I think the two previously mentioned adaptations to the Directive are necessary. Especially for honest companies as they now cannot invoke the effects of the Directive against competitors manipulating the search results and thus committing unfair commercial practices.

### Summarizing

Adaptation 1. Adding a provision to Annex I regarding commercial practices that shall be considered unfair in all circumstances: *'The manipulation of search engine's search results by a trader with the intent to change his own or another's website's position in ranking and hereby distorting consumers' economic behaviour or distorting competition.'*

Adaptation 2. Modify article 5 sub 5 from: 'Annex I contains the list of those commercial practices which shall in all circumstances be regarded as unfair. The same single list shall apply in all Member States and may only be modified by revision of this Directive.'

To: 'Annex I contains the list of those commercial practices which shall in all circumstances be regarded as unfair. The same single list shall apply in all Member States, can be invoked by both consumers and traders and may only be modified by revision of this Directive.'