

# The Historical Development of Search Engine Optimization

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## Abstract

The Search Engine Optimization (SEO) is one of the leading and most important internet marketing concept employed by the majority of the online business. Since its appearance till present days SEO as marketing skill, has significantly changed and evolved. Historically, the SEO at the beginning was very simple task and brought instant success to many businesses. In their early development, the search engines were vulnerable to unethical activities (spam) done by some webmasters who did everything to appear high in the search results. The manipulations forced search engines to improve their algorithms constantly. The major changes of the search algorithms usually brought big turbulences in the online business environment causing losses for some and gains for others. Some business learned the hard way to practice ethical, “white hat” SEO, others used the momentum and boosted their business thanks to high inflow of visitors through Search Engines and still, some try to manipulate the search results by using unethical techniques. As the internet developed, the competition grew and the Search Engines advanced the SEO became more demanding and more complex activity, but still it is very important aspect of the strategy of every online business.

**Keywords:** E-Business, Internet Marketing, Search Engines, SEO,

## 1. Introduction

The need to research the historical development and the evolution of the Search Engine Optimization as important marketing concept emerges from the following facts:

- The development of SEO followed the development of Search Engines
- Some basic concepts of search engine optimization are still important
- Many companies emerged and generated profits due to black-hat (unethical) SEO
- Black-hat tactics can only bring results (if any) on short terms
- Many companies not following the guidelines for ethical optimization suffered losses
- Mistakes made in the past should be lessons for the future entrepreneurs and business
- Changes in the search algorithms sometimes open new business opportunities.

SEO or search engine optimization is defined as a set of strategies and activities aiming to improve the rankings of a specific web site in the search engine results. The ultimate goal of the optimization is to bring more visitors from the search engines and increase the number of the company’s prospects, leads and sales (Kisiel, 2010). It is also proven that SEO improves the branding of a company or a product that manages to keep high positions in the results (Dou et al., 2010).

Search engines on the other hand, play an important role in the internet environment. The number of websites constantly rises even from the beginning of the internet and any regular user wouldn’t be able to find the information (or products) he/she needs if there were no search engines. Since most of the internet users use search engines to find information, websites or products on daily bases they (the search engines) send a large number of visitors to the websites. This has been true since the appearance of the first search engines and still is.

As soon as the website owners realized that they can influence the search engine results and draw visitors to their sites they started to implement some tactics what is now known as search engine optimization.

## 2. The early forms of SEO and its pioneers

The earliest forms of SEO – Search Engine Optimization, appeared in the first half of the 1990’s alongside the arrival of the first search engines. Anyway, SEO gains in importance after the introduction of the WWW and especially during the appearance and growth of the e-commerce websites when the webmasters were vigorously trying to promote their online businesses. The first practitioners, the pioneers in the search engine optimization realized that not only they could attract many visitors to their sites through search engines but also could monetize these visits and generate significant profits.

Danny Sullivan, who is considered by many as the father of the search engine optimization (Search Engine Watch, 2010), left his career as a journalist and with one of his friends started to develop web sites for clients (The History of SEO, 2015a). In 1995 one of their first clients asked them why his site is not listed in the first results in the search engines, after what Danny started to investigate the reasons. Next year, he published his findings in a web article titled „A Webmaster’s Guide to Search Engines“(Sullivan, 2006). Some of his findings even today have importance in SEO, as the title tag and the content of the web page. Inspired by the great interest for this article Sullivan in 1996 starts the web portal “Search Engine Watch” which is still one of the leading informational web sites in this industry.

John Audette who is also considered as one of the founders of SEO, “was doing SEO before it had a name, before people knew what it was, before spider run search engines existed” (The History of SEO, 2015b). In 1995 he founded MMG (Multi-Media Marketing Group), a company that besides web design offered services for registration of websites at the existing search engines and directories and was among the first companies to offer services in the field of Search Engine Marketing.

It is believed that in 1997 John Audette on a meeting with Danny Sullivan for the first time used the term “Search Engine Optimization”. Another possibility is that the term optimization in context of this industry was used for the first time in 1997 by Bruce Clay who was among the first practitioners of this internet skill.

In 1999 Danny Sullivan started to organize the conference named “Search Engine Strategies” which focused on search engine marketing and search engine optimization. Since then, the conference is held every year with presence of experts in that field as well as representatives of the Search Engines (Wikipedia, 2010a). As a matter of fact, the first conference which is held on 18<sup>th</sup> of November 1999 in San Francisco is marked as the first official event where the optimizers, the website owners, met with the representatives of the Search Engines.

At the beginnings of the search engine practice, all that webmasters needed to do was to register the sites at some (or all) of the Search Engines, and right after the site was crawled by the so called web spiders (automated indexing system) it started to appear in the search results. In 1994 the first software packages for automatic registration of the web sites in Search Engines appeared on the market. (Bigmouth Media, 2010)

During that time, sorting the limited number of web sites was based on categorization, in other words the web sites were registered into different categories and the search results were retrieved from the relevant category. With the fast growth of the number of web sites and pages the need to rank the results based on some criteria emerged, so that the search showed the most relevant results first. Because of these reasons the first search algorithms were developed which were used to rank the search results based on the meta-tags of the web sites. The Meta tags contain the Meta keywords and the Meta description, and they describe the content of every specific web page. The Meta tags are parameters that webmasters themselves insert into the HTML code of the Page, what is readable for the Indexing robots. As a consequence of that kind of functioning, the search results were highly dependent on the webmasters because the search algorithms were retrieving results based on the data provided by them. Some web developers and website owners started abusing this weak spot of the search engines by inserting irrelevant information into the HTML code just to draw more visitors on their websites. That was a war starter between the search engine optimizers and the Search Engines, and this war lasts till present days. Namely, the search engines strive to satisfy the needs of their users by serving them as relevant results as possible, while on the other hand the webmasters try to achieve higher positions in search engine results regardless if they are relevant or not.

In this kind of circumstances the search engines are continuously upgrading the search algorithms and besides the Meta tags they started to incorporate other ranking factors such as the title tag of the site, the density of the keywords, naming of the images etc. As a result of this the search results improve but only for a short time. The new ranking factors are also under control of the developers and they quickly find new ways to manipulate the search results.

### 3. The Evolution of SEO through time

There is a belief among the Internet Marketers that actually, the Search Engine Optimization has appeared directly as a result of the attempts to manipulate the search results. The manipulations are forcing the search engines to upgrade their algorithms constantly and these changes result in new attempts by webmasters to get higher rankings in the results. These iterations led to formation of SEO as a skill that evolved through time. Besides the manipulative webmasters there were also webmasters that were proponent of ethical search engine optimization what involves using only ethical non-manipulative techniques to rank high in the search results.

Brett Tabke in his article “A Brief History of SEO” lists chronologically the methods of manipulations that the webmasters were doing in order to achieve higher rankings and get more visitors to their sites (Tabke, 2002) Some of the most important events in SEO and techniques used in that time are listed below:

**1995:** “The Optimization” starts when the developers register their web sites in the online yellow pages starting with AAA, A#1, in order to be on the first position because the ranking is made alphabetically.

**1996:** Optimization is used with the principal “trials and errors”. Keywords are being added to the text and the feedback is being expected. The first concepts of density and positions of the keywords are being used. It is still easy to be listed in the Yahoo Directory. All you need to do is to make an application and if the site is well organized it will be in the index within 72 hours.

**End of 1996:** The first web articles about text matching and data mining are published, as well as interviews with programmers working for the Search Engines.

**1997:** The first “algo crackers” appear. Because the algorithms work automatically, by analyzing the first results (also automatically) it is easy to figure out the ranking factors. More precisely, several SEO experts cracked all 35 parameters of the Excite search site, and were capable of creating sites which will answer to all 35 parameters

and get the no. 1 position fast and easy. In the same year the first page jacking appeared as well as “bait and change” tactic. Also, some SEOs copied the entire code from the sites that were ranking high.

**Mid 1997:** some Search engines start to use the Yahoo Directory to check the credibility of the sites to rank. Because of that reason, to get into the Yahoo Directory become high priority for all webmasters. Yahoo is overflowed with applications that never get processed.

In their pursuit for income, the search engine realized that they are just a transition portals that the users only go through. They try to keep the users on their sites in many different ways. Some even create algorithms so that the users spend more time searching.

**End of 1997:** Infoseek appears and makes daily updates to its index. “Register a site in 8:00 and by the afternoon the visitors start to arrive.” For the first time optimization can be done by anyone, not only programmers. The SEO starts to bloom as a result of the simplicity and fast visible results.

The spam becomes a serious problem for the Search Engines because some malicious sites managed to discover how algorithms work and manipulate them. As a result of that Hotbot and Altavista are almost useless by the end of 1997.

Page jacking happens more often. The code and the content of the highly ranked pages is copied and placed on foreign domains that are out of the international legislation. The first cloaked sites in the insurance and automotive industry appear in order to avoid content stealing.

The optimization gives results. Visitors in the most optimized sites are increasing in number and they reach several hundred a day.

**1998:** After the publishing of some papers at the online conferences, it is clear that the search engines will focus on external, off-page factors to rank the sites. Some of the future ranking factors are the link popularity, directory listing, the time they are online and so on.

The cracking of the algorithms in the mid-98 and the start of 99 is getting more sophisticated. The SEO companies hire programmers to create a program that will ‘read’ the algorithms in order to create pages according to their rules.

One of the Search Engines uses multiple algorithms for ranking of each of the first 10 positions. Discovering how to rank on the 2<sup>nd</sup> position, for example may not mean that it is just as easy to rank on the 3<sup>rd</sup> as well because the search engine uses different parameters for that position.

Some of the Search Engines start to use the option “report by the competitors” to clear the malicious sites from the results because their algorithms can’t do that automatically.

Page jacking and content stealing rises to an alarming levels. It is not possible to reach the 1<sup>st</sup> position on Altavista if you don’t steal a site. The entire sites are copied and duplicated in order to push the competition down in Altavista, and this is possible because Altavista does not detect a duplicate content. The same story is going in Inktomi as well.

Some sites are punished as a result of registering the URL several times in a Search Engine from their competition.

Google appears online as a serious game changer. With 25 million pages in its index it is clear that Google has a future. Having in mind that the main factor for ranking is the PageRank (the direct and indirect quantity of inbound links), the optimizers seriously comprehend on how to have influence over the link popularity.

Automatically generated Doorway Pages appear everywhere and some of them rank high.

Visitors are still arriving to the pages of those who know the ‘rules’ and they are still remaining unnoticed and unpunished. Implementing quality optimization that does not look manipulative brings results.

The first free independent directory known as Open Directory Project (dmoz.org) appears. Since search engines use it as a ranking factor, getting listed in this directory becomes one of the main tasks for the optimizers.

**End of 98 and beginning of 99:** Altavista fights with overwhelming number of sites in its index and excludes big parts of some and even whole sites who have automatic generation of doorway pages. Other search engines start a war with SEOs and pages mentioning “optimize” or “promote” are being excluded from the index in large numbers. Almost every SEO firm is thrown out of the index. Their clients lose the good positions as well. Because of this the more experienced players stop referring their clients.

The decoders of the algorithm are on top of their functionality, but their usability is minimal because off-page factors like link popularity are becoming the dominant ranking factor. It was never harder discovering out how to get to the top 10 results.

Google, thanks to the PageRank and the relevant results in the search started to grow dramatically while other search engines were falling apart because of the bad results, the chaos in the management and the great income losses.

Gaining authority and creating hubs (authoritative sites with many inbound links) is a winning combination to rank on top positions in Google. Google’s algorithm clears the trash of the overwhelming databases and identifies the central and most important sites in every keyword cluster.

The competition between the sites is getting greater and greater. The Search Engine send stable amount of visitors each and every day.

**End of 1999:** The effects of the optimization begin to drop. The first pay per click search engine GoTo appears. The optimizers spread their activities in the paid search.

There is a vast expansion of the techniques for link building. The old ways of optimizing and decoding the algorithms are still useful. Some of the Search Engines do a massive cleaning of their indexes, clearing many spam pages but also some other legitimate sites without any explanation.

With the fast growth of the competition the number of visitors that arrive from search engines as a result of the optimization significantly decreases. News sites are appearing in large number.

**2000:** The SEO industry gets a major distortion when the search engine Infoseek falls apart.

Concepts for paid placement on the search pages appears in different forms, Search Engines with paid results, sponsored results among organic results, banners based on keywords etc.

Regarding the genuine, organic Internet search, the users need a search engine that will get them to the requested information. Because Google serves relevant results to its users further fortifies its position as the No 1 Search engine.

In December 2000 Google launches the “Google Toolbar” what indicates the PageRank of a website. This is followed by the PageRank mania (Bunn, 2010) where everyone tend to increase it using different methods starting form link exchange up to participating in linking farms where automatically large number of links are generated in short time.

The schemes for generating links developed in 1999 start to lose their importance because they are too risky and because they can be detected easily by the research system. The next attempts to raise the link popularity is creating fake award winning programs, fake guestbooks , fake directories and forums and all of this only to build an improved link popularity.

**2001:** Internet users massively abandon the search engines like Hotbot, Altavista and Excite. On the market there are only several left such as Google, Yahoo, AOL and MSN. The optimization which was used up until then is over. The era of Google dominance begins and optimizers are focusing on finding techniques to rank better on this search engine.

#### 4. The Google era

As a direct result of the manipulations done by many unethical webmasters the search engines became almost useless. Evidently, a new type of search engine was needed that will evaluate ranking factors that are out of the direct control of the web developers.

In 1998 Google, a new search engine developed by two PhD students from Stanford University, Sergey Brin and Larry Page, enters the search landscape. Google implements a new way of ranking web pages called PageRank. It is based on the inbound links on the web page, where every link counts as a vote for that page (Page et al., 1998). The more inbound links a page has a higher PageRank it has. Anyway, every link passes different value to the linking page depending on the PageRank and outgoing links on the page it comes from.

Thanks to the PageRank formula, Google managed to serve highly relevant results and it became the most popular and successful search engine in no time. Google still holds this position.

After the Google’s success it was expected that the number of manipulations with the search results would fall greatly because PageRank evaluates only inbound links that the web developers have little or no control over. Anyway these expectations were justified only for a short period of time because the webmasters developed tools to manipulate the links which in great deal had effect on the search results. A number of websites focused their efforts on exchanging, buying, selling and also automatically generating links. Unfortunately, these kind of activities became widely used by large number of webmasters.

In order to reduce the usage of manipulative techniques to rank pages the search engines including Google, give instructions to the webmasters how to optimize their sites (Sexton, 2007), but also punishes the abusive sites by excluding them from the search results. Anyway, some of the webmasters are always one step ahead of search engines and always find ways to manipulate the results at least for shorter periods of time.

Having in mind the constant manipulation by some (or many) webmasters, Google and the other search engines face the challenge to develop more sophisticated and intelligent algorithms that will evaluate large number of internal (on-page) and external (off-page) factors. On top of this, there are enormous numbers of web pages that need to be indexed, and also there is rising numbers of users that don’t use the advanced search options. As a result of all that, the search engines need to develop predictive, semantic, linguistic and heuristic algorithms (Wikipedia, 2010b).

After the year 2001, when the Google dominance started it is worth mentioning the following events (Bunn, 2010):

- In February 2002 (after the first unsuccessful attempt in the 2000<sup>th</sup>) Google restarts pay-per-click (PPC) program AdWords and very quickly it becomes the most used program for search advertising.

- In August 2002 Bob Massa creates the first network of paid links “PR Ad Network” that acts as intermediary among sites willing to buy and sites willing to sell links. In September many sites hosted by Massa lose their PageRank.
- In February 2003 Google buys Blogger and during the same year WordPress starts operating. These two services promote the blogging (personal online publishing) but as side effect the comment spamming became a real problem for the search algorithms.
- In Mart 2003 Google launches AdSense, a program for automatic publishing of advertisements in the network partners’ sites. This leads to a new wave of creating sites that will generate income through this program. These types of sites will soon overflow the search results.
- As a response to the rise of the importance of the link anchor text as a ranking factor, in September 2003 Patric Gavin founds “Text Link Ads”, making it easier to buy links in different categories. “Text Link Ads” is banned by Google in August 2007
- In November 2003 Google unexpectedly does a large change in the algorithm to fight spam. As a result, a lot of spammy sites are removed from the index, but also a great number of good quality sites were removed as well. This change is known as “Florida Update” and brought significant changes in the future optimization practices.
- In July 2004 the SEOs talk about the “Google Sandbox” effect. It is believed that Google keeps the new sites buried for some period of time in order to prevent instant manipulations.
- In early 2005 the new “nofollow” attribute is introduced, supported by Google, Yahoo and MSN as a fight against the spam and paid links. Later, some sites use this attribute to optimize the structure of the site known as “PageRank Sculpturing”
- In February 2005 Microsoft rebrands MSN into Live Search which uses its own algorithm.
- In November 2005 Google does a new upgrade of the algorithm called “Jagger” this upgrade aims to find and diminish the value of unnatural link building and the importance of the meaning of the anchor text in the link. Immediately after “Jagger” Google does a new upgrade called “Big Daddy” which allows better processing of the context “thematic association” on the links between sites.
- In May 2007 Google introduces universal search, where on one page there will be integration of results of web pages, videos, news, pictures, and items. (Sullivan, 2007)
- Wikipedia reaches 2 million articles in September 2007. This online encyclopedia is an example of the meaning of the domain authority in ranking, since it dominates the search results for many terms.
- In March 2009 the search engines implement the attribute “Canonical” which intends to clean up the index from duplicate pages and URLs and eliminate unnecessary dispersion of the PageRank.
- In June 2009 Microsoft replaces Life Search with Bing and signs a 10 year contract with Yahoo to deliver search results on their search page.
- The same month Google does an upgrade known as “The Brand Update” after which the brands receive improved positions for the generic terms. These higher rankings come not as a result of favoring brands but because the algorithm gives more value to quality, Page Rank, users’ trust and similar factors that emphasize the importance of the page (Schwartz, 2009)
- In November 2009 Google releases the upgrade “Caffeine” which needs to speed up the index process and to give more importance on the fresh articles. (Cutts, 2009)

In the years that followed Google releases many updates (including Panda, Penguin and Hummingbird) and all intend to improve the quality of search results and eliminate spam. Since the algorithms now are far more advanced than before it becomes more and more difficult for the SEO spammers (or better known as black-hat SEO’s) to manipulate the results. Therefore, the majority of the SEO industry focuses on ethical search engine optimization.

## 5. Conclusion

Observing the years behind us we can conclude that the changes in the search industry are a constant. New search engines appear and some of them fade away and disappear from the landscape of search. The existing search engines have to improve their algorithms constantly in order to meet the needs of their users who search for relevant, timely and high quality information. In those changing circumstances, the practitioners of the Search Engine Optimization are always striving, and often succeed in finding new and better ways to improve the positions of their web sites in the search results.

The algorithms of the modern search engines are much more sophisticated than those used by the early search engines and today evaluate over 200 (Google, 2010) different external and internal ranking factors which determine the search results. The struggle for further improvement of the search algorithm continues with the ultimate goal for serving high quality search results expected by the Internet users. These improvements can’t totally eliminate all distortions by malicious webmaster but aim to bring them to a minimal level with as little manipulations as possible.

In parallel with the abuse of the search engine results, what can also be credited for the constant improvements of the algorithms, there were also (and still are) webmasters who propound ethical, white-hat implementation of the Search Engine Optimization. Namely, they use legitimate methods for ranking and avoid spamming and other unethical techniques used to manipulate and distort the search results. The search engine optimization that uses ethical methods is known as “White hat SEO” while those who use unethical methods are known as “Black hat SEO”. The Search Engines quickly understand the constructive role of the ethical optimization and their supporters, and therefore make a “silent alliance” with them and maintain favourable relations in order to properly satisfy the needs of the Internet users on long term. Having that in mind, the search engines give instructions for ethical optimization and are often present as sponsors, participants and guests on conferences and seminars about search engine optimization. On the other hand the search engines impose penalties for unethical optimization with certain restriction or a by complete elimination of such sites in the search index. Anyway, the search algorithms are further kept by search engines as a business secret in order to minimize the possible abuses by the unethical optimization.

All these events related to the development of the search engines and its algorithms from one side and the constant struggle to achieve better positions in the search results by webmasters on the other, contribute for the establishment of the Search Engine Optimization as an important Internet marketing skill that emerges as a separate industry since it is widely practiced and demanded more and more as a business service.

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