

## What Does The Future of Search Engine Optimization Hold?

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### ABSTRACT

Today Internet has become a vital part of our everyday life. Accordingly, for businesses to grow, being active and visible on the Internet is a new requirement. On the other hand, based on confirmed study results, the most important gateways to web are search engines whose significance has led to foundation of a new field of research: Search Engine Optimization (SEO). In the present study the previous, current and prospective future approaches in SEO are examined and it is shown that it is an important requirement for success of websites to be considered. In addition, a number of suggestions are given to webmasters who are interested in the latest SEO strategies, in the final part of this paper.

### KEYWORDS

search engine, search engine optimization, seo, website visibility, website optimization, keyword optimization, structure optimization, content optimization, quality of content, social media optimization.

### 1 INTRODUCTION

Nowadays, Internet has consolidated itself as a very powerful platform which has changed business structures, and human communication. Internet is compound of billions of web pages, thus it is more efficient to use search engines in order to obtain required data or information. According to StatOWL 2013([www.statowl.com](http://www.statowl.com)), more than 84% of Internet users apply search engines as the primary gate to enter the Internet. Website administrators, who are aware of this fact, make an attempt to have a place on the first page or first top rows of search engine results by using Internet advertisement or the more natural

approach, Search Engine Optimization (SEO). Due to lower costs, “SEO” is the preferred choice over Internet advertisement.

Briefly, SEO enables a website to appear among the top results of a search engine for certain keywords. SEO is totally based on the algorithms that are used for searching and indexing websites by search engines [1]. Therefore, examination of its methods naturally involves a lot of research about search algorithms. This study divides the development of SEO to three parts: Past, Present and Future.

‘Past’ refers to the period during which SEO methods were mainly based on the shortcomings of search algorithms; these methods were mostly unethical. But later as search algorithms improved and search engines became intelligent, they got able to catch and penalize misusing websites or totally remove them from the index. Therefore, past SEO approaches got replaced by new ones that were fit with the updated search algorithms. The second part of this research, ‘Present’, is devoted to the study of the most important state-of-the-art techniques that are employed by SEO specialists today. The correct application of these methods can help websites to get high ranks for certain keywords. However, search algorithms are continuously being revised towards being more and more intelligent. So, in order to hold a position on top of the search lists, webmasters must continually monitor the on-going improvements and adjustments. In the section called ‘Future’ we study the possible inclinations of future modifications in search algorithms and correlate them with the future of SEO.

## 2 SEARCH ENGINE

Typically, search engines are software programs employed for data collection about websites on the Internet. Usually, databases with high capacity are used to store this data. Such databases are referred to as Index of search engines and this operation is called Indexing. An index typically includes several types of data about websites/web pages: URL, keywords, HTML code, and related links. Search engines apply programs such as 'spider' or 'bot', which work through navigating hyperlinks of the web. These programs operate constantly and monitor and save all the changes that may occur from time to time. The total operation of collection and storing data is called 'page collection'. In addition to page collection, a search engine has two other main tasks, namely, 'page analysis' and 'page sorting' which are briefly explained in the following paragraphs.

During *page analysis* the collected web pages undergo a series of analyses and processing, mainly including label filtration, extraction of web page text information, text parsing, and establishment of an index between keywords and the web page.

Finally, when a user enters a search query, it is compared to the data in the index and a sorted list of relevant results regarding the query is rendered by the search engine [2]. The process of ranking the results based on their relevance to the query is called *page sorting*, which is a critical competitive factor in search algorithms.

## 3 SEARCH ENGINE OPTIMIZATION

Search engines usually present the most relevant results to a query on the first page. Basically the users try the first three pages of their search results and leave the rest with no attention. In particular, statistics indicated that in 2013, 99% of users have only tried the first page of SERP ([www.statowl.com/search\\_engine\\_results\\_page.php](http://www.statowl.com/search_engine_results_page.php)). Therefore, web administrators have a significant responsibility to keep their web pages among the top search results to make their products and services better introduced.

Search Engine Optimization (SEO), in brief, is a process used to improve the volume and quality of traffic towards a website. It improves the ranking score of web pages for certain keywords when a search is performed. It is the role of SEO to ascertain that a web page can be accessed through search engines.

Website optimization is divided in two groups of processes: 'internal website optimization' and 'external website optimization'. *Internal website optimization* deals with website design matters, such as utilizing Meta tags, keywords, page titles, pictures, links and site maps. On the other hand, *external website optimization* includes adding the website to the site guide, using social media factors, links from other optimized websites to the related web page and similar techniques.

Technically, from search engines' point of view, SEO techniques are divided to two main branches which differ from each other in ethicality of the methods they utilize for website optimization; 'black hat optimization', follows unethical approaches and 'white hat optimization' takes ethics into account. Although using *black hat SEO* may be beneficial for websites' managers in short term but in long term they put their business at the risk of being blocked permanently. Whereas, *application of ethical SEO* techniques is often rewarded by search engines and websites using them achieve higher rankings.

## 4 THE HISTORY OF SEO

In the early days of advent of search engines, many webmasters discovered ways to get high ranks by artificial and unethical manipulation of search engines, called 'black hat' techniques. At that time search algorithms were quite transparent and it was not so difficult to 'fool' the search engines to assign high ranks to pages which did not really 'deserve' it. But later search engines started to fight back by using specific algorithms, filters and penalties to stop spam websites from being indexed. Today search engines penalize websites which use such methods by assigning them low ranks or completely removing them from the index. However, still many websites

make use of black hat techniques and occasionally succeed to get high ranks by accident. A number of these techniques are [1], [3]:

- *Cloaking*: Cloaking is one of the most frequently used black hat SEO techniques which involves presenting a different version of a web page to search engine spiders than the one that is delivered to web browsers.
- *Keyword stuffing*: Keyword stuffing is the act of filling the Meta tags and/or content of a web page with particular keywords to get high rank scores for search queries containing such words.
- *Link farm*: A link farm is a set of web pages that are created to link to another web page. It can also refer to a network of websites interlinking each other. In both cases the purpose of a link farm is to increase the number of incoming links of other web pages to gain higher search rank scores.
- *Hidden Text*: Hidden text is referred to the page content with a very similar colour to the web page's background colour. Such material is invisible to human eye but can be perceived by search spiders.
- *Invisible links*: Invisible links are hyperlinks included in the content of a web page which are readable for search spiders but invisible to human eye. They are created the same way as the hidden text content.
- *Doorway Pages*: Pages with high ranks for certain keywords or phrases but no real valuable information. Usually many of these pages link to one particular web page with unrelated content to visitors' queries.
- *Interlinking*: Building multiple websites and linking them together to raise the overall link popularity of each of them. This trick is the most difficult to detect when applied "correctly".
- *Page hijacking*: Page hijacking is the act of copying pages of a popular website and making a similar version of it to get high placement in search results. The users are redirected to unrelated or malicious web page after clicking on the link to such pages.
- *Mirror websites*: A mirror website is the exact copy of a website on one or more other

domains than the original one. Mirrors have the exact same content and hyperlinks as the copied website.

- *Duplicate content*: Duplicate content refers to putting the same material on different web pages, with different URLs, which is considered as a black hat SEO technique.
- *Unnatural links*: Unnatural links are received not by having relevant or high quality data but by other means like paying another website, or exchanging links only for the sake of increasing the number of them, etc.

## 5 THE PRESENT OF SEO

SEO techniques are observed from four aspects: 'keywords optimization', 'structure optimization', 'content optimization' and 'link optimization' [4]. This section encompasses a relatively detailed explanation of these aspects.

### 5.1 Keyword Optimization

Users mainly apply keywords as the search query to find web pages, while search engines use them as search criterion to retrieve web pages from their index. Therefore, keyword optimization is the primary part of SEO. Optimizing the keywords of a web page involves careful research and analysis of important words and selecting the most relevant ones as keywords. The obtained keywords are then placed in and around the content of the page.

Keyword optimization is an indispensable part of SEO for the fact that the search process is based on query words and the results contain web pages regarded as the most relevant to them. Therefore it is essential that this step be done right and without flaws.

#### 5.1.1 Keyword Selection

Choosing the proper keywords is one of the most demanding steps in SEO. The main principles of keyword selection are [5]:

- *Related Content*: Keywords must be pertinent to the website content. Otherwise, in case too many keywords are placed in the page, the fake

traffic will slow down the website while bringing no value to it. That is because despite the fact that covering a broad range of keywords attracts more users but because many of them are not relevant to the content, the resulting traffic becomes a mere burden on the website.

- *Large Quantity of Searches with Less Competition:* The best keywords are those which are most frequently searched for but least competed against. However, the majority of common keywords are very competitive. Although it is not very easy, but keywords with relatively more searches and less competition can still be found through a sufficiently detailed and extensive research. A useful tool for discovering potential keywords is Google's Keyword Tool, which returns not only the estimated search volume of a keyword but also hundreds of related keywords and phrases, in particular marketable ones.
- *Keywords should not be too general:* If keywords are too general, competitive, and unclear in the search intent, the conversion rate will be reduced. For example, a clothing company might assume the word 'clothing' as a good keyword. However, this word as well as most of the general industry terms is overly broad. If such words are used as main keywords, they would either have no positive effect on the website's traffic or even if the traffic is increased, the conversion rate still remains very low.
- *Keywords should not be too specific:* a very specific word is rarely applied as a search query by users.

### 5.1.2 Keyword Density

The ratio of number of keywords contained in a webpage to the total number of its words is called 'keyword density'. In the early days of search engines, in late 1990s, this measure was a major criterion for search algorithms to rank web pages. But as webmasters gradually learned about this factor, search engines reduced its weight in assigning scores.

A bigger value of keyword density could imply more relevance of the web page to the keyword.

However, because the optimum ratio of keyword density got discovered by webmasters and it was easy for them to artificially keep up with it, this measure lost its primary significance. Instead the priority is given to other criteria that cannot be directly manipulated by webmasters.

Referring to the SEO experts the optimum value of keyword density is between 3-8% and having [4]. Using a bigger keyword density increases the risk of being penalized by search engines for 'keyword stuffing' or 'search spamming'.

### 5.1.3 Keyword Distribution

The location of keywords in a web page is an important issue in SEO. Webpage title, Meta elements 'Description' and 'keywords', page header tags (H1,-H6), anchor texts of internal and external links and Alt attribute part of graphs, are the most suitable positions that can contain keywords. In addition, as the text content is read sequentially, from top to bottom and from left to right, there can be 'focus' points in the text where the keywords are placed; such as the top part and left side of the page, title, and the section within the first 200 words of the main text.

### 5.1.4 Domain Name Optimization

Domain name is considered as the most reliable factor by search engines. Due to this fact, the selection of domain name is a determinant factor in SEO. For an English website, domain name and web page file names can involve keywords. For instance, embedding the keyword 'video' in the domain name would be an inherent advantage for the whole website considering queries involving this keyword. Moreover, search engines give higher priorities to domain name suffixes that are used for a specific purpose. For example '.edu', '.gov', '.org' and '.net' are prioritized over the general-purpose suffix '.com'.

### 5.2 Structure Optimization

Structural optimization of a website ensures that viewers and search engines are able to find website content more quickly and easily. The

website must have a sound structure and the depth of the general directory must be limited to a maximum of four layers. Moreover, websites should avoid deploying imperceptible navigation systems. For example, some web pages use frames and JavaScript or Flash buttons to look more stylish but the downside of it is that search engines cannot detect these features. Generally speaking, search engines ignore image, Flash, and JavaScript code, so the major focus must be on the HTML code and text content of web pages.

Another technique for optimizing website structure is creating and submitting a sitemap. There are some URLs that may not be detected by search engines during its normal crawling process. A sitemap incorporates all the URLs of the website including the undetectable ones. Therefore, it helps to make sure that the whole website is visible for search engines.

The third important factor in structure of a website is the 'page size'. The sum of file sizes of all the elements that make up a web page, including the defining HTML file as well as all embedded objects is referred to as the *page size*. Most search engines set a size limit on web pages to be indexed, so it is important to restrict the page size.

And last but not least, one of the most important web page components that can influence the search results is the 'title tag'. Most search engines assume that there is a close connection between words in the title tag and its proceeding text. Therefore, it is significant to select a title that conforms to the subject of the content of the page. Furthermore, it is necessary to keep the title brief to make it easy for the users to guess the subject at first glance. That is why it is recommended to keep the title length below 80 characters.

### **5.3 Content Optimization**

Any type of content, from scientific articles to blogs or posts on social media could be updated to provide a better user experience or become optimized for search engines. Furthermore, constant upgrade is the most basic condition for survival and development of a website. The update

rate of the index entry of a website is determined by the frequency with which it is upgraded. If the website content is regularly improved, then search engine spiders will visit it more often and grab more pages.

In addition, search engines prioritize unique and original material. So if the content of a website is only web pages copied from other websites, most likely it will not be indexed by search engines.

## **5.4 Link Optimization**

### **5.4.1 Incoming Links**

For a website to get top search ranking, it is essential to have as much high quality incoming links as possible. Therefore, it is worthwhile to use an analysis tool to examine the linkage status of the website. When a spider scans the source HTML of a webpage it follows the links to external web pages and indexes them as well. Thus, it will be more beneficial for a new website to receive high quality links rather than submitting itself to the search engine.

### **5.4.2 Outgoing Links**

An Outgoing link is a link to another website. These links are also analysed by search engines. Putting a hyperlink to an external website with a close subject is considered as a positive point for the linking website [6]. While, in case the external website is spam or of low quality the rank of the original website will be affected negatively. Therefore, it is essential that the selection of outgoing links be done correctly.

### **5.4.3 Internal Links**

The web pages of a website should be properly linked to each other. Apart from facilitating the navigation through website's pages and increasing the overall traffic, a complete internal link structure is also an asset to the rank of internal web pages [6]. From the perspective of SEO, it is important that each page has a link to the home page and the link structure is examined frequently to prevent broken links.

## 6 THE FUTURE OF SEO

Today, the pace of improvement of technology is much higher than human expectations, in other words the 'future' is happening much sooner than what people could anticipate. Therefore, it is very hard to talk about the future of technology in the long run, especially in the world of computers. However, it is possible to extrapolate from the present course of development of a technology, like search engines, to find out the most probable direction of its future path. In the case of SEO, in order to predict possible future changes and enhancements, the strong points and flaws of search algorithms must be studied at the first step. In this article 4 issues are introduced as the most influential factors that we believe are and will be determinant in the success of websites to attract traffic through employing SEO techniques.

### 6.1 Quality of Content

It is a well-known fact that good quality is the strategy that works best in the long run. But how is it related to SEO? The answer is that the search results are the product of search engines with which they raise money. The quality of this product is determined by the extent to which the search results are high quality, up-to-date and relevant to the search query. Therefore to make a marketable search engine the developers dedicate a great deal of their effort to prune out unrelated or low quality web pages from the top results. In consequence, as it is so now, the first winning factor in SEO will always be high quality content.

### 6.2 Natural Back-links

The role of incoming links in SEO was discussed in chapter 4. As mentioned there, receiving incoming links from popular websites is more effective than submitting the website to the search engines. The best strategy to get good reputation is publishing original and high quality content. This fact signifies the role of quality of content once more in that it can also attract links from popular websites. Moreover, readers could be motivated to

share the content on social media thus making the original website more well-known.

### 6.3 Popularity

The third factor that we believe will become more important in the near future is user's interests. Today many of the shopping websites employ recommendation systems that offer more products to the viewers. One way of determining which product to promote is identifying users with close interests and recommending them the purchased products by their group mates. Similarly, some search engines create cookies on user's computer to 'memorize' their previous choices and sort the future search results according to this 'history'. So, why not use this method as a profile system for identifying similar users? We believe that it is highly probable that such a strategy be in the ranking process as well in the future. In that case, the more a website attracts visitors the more it is recommended to others with similar profiles. That is another reason that webmasters must try to expose the website to as many users as possible.

One way to increase the website's popularity, that is already becoming very common, is having profile on social networking websites, which can bring about a broad network of users. Furthermore, due to the fact that the internet is being increasingly used on platforms other than PCs or laptops, like smart phones, tablets, televisions, etc, it is crucial for the websites to have other versions that are adaptable with these popular platforms as well. In addition webmasters must keep an eye on the alternative technologies, like Apple's 'Siri'.

### 6.4 Activity on Social Media

As mentioned before, being active on social media can indirectly contribute to scoring of every website by providing it with more audience. Furthermore, activity on social websites can be directly efficient as well for search engines have recently shown a tendency to use social websites as another source of information [7]. In 2010, it was confirmed that Google and Bing consider links and reputation and authority of linking

author on social media, specifically Twitter and Facebook, as another factor in their ranking process. On the other hand, as such activity on the web shows no signal of ceasing, it is very probable that these 'social signals' receive more attention from search engines in the future.

In relation to the above discussion, it is worthwhile to mention the concept of Social Media Optimization (SMO). As stated by successful marketer Rohit Bhargava in 2006, SMO is the practice of "optimizing a site so that it is more easily linked to, more highly visible in social media searches on custom search engines, and more frequently included in relevant posts on blogs, podcasts and vlogs". As it is evident from the above definition, SMO techniques help to increase a website's visibility in social media as well as providing it with more incoming links from relevant sources. Consequently, SMO techniques can be considered as part of SEO.

## 7 CONCLUSION

Search Engine Optimization (SEO) strategies are closely coupled with the search algorithms utilized by search engines. In the past, SEO techniques were mainly based on the shortcomings of search algorithms. Such methods, called 'black hat' techniques, caused many spam websites to get top rankings artificially. Nevertheless, soon search engines optimized their algorithms to be able to catch and penalize fake content. Right now, although not being capable of identifying each and every instance of spamming, search engines are able to weed out most of such cases. Furthermore, search engines consider several factors as being of great significance when ranking websites. A number of these factors include keyword selection, website structure, quality and originality of content and incoming, outgoing and internal links. These measures are the main factors to be taken into account by webmasters for improving the search score of websites. Finally, we conclude by suggesting several factors as being determinant in the future of SEO, namely, quality of content, natural back-links, popularity among visitors and maintaining an active profile on social media. These measures are accounted for briefly and

some suggestions are given related to each of them as ways of preparing for the future.

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