

SEARCH ENGINE OPTIMIZATION: A REVIEW

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ABSTRACT-

As the popularity of web has increased significantly over the years , millions of people use search engines to discover information. But search engine users are interested only in top few result pages. So promoting a website in search engine result is a major task in website development. Here, search engine optimization (SEO) comes in the picture. Search Engine Optimization (SEO) relates to the activity of optimizing individual web-pages or the entire website that makes them friendlier and most importantly helps them acquire higher ranking in the search results. The core methodology used in SEO is to upgrade both content and associated coding of the website to improve its visibility and prominence in organic searches made by the search engines. All the major search engines such as Google, Yahoo, Ask, Bing, etc. rank web-pages based on certain factors that affect its ranking; therefore, SEO aims at generating the right types of signals on the web-pages .These optimized websites obtain better ranks, and typically gets more traffic. But sometimes black hat SEO techniques are used which mislead the search engine and increase page ranking higher than deserved in search engine .This paper presents the main concept of SEO by reviewing its relationship with search engines, some of the main SEO techniques used, white hat VS black hat techniques and SEO as a marketing strategy

Keywords: *Search Engine Optimization (SEO), Black Hat SEO, White Hat SEO,Ranking.*

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I. INTRODUCTION

Whenever you enter a query in any search engine and hit 'enter' you get a long list of web results spanning several pages that contain that particular query term in some way or the other. To satisfy the user needs, search engines must find and filter most relevant information matching a user query and display that information to the user.

Every user normally tends to visit websites that are at the top of this list as they perceive those to be most relevant to the entered query.

If you have ever wondered why some of these websites rank better than the others then you must know that it is because of a powerful internet marketing technique/tool called **Search Engine Optimization (SEO)**.

SEO is a strategy in which a website is designed to obtain favorable search engine rankings from popular search engines. This may be achieved in a variety of different ways and optimal SEO strategies combine a variety of different strategies to complete one well orchestrated SEO campaign.

As an important Internet marketing tool, SEO considers how a simple search engine works, what people really search for, the usual search terms or keywords typed into search engines and which search engines are preferred the most by users.

There are several elements to consider when attempting to optimize your website for search engines. This may include keyword density, prominence of your website, META tags, titles and all the inbound links. Keyword density is one of the most common SEO strategies and essentially involves using relevant keywords often in the content of a website to demonstrate how important these keywords are to the website. This is important because search engines are likely to reward websites with optimal keyword densities with favorable search engine rankings in an effort to provide the users with the most relevant websites for particular search terms.

To promote any website in search engine natural listing, search engine optimizers analyses the search engine results and based on that search engine optimization techniques are used by the website designers.

This paper discusses the relationship of SEO with search engines, SEO techniques widely used , black hat VS white hat techniques and SEO as an internet marketing strategy.

II. RELATIONSHIP WITH SEARCH ENGINES

The first basic thing we need to keep in mind while learning SEO is that search engines are not humans. While this might be obvious to everybody around but the differences between how humans and search engines view web pages aren't really the same.

Search engines do not exactly search the World Wide Web directly. Each one searches a database of web pages that it has stored over time. When you use any search engine, you are always searching a somewhat old copy of the real web page. When you click on links provided in a search engine's search results, you are able to view the current version of the page.

All search engine databases are selected and built by computer programs called spiders. These spiders "crawl" on the web, finding pages for potential inclusion by following the links in the pages they already have in their database. They cannot use their own imagination or enter terms in search boxes that they find on the web.

If a web page is not linked to any other page, these spiders cannot find it. The only way a new page can get into any search engine is for other pages to link to it, or for a human to submit its URL for inclusion. All major search engines offer ways to do this.

After the spiders find pages, they pass them on to another computer program for "indexing." This program identifies the text, links, and other content in the page and stores it in the search engine database's files so that the database can be searched by keyword and whatever more advanced approaches are offered, and the page will be found if your search matches its content.

Many of the web pages are excluded from most search engines by policy. The contents of most of the searchable databases stored, such as library catalogs and article databases, are excluded because search engine spiders cannot access them.

Internet users trust search engines to serve them the most relevant content first and the rest later. Therefore, users not likely to visit websites which are not displayed on the first or second page of search results. This means websites that rank well are getting a great deal of free advertising

from search engines that place their website in a key position. Website owners who do not invest time into optimizing their websites miss out on a great deal of potential traffic.

Over the year, many search engines have also reached out to the SEO industry to make use of all the available SEO techniques, and also frequently sponsor and attend the SEO conferences, chats, and seminars that are held around the globe. Major search engines provide information and guidelines to help with site optimization.

III. SEO TECHNIQUES

A. *Title tags*

Near the very top of a web site's source code you'll find various meta tags -the main ones being the Title, Description and Keyword tags. The title tag is not exactly a meta tag, though it is frequently used with them. The title tag plays a very large role in the indexing of any web site.

A page title is the very first thing a search engine will look at when finding out just what the particular page is all about. It is also the first thing potential visitors will find when looking at a search engine listing.

It's imperative to include one or two keywords in the title tag –but the number should be kept in check – as “keyword stuffing” should be avoided on all costs, which does nothing but make a web site look like spam.

B. *Meta tags*

There are two main meta tags in terms of SEO the description tag and the keyword tag. It's still undetermined whether the search engines use the description tag as far as ranking the results are concerned. However it is one of the most important tags because it is listed in search engine results, it is what users read when the particular link comes up and makes them decide whether or not to click on that very link.

It should be made sure that a few relevant keywords are included in this tag, but again too many keywords shouldn't be stuffed either. The description tag should be read like a sentence not a keyword list.

Because of “keyword stuffing” many search engines now are completely indifferent to the keyword tag. It is no longer as important as it was years ago, however it doesn’t hurt to include them in the source code.

When creating a keyword list, specific terms should be thought of that people will type in when searching for a site.

C. *Proper Use of Heading Tags*

This is a very important element to consider when writing the site copy. Use of heading tags helps users, web browsers and search engines know where the major key points of the copy are. The main page title should use the <h1> tag — this shows what exactly the page is all about. Usage of additional tags, such as <h2> and <h3> are equally important by helping to breaking down the copy. For one, there will be a visual break in the text. But as far as the search engines are concerned, it will automatically know what the topics are on a page. The various heading tags give a priority to the content and help index the site properly.

D. *Alternate Images*

If a developer chooses to add images to his web pages, he should make sure to add ALT tags to them as well.

ALT tags originally came about to provide visually impaired website visitors using text-to-speech devices with extra information about the content on their screens. And though this initial purpose is still valid, the content found in these fields is also important when it comes to SEO.

Again, the web site shouldn’t be “stuffed” with ALT tags full of target keywords and keyword variations. Instead, ALT tags should be used to clearly and accurately describe the website’s images, working in keyword phrases as they occur naturally.

E. *Sitemap*

In the world of SEO, the search engines’ indexing programs commonly known as “spiders” – play an important role of analyzing new websites (or new content added to existing websites) and adding their content to the lists of pages that can be displayed in response to the user queries.

As a result, facilitating the easy movement of these spider programs throughout a website site is an important part of optimizing the content for natural search traffic.

One of the best things that can be done to help the spiders index a website is to create a sitemap – a page listing links to all the other pages on the site. There are plenty of different automated tools that can generate these important pages, though a sitemap can always be created by hand if the site is not so big.

F. Title Attributes on Links

Including title attributes on links is an important step that any good web site will have. That's the "tool tip" that pops up when a user places his mouse over a link. These are especially important for image links, but equally useful for text links.

As a note, descriptive text should be used for the links. "Click here" doesn't really tell a person – or more importantly, the search engines — what the link is. At the very least a title tag that will explain that "Click Here" really means "Web Design Portfolio" for example..

G. Link Building

Another way to help the search engine spiders to catalogue all of the site's pages is to create internal links that connect different pieces of content. As an example, instead of simply linking to the "Contact US" or "About Us" page from the navigation bar, adding text links to these pages from within the body content found on the home page is a better option. Doing so is a great way to helps visitors find the information they're looking for, in addition to providing a major SEO boost to the site's content- which is really the main goal here.

H. Relevant Content

Having content relevant to your main page or site topic is perhaps the most important SEO aspect of a page. You can put all the keywords you want in the meta tags and alt image tags, etc — but if the actual readable text on the page is not relevant to the target keywords, it ends up basically being a futile attempt.

While it is important to include as many keywords in your page copy as possible, it is equally as important for it to read well and make sense. I'm sure we've all seen keyword stuffed pages written by SEO companies that honestly don't make much sense from the reader's point of view.

When creating your site copy, just write naturally, explaining whatever information you're discussing. The key is to make it relevant, and to have it make sense to the reader. Even if you trick the search engines into thinking your page is great — when a potential customer arrives at the site and can't make heads or tails of your information and it just feels spammy to them — you can bet they'll be clicking on the next web site within a matter of seconds.

I. Social Media

Although technically not SEO, Social Media is such a growing factor in getting your web site noticed, that it's an important element to include in your plan.

Social media ranges from social networks like Twitter, Facebook and LinkedIn — to social bookmarking sites such as Delicious, Digg, StumbleUpon and many more. There is a lot of relationship building involved, but as you build your own networks and build quality content on your web site or blog, you'll see traffic to your web site increasing, as well.

As with any relationship, it is a give and take. Don't just expect to join a site like Twitter for the pure sake of pushing your content. That just won't fly — your true intentions will stick out like a sore thumb and do nothing but turn people off.

Even if you are on the site purely for networking reasons, the key is to make friends. Help out members of your network if they ask for a "retweet" or Digg, give helpful advice if asked, etc. You'll see the same in return.

If you write a great post and have built meaningful relationships with peers in your niche, you'll often find that friends will submit your posts and give you votes on the social bookmarking sites. The more votes you receive, the more likely your post is to be noticed by others and shared around, often resulting in additional link backs from other blogs, etc.

IV. WHITE HAT VS BLACK HAT TECHNIQUES

SEO techniques are classified into two broad categories:

1. Techniques that search engines recommend as part of good design referred to as White Hat SEO, and
2. Techniques that search engines do not approve and attempt to minimize the effect of referred to as Black Hat or spamdexing.

White Hat SEO:

An SEO tactic, technique or method is considered as White Hat if it follows the followings

- If it conforms to the search engine's guidelines.
- If it does not involves any deception.
- It ensures that the content a search engine indexes and subsequently ranks is the same content a user will see.
- It ensures that a Web Page content should have been created for the users and not just for the search engines.
- It ensures the good quality of the web pages
- It ensures the useful content available on the web pages
- Always follow a White Hat SEO tactic and don't try to fool your site visitors. Be honest and definitely you will get something more.

Next chapter onward we will put light on White Hat SEO techniques. The WHST are very simple and can be done without investing much cost.

Black Hat or Spamdexing:

An SEO tactic, technique or method is considered as Black Hat or Spamdexing if it follows the followings

- Try to improve rankings that are disapproved of by the search engines and/or involve deception.
- Redirecting users from a page that is built for search engines to one that is more human friendly.
- Redirecting users to a page that was different from the page the search engine ranked.
- Serving one version of a page to search engine spiders/bots and another version to human visitors. This is called Cloaking SEO tactic.
- Using Hidden or invisible text or with the page background color, using a tiny font size or hiding them within the HTML code such as "no frame" sections.
- Repeating keywords in the Meta tags, and using keywords that are unrelated to the site's content. This is called Meta tag stuffing.
- Calculated placement of keywords within a page to raise the keyword count, variety, and density of the page. This is called Keyword stuffing .

- Creating low-quality web pages that contain very little content but are instead stuffed with very similar key words and phrases. These pages are called Doorway or Gateway Pages
- Mirror web sites by hosting multiple web sites all with conceptually similar content but using different URLs.
- Creating a rogue copy of a popular web site which shows contents similar to the original to a web crawler, but redirects web surfers to unrelated or malicious web sites. This is called Page hijacking.

Search engines may penalize sites they discover using black hat methods, either by reducing their rankings or eliminating their listings from their databases altogether. Such penalties can be applied either automatically by the search engines' algorithms, or by a manual site review. One example was the February 2006 Google removal of both BMW Germany and Ricoh Germany for use of deceptive practices.[Both companies, however, quickly apologized, fixed the offending pages, and were restored to Google's list.

V. AS INTERNET MARKETING STRATEGY

In contrast to the long-term view taken by marketing strategists, work undertaken by the technical team or individuals responsible for website maintenance has predominantly focused upon search engine optimisation (SEO). SEO has reached such a degree of acceptance and recognised importance that it has become the focus for corporate training sessions and a question asked, as a verb, of most new website developments, "Has the website been SEOed?" SEO can be defined as a project-managed process that aims to promote a web site's position towards the top of the search results for particular keywords. A measure for SEO success is usually demonstrated by an increase in a website's organic traffic. The use of this metric is based on the assumed correlation between an increase in website traffic and an increase in direct sales. SEO activity is clearly demarcated from the use of Pay-Per-Click (PPC) listings, which is the alternative and more expensive route to gaining a listing on the first pages of search results. PPC is offered by all major search engines as an alternative way for website owners to get their website noticed by searchers looking for relevant keywords. PPC and organic SEO are not mutually exclusive

strategies. The developments of the Google algorithm for calculating the Quality Score for PPC listings does suggest that well-optimised organic SEO produces cheaper PPC listings for that same keyword. The corollary set of actions also appears to have a degree of validity (Xing and Lin, 2008). The result is that a PPC campaign can contribute to improved positioning in the organic results. However, attempts to manipulate these relationships can, at least in the context of the Google, result in detrimental effects and even banning from the search engine – the results are described as “negative SEO” (Greenburg, 2007). Despite the risks a range of commercial organisations offer SEO services with varying degrees of success.

VI. CONCLUSION

In a society where the internet is an integral part of many of our lives, internet related industries are flourishing, including Search Engine Optimisation (SEO). Without good SEO, website owners will have sites that are barely even noticed by people making searches online, which could make even the best sites all but useless.

With this in mind it is easy to see just why good SEO is in high demand. What’s more is that SEO looks like it will be around for some time yet as it is hard to see how it could become obsolete any time soon. As long as we have the internet there will be a demand for SEO and the internet looks as though it is here to stay, at least that is until something better comes along.

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