STUDY OF SEARCH ENGINE OPTIMIZATION TECHNIQUES

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ABSTRACT:

Search Engine Optimization (SEO) techniques are used to increase search-ranking of web sites. In this paper we are going to discuss some of SEO techniques, viz.; directory submission, keyword generation and link exchanges. The SEO techniques can be used as marketing technique for websites and to get top listing in major search engines like Google, Yahoo, and MSN. Our study focuses on these techniques to know how we can have digital marketing of websites. These techniques are low cost and high impacts in profit, because we can grow up our business with the help of these SEO techniques as number of customers generally use the search engines to find any product or to fulfill their requirement. We are going to have a study in all the aspects of these search engine optimization techniques. We have concluded that these techniques are essential to increase the business profit and minimize the marketing cost.

Keywords—Search Engine Optimization, Link Exchanges, Directory Submission, Keyword Generation.

[1] INTRODUCTION

To boost the websites of low ranking web sites into highest level search rank-ings the internet spammers use SEO techniques. Material keyword generation, directory submission and link exchanges etc are the some of mostly used SEO techniques [1]. Paid placement and search engine optimization these are the two ways of digital marketing associated with the website rankings. The paid service results
from the paid services or sponsored services. Here one can boost their websites and also the search engines show the quality results but these all are the paid service results. The charge here calculated depending on keywords or by clicking on the keywords that means cost per click. But search engine optimization is totally different technique as it is a free of cost. Search engine optimization is going to very popular. According to the Bo Xing and Zhangxi Lin [4] with two conditions cost of keywords has increase 19% and natural results are seen intention and unbiased than paid or sponsored results [4]. Unlimited keywords are placed in internet search engine daily and internet users wait for high quality of results and they retrieve them [2]. To achieve high rankings in the search engines link manipulation is important and another way to get these tasks in web search engines. The exchanging links between other websites is the way to draw link exchanges or reciprocal links.

SEO stands for Search Engine Optimization. SEO is all about optimizing a website for search engines. SEO is a technique for:

- designing and developing a website to rank well in search engine results.
- improving the volume and quality of traffic to a website from search engines.
- marketing by understanding how search algorithms work, and what human visitors might search.

SEO is a subset of search engine marketing. SEO is also referred as SEO copyrighting, because most of the techniques that are used to promote sites in search engines, deal with text. The directory submission plays a vital role to build links and boost web sites with high rankings [6].

According to Bo Xing and Zhangxi Lin [4] internet search engine have many features for information retrieval ve-hicles and search engine marketing. Internet search en-gines are ease and freely to use. Sen. addressed [4] the impact of search engine marketing. There are two choices to boost their websites either they select paid placement or Search Engine Optimization (SEO). But the mostly people selected SEO because it is not costly as compared to paid placement. The directory submission is great approach to create links and increase your web rankings [6]. Directories another importance is that they provide links and data to other databases and also other web search engines [5]. Manual submission is the best tech-nique because two things are different like directory and target users. So that is the reason manual directory sub-mission plays key role for SEO [7].

Keywords are used as a single word or short phrase in the search engines to extract related information. Key-word is very important for internet search engines as well as search engine marketing. Because it is used as a tool to ranking websites in many search engines [8]. The key-word technique is newly approach in SEO. Different types of keyword are used like: query log, advertiser log mining, proximity searches and Meta tag crawlers [8]. But search engines are used query log mining way to generate keywords as well as Meta tag are used in SEO.
The suggestions of link exchanges in internet search engines are used firstly in 1997 [9]. Link exchange approach is used to permit single websites to exchange links with other related websites in the same category with high page rank. Link exchange has been seen fundamental techniques in SEO [10], internet search engines increase singly popular with index links and keywords but links exchanges are consider as objective, democratic and machine readable symbol for web ranking.

[2] SEARCH ENGINE OPTIMIZATION TECHNIQUES

2.1 Directory Submission

Ricky Mondal says that directory submission [12] is one of the important techniques in SEO to create incoming links to a website through related page and category. One have created a website now it is needed to boost the site. One can manually submit the directories and it is also the good approach to boost the site. Internet directory contains the information and links of many websites and it is a platform on world wide web. There are many directories providing free service to websites. In directory submission we have to submit some information of the website to the directory. The information can be like URL, title, description, keywords, category, and email. All these things one have to submit website in directories. But there can be a web traffic to our website by filling the directories. This assist you to promote your business needs. The directory submission is used as SEO technique to promote your business [12].

2.2 Keyword Generation

Any search engine optimization method used keywords generation process. The keywords are necessary and most important part of SEO. Because the information available on the web can be elaborated with the help of keywords for the search engines. These keywords are must and should be related to your business. These related keywords can boost the site in short span of time. [13]. There are many online tools available which can generate the keywords according to our need like: Word tracker, Yahoo keyword selector tool, Google Ad words keyword tool and Thesaurus etc. Here we just have to put one keyword related to our website and it will provide us multiple keywords related to our site or business. But only with the help of keywords there is no any assurance of website popularity.

2.3 Link Exchanges

According to Mike Barus [15] when going to start your business on internet you need reciprocal link or link exchange with other websites. The link exchange is one of the technique to boost the site in SEO. The link exchange means you have to put your website link on some another site and some another sites link to your site ie vice versa. There are many types of link exchanges are used like: illustrate interest directly on web pages and other is that send email or discussion forums to show
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interest for link exchanges. Here only the thing is that the website should be related and with good rank to boost the site. [16].

website title, description, keywords, URL, and email address for both parties are required to have a link exchange.

[17]. Link exchange boosts the website traffic of both the site one which people visits and one which is linked. The disadvantage of link exchange is that some websites do fraud. Sharing the information even with customers is the most important limitation over here [19].

[3] SEO

techniques are classified into two broad categories:

- White Hat SEO - Techniques that search engines recommend as part of a good design.
- Black Hat SEO - Techniques that search engines do not approve and attempt to minimize the effect of. These techniques are also known as spamdexing.

3.1 White Hat SEO

An SEO tactic is considered as White Hat if it has the following features:

- It conforms to the search engine's guidelines.
- It does not involve in 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 good quality of the web pages.
- It ensures availability of useful content on the web pages.

Always follow a White Hat SEO tactic and do not try to fool your site visitors. Be honest and you will definitely get something more.

3.2 Black Hat or Spamdexing

An SEO tactic, is considered as Black Hat or Spamdexing if it has the following features:

- Attempting ranking improvements that are disapproved 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 metatags, and using keywords that are unrelated to the website content. This is called metatag 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 keywords and phrases. These pages are called Doorway or Gateway Pages.

Mirror websites by hosting multiple websites - all with conceptually similar content but using different URLs.

Creating a rogue copy of a popular website which shows contents similar to the original to a web crawler, but redirects web surfers to unrelated or malicious websites. This is called page hijacking.

Always stay away from any of the above Black Hat tactics to improve the rank of your site. Search engines are smart enough to identify all the above properties of your site and ultimately you are not going to get anything.

[4] SEO FACTORS

4.1 SEO - Web Site Domain

When you start thinking of doing a business through internet, the first thing that you think about is your website domain name. Before you choose a domain name, you should consider the following:

- Target audience.
- Product.
- Market Analysis.

4.2 SEO - Relevant Filenames

One of the simplest methods to improve your search engine optimization is to look at the way you name your files. You should think what you want put in your web page and then give a relevant file name to this page. Just try giving any keyword in Google search engine and you will find file names highlighted with the keyword you have given. It proves that your file name should have appropriate keywords.

File Extension
You should notice that .html, .htm, .php and any other extension do NOTHING for your visitors, and they are simply a means of offloading some of the work of configuring your webserver properly onto your visitor's. In effect, you are asking your site visitors to tell your webserver HOW to produce the page, not which one?

URL Sub-Directory Name
From Search Engine Optimization point of view, URL sub-directory name hardly matters. You can try giving any keyword in any search, and you will not find any sub-directory name matching with your keywords. But from the user's point of view, you should keep an abbreviated sub-directory name.

SEO - Design & Layout
The website design and layout gives the first impression about your site. There are sites which are too fancy and regular net surfers just reach those sites and come out even without creating a single click. Search engines are very smart but after all, they are software and not human being, who can read the content of their interest. If you make your site too complicated, then the search engine would not be able to parse the content of your site properly, and finally indexing would not be efficient, which results in a low rank.

The actual page content should have a keyword density of about 10% and should weigh in at about 200 words - but there are as many opinions about this as there are SEO experts. Some say, keyword density should be 5% and some say it should be 20%. You can go with 10% which is good enough.

4.3 SEO - Optimized Keywords

A keyword is a term that is used to match with the query a person enters into a search engine to find specific information. Most people enter search phrases that consist of two to five words. Such phrases may be called search phrases, keyword phrases, query phrases, or just keywords. Good keyword phrases are specific and descriptive.

The following concepts related to keywords, help in optimizing the keywords on a web page.

Keyword Frequency
This is calculated as how often does a keyword appear in a website title or description. You do not want to go overboard with frequency, however, since on some engines if you repeat a word too many times, you are be penalized for "spamming" or keyword stuffing.

In general though, repeat your keyword in the document as many times as you can get away with, and up to 3-7 times in your list of metatags.

4.3.1 Keyword Weight

It refers to the number of keywords appearing on your web page compared to the total number of words appearing on that same page. Some search engines consider this while determining the rank of your website for a particular keyword search.

One technique that often works well is to create some smaller pages, generally just a paragraph long that emphasizes a particular keyword. By keeping the overall number of words to a minimum, you can increase the "weight" of the keyword you are emphasizing.

4.3.2 Keyword Proximity

It refers to the placement of keywords on a web page in relation to each other or, in some cases, in relation to other words with a similar meaning as the queried keyword.

For search engines, that grade a keyword match by keyword proximity, the connected phrase home loans will outrank a citation that mentions home mortgage loans assuming that you are searching only for the phrase "home loans".

Keyword Prominence
It is a measure of how early or high up on a page, the keywords are found. Having keywords in the first heading and in the first paragraph (first 20 words or so) on a page are best.
4.3.3. Keyword Placement

Where your keywords are placed on a page is very important. For example, in most engines, placing the keywords in the Title of the page, or in the Heading tags will give it more relevancy. On some engines, placing keywords in the link text, the part that is underlined on the screen in a browser, can add more relevancy to those words.

Best Places to Put Keywords

Here is a list of places where you should try to use your main keywords.

- Keywords in the <title> tag(s).
- Keywords in the <meta name="description">.
- Keywords in the <meta name="keyword">.
- Keywords in <h1> or other headline tags.
- Keywords in the <a href="http://yourcompany.com">keywords</a> link tags.
- Keywords in the body copy.
- Keywords in alt tags.
- Keywords in <!-- insert comments here> comments tags.
- Keywords in the URL or website address.

4.4 Word Stemming

Google uses a feature called word stemming that allows all forms of the word - singular, plural, verb form as well as similar words to be returned for a given search query. So if someone types in "house plans", not only the pages that are optimized for that phrase but the pages that contain all variations of that phrase are returned. For example, "house plan", "house planning", "house planner".

4.5 SEO - Optimized Metatags

There are two important meta tags:

- Meta description tags
- Meta keyword tags

Some search engines may display the meta description as a part of the search results, but the meta keyword tags should not appear in search results.

The general consensus among SEO experts is that metatags are dead. Even so, many of these same experts continue to use metatags in their own sites.

For Google, adding the description meta tag does not result in a boost in the Search Engine Results Pages (SERPs), but the description might be used for the description for your SERP listings in Google. Yahoo! says, they use the Keyword Meta Tag when it ranks a page. Hence it makes sense to add one for Yahoo! and any other minor search engines that still use.
You can add the following in the head section of the web page:

```html
<meta name="keywords" content="KEYWORD1 KEYWORD2 KEYPHRASE1 etc. about 30 to 40 unique words">

<meta name="description" content="An accurate, keyword-rich description about 150 characters">
```

Important tips for good Meta description tags:
- Use keywords in your meta description tag.
- Try not to repeat the words overly often, but try to use multiple syntaxes of your key words.
- There should not be more than 150 characters in a description metatag of a single web page.
- Use a different meta description tag for each page, as each page is different and stands a better chance of being found if you place a good title and description on it.

### 4.5.1 Robots Meta Tag

The important metatag that you may need sometime is the Robots Metatag which looks like this:

```html
<meta name="robots" content="noindex,nofollow">
```

Using the above metatag, you can tell a spider or a robot that you do not want some of your pages indexed, or that you do not want your links followed.

### 4.6 SEO - Title Optimization

An *HTML TITLE* tag is put inside the head tag. The page title (not to be confused with the heading for a page) is what is displayed in the title bar of your browser window, and is also what is displayed when you bookmark a page or add it to your browser Favorites.

This is the one place on a webpage where your keywords MUST be present. Correct use of keywords in the title of every page of your website is extremely important to Google - particularly for the homepage.

Here are some considerations while designing the title of a webpage:
- The title shouldn't consist of more than about 9 words or 60 characters.
- Use keywords at the very beginning of the title.
- Do not include your company name in the title unless your company name is very well known.

Improper or nonexistent use of titles in webpages keeps more websites out of top rankings on Google than any other factor except perhaps for a lack of relevant content on a page or a lack of quality links from other websites that point to your site.

### 4.7 SEO - Optimized Anchor

Use descriptive anchor text for all your text links. Most search engines consider anchor text of incoming links when ranking pages. Here is an example of anchor:

```html
<a href="otherpage.htm" title="Anchor Title">Anchor Text</a>
```
that the linked page does exist; otherwise it is called a broken link, which gives a bad impression to search engines as well as to site visitors.

Another example of an anchor could be as follows:

```html
<a href="otherpage.htm" title="Anchor Title">
  <img src="image.gif" alt="keywords" />
</a>
```

In this case, Anchor Text has been replaced by an image. So, while using an image in place of an anchor text, it should be checked that you have put alt tag properly. An image alt tag should have appropriate keywords.

### 4.8 SEO - Content

Content basically includes what you see on the site: the text, graphics, and even links to other websites. You should not use excessive graphics because they are not Search Engine Friendly plus heavy graphics normally put the users out when they get downloaded, especially over a slow network.

Thousands of articles, books, and forum entries are available on how to make your website search engine friendly, but ultimately, one rule stands above the rest: Unique, high-quality, unduplicated content is the king.

Superior the quality of your content, the higher the ranking you achieve, larger the traffic you gain and greater the popularity of your website. Search engines prefer good quality sites in their index and search results.

Relevant, fresh, and timely content is crucial in attracting visitors to your website. It helps you both draw traffic from search engines and create audience loyalty. Divide your web page content also into short paragraphs.

### IMPORTANCE OF SEARCH ENGINE OPTIMIZATION (SEO) TECHNIQUES

<table>
<thead>
<tr>
<th>Techniques</th>
<th>Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page Title</td>
<td>Page Title is the first thing that Google search for. The title tag tells search engines, what the page is all about. So, it is important to always use the keyword which suits your webpage and which is in demand of users. The title tag will always appear in the web.</td>
</tr>
<tr>
<td>Meta Description</td>
<td>Meta Description Tag provides the short description of the page. This description may appear in the Google search engine result page. This description is more helpful for the user to understand about your webpage or your website. It is extremely important part of search marketing.</td>
</tr>
<tr>
<td>Meta Keyword</td>
<td>Meta Keywords are comma separated words that describe the contents of a website. This may or may not appear the search engine result page. This is less important as compare to Meta description.</td>
</tr>
</tbody>
</table>
# STUDY OF SEARCH ENGINE OPTIMIZATION TECHNIQUES

<table>
<thead>
<tr>
<th>Heading Tag</th>
<th>Heading Tags serve to divide the page into sections. Heading tags provide structure to your webpage and the structure webpage is easy to follow and can be rank better as compare to unstructured pages. H1 is the most important sentence which indicates the topic for the entire webpage. [10]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image alt Attribute</td>
<td>There are number of users that may not view the images on their browser, like-users with slow internet connectivity, users that disabled the images on their web browser, etc. So, HTML provides us the facility of image alt to describe the image in readable text mode. [11] Search Engine use the alt attribute to determine the best image to return for a query and improve the ranking of the website</td>
</tr>
<tr>
<td>Techniques</td>
<td>Importance</td>
</tr>
<tr>
<td>SiteMap Page</td>
<td>Sitemap offer the opportunity to inform search engines immediately about any changes on your website. The changes in a website will be indexed faster. Sitemap also help in classifying your website content. [12]</td>
</tr>
<tr>
<td>Join Groups</td>
<td>When you join groups, you have more chance to advertise your website. You can update your website link in the group, by which more number of users can search for your website and may increase the ranking also.</td>
</tr>
<tr>
<td>Social Networking Sites</td>
<td>Social Networking sites are also an effective way to improve the ranking of a website. Social Networking sites like facebook, Twitter are more famous now days. You can advertise your website there also. Advertising through these social networking sites are increasing day by day.</td>
</tr>
<tr>
<td>Link Building</td>
<td>Link building is a process of building or creating the link in order to improve the ranking of your website. You can build your link free or by paid some amount also. Like-Google Adwords, where you need to pay some amount to advertise your website.</td>
</tr>
<tr>
<td>Blogging</td>
<td>Blogging may be defined as discussion forum or information site. Google also providing the blog facility. You can create a blog and upload the link of your website for any queries to the user. They will contact to your website and may help to improve the searching of your website.</td>
</tr>
</tbody>
</table>
[5] CONCLUSION

This paper presents an interview study of SEO techniques. This study focus on SEO techniques, which are exercised in common. These techniques help to generate high traffic for increasing sales of business, to catch customers as well as provide improvement for quality and growth of websites. Further these techniques are affordable and minimizing cost of marketing and at the same time it increase the profit. Hence overall analysis shows that all these SEO techniques are most important and necessary techniques to promote their business. Creating, editing, and promoting unique high-quality content is difficult and time consuming. But in the end, the golden rule of SEO is that Content is the King. It is not because of a search engine, but it is for your site visitors. A page that is read by people is better than a page that is read by bots. So, write your content after a serious thought. Keep your title, keywords, link text, metatags up-to-date, unique, and interesting.

REFERENCES

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[22] Tutorials Point: www.tutorialspoint.com