STUDY OF SEARCH ENGINE OPTIMIZATION

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ABSTRACT

Search Engine Optimization (SEO) is a technique that comes under internet marketing and plays a vital role in making sure that the site is a success and it gets maximum number of views. One can't expect their site to get optimized and gain the top ranking over a fore night, optimizing a web site is a tedious and time taking process and requires a certain level of expertise which only trained professionals have got. This procedure is compulsory to market and advertise your product in the market and hence attain a good reputation in the global market scenario. So aim of this paper is to describe some strategy which can optimize the rank of a website in search engine.

Keywords: *Search Engine, Search Engine Optimization, Internet.*

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I.   INTRODUCTION

Search Engine Optimization refers to the collection of techniques and practices that allow a site to get more traffic from search engines. "Search Engine Optimization" refers to provide a website's link a higher ranking each time a user searches any keyword. More a website is optimized better will be the chances of achieving a good traffic level, which in turn proves to be commercially beneficial for the site. So it can be said that a descent level of optimization is must for the sound economic health of any web site and its developers. It is a gradual and spontaneous process and it takes quite a lot of time to achieve a high ranking. Search Engine Optimization is the process of making web pages easy to find, easy to crawl and easy to categorize. From a webmaster perspective, Search Engine Optimization involves not only that, but also to make those pages rank high for certain keywords or search terms. This paper aims to provide a strategy to optimize a website so that to achieve high rank in search engine. [1, 7, 16]

Figure1: Search Engine View [18]

Related points: SEO involves creating or modifying a Web site in a way that makes it 'easier for search engines to both crawl and index (its) content'.[5]

Webmasters usually do not need to worry about whether their site is indexed by a search engine: as long as any Web page is linked to an already indexed page, it will be crawled and indexed by Web search engines at some point. [4]

II.   HISTORY OF SEARCH ENGINES

In the early days of Internet development, its users were a privileged minority and the amount of available information was relatively small. Access was mainly restricted to employees of various universities and laboratories who used it to access scientific information. In those

days, the problem of finding information on the Internet was not nearly as critical as it is now.

Site directories were one of the first methods used to facilitate access to information resources on the network. Links to these resources were grouped by topic. Yahoo was the first project of this kind opened in April 1994. As the number of sites in the Yahoo directory inexorably increased, the developers of Yahoo made the directory searchable. Of course, it was not a search engine in its true form because searching was limited to those resources who's listings were put into the directory. It did not actively seek out resources and the concept of SEO was yet to arrive. Such link directories have been used extensively in the past, but nowadays they have lost much of their popularity. The reason is simple – even modern directories with lots of resources only provide information on a tiny fraction of the Internet. For example, the largest directory on the network is currently DMOZ (or Open Directory Project). It contains information on about five million resources. Compare this with the Google search engine database containing more than eight billion documents. The WebCrawler project started in 1994 and was the first full-featured search engine. The Lycos and AltaVista search engines appeared in 1995 and for many years Alta Vista was the major players in this field.

In 1997 Sergey Brin and Larry Page created Google as a research project at Stanford University. Google is now the most popular search engine in the world. Currently, there are three leading international search engines – Google, Yahoo and MSN Search. They each have their own databases and search algorithms. Many other search engines use results originating from these three major search engines and the same SEO expertise can be applied to all of them. For example, the AOL search engine (search.aol.com) uses the Google database while AltaVista, Lycos use the Yahoo database.

Below is a visual history of "search" and search engines; hopefully it's both a trip down memory lane and a useful resource for anyone looking to learn a bit more about the history of Internet search engines. [2, 3, 6, 9]
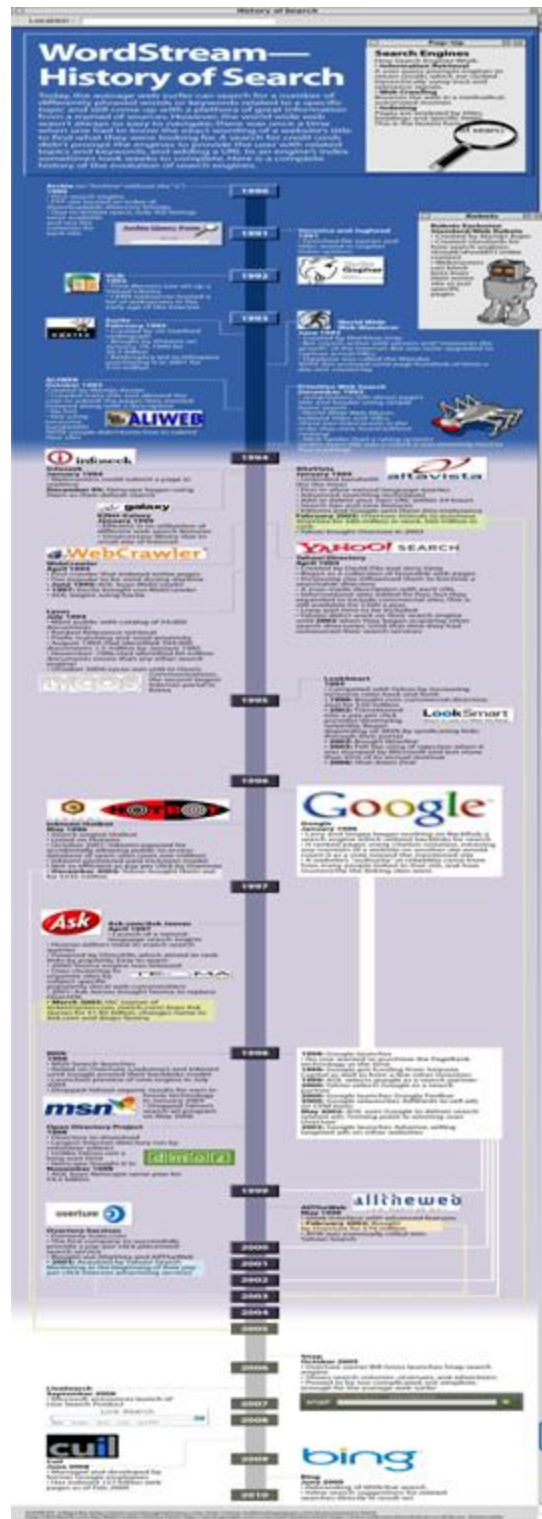
Figure2: History of search Engine (An Info graphic) [6]

III.   COMMON SEARCH ENGINE PRINCIPLES

To understand SEO, it is needed to be aware of the architecture of search engines. They all contain the following main components:

Spider: A browser (like program that downloads web pages).

Crawler: A program that automatically follows all of the links on each web page.

Indexer: A program that analyzes web pages downloaded by the spider and the crawler.

Database: Storage for downloaded and processed pages.

Results engine: Extracts search results from the database.

Web server – a server that is responsible for interaction between the user and other search engine components. [11]

IV. HOW TO OPTIMIZE A WEBSITE

An SEO strategy is made up of three major factors: 1. Keyword Research (Choosing the keywords potential clients are searching), 2. On-site Factors (Changes made to the actual website), 3. Off-site Factors (Efforts made to get other sites to link to our site and talk about us). [1, 8, 10]

There are following steps which can help to optimize a website, i.e. increase the traffic:

1. Firstly, we create an approximate list of keywords and check their competition rate. We then evaluate our chances against the competition and select words that are popular enough and have average competition rate. Keywords are selected using the keyword suggestion tool. This is also used to perform a rough check of their competition rate. We use the PageRank Analyzer module to perform a detailed analysis of search results for the most interesting queries and then make our final decision about what keywords to use.

2. Next, we start composing text for our site. I write part of it on my own, but I entrust the most important parts to specialists in technical writing. Actually, I think the quality and attractiveness of the text is the most important attribute of a page. If the textual content is good, it will be easier to get inbound links and visitors.

3. In this step, we start using the HTML Analyzer module to create the necessary keyword density. Each page is optimized for its own keyword phrase.

4. We submit the site to various directories. There are plenty of services to take care of that chore for us. In addition, SEO Administrator will soon have a feature to automate the task.

5. After these initial steps are completed, we wait and check search engine indexation to make sure that various search engines is processing the site.

6. In this step, we can begin to check the positions of the site for our keywords. These positions are not likely to be good at this early stage, but they will give us some useful information to begin fine-tuning SEO work.

7. We use the Link Popularity Checker module to track and work on increasing the link popularity.

8. We use the Log Analyzer module to analyze the number of visitors and work on increasing it. We also periodically repeat 6th & 8th steps. [13, 14, 15]

V. RESULTS

After implementing the above technique, this paper shows the results of a website (i.e. http://www.seomajesty.com) before optimization and after optimization. The services provided by this site are:-

1. SEO- Search Engine Optimization.

2. PPC- Pay-Per-Click Campaign Management.

3. SMO- Social Media Optimization/ SMM- Social Media Marketing.

4. Link Building (Directory Submissions, Link Exchanging, Paid Links).

5. Affiliate Programs.

6. Ad sense Program.

Results are shown in form of table which describe the rank of website before optimization and after optimization when used *"google"* search engine. [8, 12, 17]

Keywords Rank Report (seomajesty.com)			
Dated		Initial (11th July 2011)	21ˢᵗ Nov 2011
S.N.	Keyword	Google.com	Google.com
1	SEO Services India	Not in 50	Not in 50
2	PPC Services	Not in 50	12
3	PPC Services India	Not in 50	19
4	SEO SMO Services India	Not in 50	10
5	SMO Services India	Not in 50	5
6	Online Reputation management services	Not in 50	Not in 50
7	SMO PPC Services India	Not in 50	4
8	SEO Services	Not in 50	Not in 50
9	SMO Services	Not in 50	17
10	PPC Services Delhi	Not in 50	Not in 50
11	Ad sense optimization methodology	Not in 50	1
12	SEM services	Not in 50	9
13	SEM services India	Not in 50	8

Table 1: Rank Report for Google.com

Keywords Rank Report (seomajesty.com)			
	Dated	Initial(11th July 2011)	21ˢᵗ Nov 2011
S N.	Keyword	Google.co.in	Google.co.in
1	SEO Services India	Not in 50	Not in 50
2	PPC Services	Not in 50	6
3	PPC Services India	Not in 50	19
4	SEO SMO Services India	Not in 50	9
5	SMO Services India	Not in 50	4
6	Online Reputation management services	Not in 50	Not in 50
7	SMO PPC Services India	Not in 50	4
8	SEO Services	Not in 50	Not in 50
9	SMO Services	Not in 50	10
10	PPC Services Delhi	Not in 50	Not in 50
11	Ad sense optimization methodology	Not in 50	1
12	SEM services	Not in 50	5
13	SEM services India	Not in 50	6

Table 2. Rank Report for google.co.in

VI.   FUTURE SCOPE

SEO is a well-known term these days. For online marketing, SEO is as important as fish without water, tree without leaves and human without oxygen. SEO increases the visibility of the website. But still there are some discrepancies. Results show that some of the websites are not visible in first fifty places. So a lot of work can be done on it to optimize more.

VII.   CONCLUSION

Search engine optimization process is a vital part of the broad and vast spectrum of internet marketing. The process of internet marketing is incomplete without proper and ample web site optimization. The main goal of any website is to attain a certain maximum level of user traffic and this is not possible unless and until that particular website has good visibility in the results column. This paper provides the strategy to optimize a website so that to improve its rank in search engine and thus to attain maximum of internet customers.

VIII.   REFERENCES

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