



Ongoing Website Re-engineering for Search Engine Optimization

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Abstract— *SEO (Search Engine Optimization) is the need of today's era where being among users is more expensive than being on internet. Being searchable a good solution for it. Search engines are the land mark to enter web world and users are aware of those sites which are on the front page of their search when they need. Being on top of the search requires optimization strategies while building a website. Site owners are now aware about this aspect of business and they want their site compatible for it. But for sites already in market, it is more cost efficient to make it SEO enabled rather than going for a new. In this paper I am trying to present some of the solutions of re-engineering a website for SEO in spite of start designing from the scratch.*

Keywords— *Search Engine Optimization, Page rank, Organic search results, Inorganic search results, keyword optimization*

I. INTRODUCTION

Users rely on internet for seeking information. Users recognize those sites which they find on search engine result page, while searching their query. A sample of over 8 million clicks shows that over 94% of users clicked on a first page result and less than 6% actually click to the second page and select a result displayed there [10]. Search engine optimization is a concept that makes a site search engine friendly and searchable on first page, after following the standards. Today the sites being developed follow the standards, but the problem is with the old sites which are online and have made their presence between users. If the site will not be easily searchable then it may lose its users. This paper presents some SEO techniques for old sites to be search engine friendly without redesigning.

II. THE CONCEPT OF SEO

According to Harold Davis, SEO (Search Engine Optimization) is the art, craft, and science of driving web traffic to web sites [1]. It is the process of following the principle of the search engine such as site structure, webpage language and interaction diplomatic strategies for the rational planning to improve the site search performance in the search engine, and increasing the possibility of customer discovery and access to the website.

III. PAGE RANK: SECRET BEHIND SEO

As a user searches for any phrase or query, every search engine finds those pages that are reputable and relevant. PageRank (PR) is one of the most popular ways to rank web pages for search results. PageRank has the task of condensing every page on the World Wide Web into a single number, based on numerous criteria, which tells the importance of page while showing search results [9].

IV. THE NEED FOR SEO

A). *What if your site is not SEO enabled?*

Almost every user is habitual of searching information on any of the well known search engine on internet [2]. Most of the users find their requirements in the first page of search results, so the left results of next pages get ignored. Also users get used to of those sites only which appear on the first page of search. The more searchable a site, the more well known it becomes. Even every site is crawled by bots of search engines but an efficiently designed site makes good impression and a chance of being well ranked.

B). *An SEO enabled site may benefit your business.*

- Online presence: Applying SEO will make you appear on the first search engine result page and invite more readers and potential customers to your site.
- Global Reach: The success of an online business depends on its global reachability. First search engine result page links are the most clicked and popular among users.
- Cross Browser Compatibility: A properly optimized site will follow all the standards; hence it will work in all the browsers making your site visible to more customers.
- Customer satisfaction and recognition: A customer or reader may recognize your site after satisfaction about the relativity of site's content and their query. Also when the user spends more time with the site, it becomes more important for the search engine, and gains high ranking [11].

V. SEO WORKS FOR ORGANIC SEARCH RESULTS

When a user searches any phrase, the search results displayed can be categorized into following two types.

A). Organic search results

Naturally found results which are shown as result of their relevancy to the searched content or phrase. SEO deals with being on the top most sites of this category. A research shows that the 86% of clicks on Google are from organic search [3]. So if your site is on the first page of organic search results, you are going to make a big online presence in online world. There is no need to spend a lot of money for being in this search results and one can cut cost after gaining high rank.

B). Inorganic search results

Refers to paid search or pay per click advertising. Paid results can get a higher rank but stop paying means stop getting traffic to your site. Only 14% of clicks on Google are from inorganic search [3]. You need to continuously spend money for being in this search result.

VI. REENGINEERING CAN BE A SOLUTION

What to do if your site was going online by past many years and it is not designed to meet all or at least 50% of the SEO requirements. Dumping the site and going for a new one is not the correct solution as the “time” factor also matters for search engine to award a good rank to any site. Your online presence from last few years will make you have a good enough rank, and starting again will be a start from scratch.

VII. BENEFITS OF RE-ENGINEERING OLD SITE

When a new site is launched, it takes some time to get indexed on the search engine. Based on the content a site may get ranked. As the site gets older, gain more users, it gets increase in page rank. An old site can gain high rank in less time if it is strategically modified with standards of SEO. Going for a new site with a new domain or even with the same domain may lead to fall in ranking due to broken inbound links, change in URL's, fewer users, and many other measures [13]. An old site may get benefit of -

A). Age of link from other sites to u.

Inbound links are very important for SEO. Changing to a new domain or even redesigning in same domain with new pages will have a chance to lose these powerful links; as a result rank will drop.

B). Domain Registration Time

Search engine takes account of how long your domain name has been registered and how long it has been owned. For example, if you register your domain for 5 years, Search engines know you are serious.

VIII. MODIFICATIONS FOR YOUR ONGOING SITE TO BE SEO ENABLED

Search engine optimization is often about making small modifications to parts of your website [4]. There are hundreds of factors a search engine considers before ranking a site. For example Google displays results after considering about 200 factors. It is not possible to add all of the factors to a site while developing it. But there are some factors which can be focused even after the site is going online. No need to worry if a site was not planned for SEO. Depending upon the content of site you may follow some or all of the following solutions.

A). Keywords optimization

- Keywords are the words or phrases that you want people to be able to find you under when they do a search on the internet [5].
- Be specific while choosing your keywords. For some engines page rank also depends on the density of keywords in a page [6].
- Decide which phrases/ keyword you want to optimize for which page (keyword map) and then ensure the content is relevant to those phrases. Make headings of those phrases using <H> tags, because some search engines see only page content to find keywords. For example Google does not use the keyword meta tag to find keywords, only content is crawled for it. [7].

B). Add Sitemaps

- Add a sitemap for search engines. An HTML sitemap for users and XML sitemap for search engine helps in search engine indexing. Google provides the facility to submit an XML sitemap to make it easier to discover pages of your site.

C). Optimize your content

- Add unique page title for every page, which should be relevant to the content of page.
- Add a description Meta tag in each page, description should be a short text summary of the page.
- Remove broken links form your site periodically.

D). Optimize use of images

- Make use of Alt attribute of tag. The Text hidden in alt attributes work as keywords for search engine.
- Every image should have metadata which helps in searching it and links to the page containing it. So images can work as a doorway to site.

E). Relevancy

- Google, Bing or Twitter search they all want to provide the best answer to the users query so that the user continues to use their service. So ensure the relevancy of website.

- Incoming links to your website should convey relevant information. A link containing any subject should not point to a site related to any other subject. For example, when the anchor text matched to a link contains a term relevant to the content on the linked page, Google sees that as a confirmation that the link is what the searcher is seeking [2].
- F). *Links coming to your site*
- The number of inbound links to your websites is a measure of its popularity on web [1].
 - Anchor text of inbound link to your website also works as a keyword. Off page SEO refers to
 - Linking helps to get visitors. It also gives credibility by ensuring search engines that your website is important enough to link to other useful websites. This again increases the overall page rank.
- G). *Submit your key pages*
- Do not rely on the automated submission process of search engines. Do submit your key pages, which describe your website, to the search engines. For example webmaster tools from Google, which helps Google to crawl a website in less time.
- H). *Involvement in Social media*
- Social media has an effective impact and good reach on people. Website pages on social networking sites can be created to increase visibility among users.
 - It is admitted by Google and Bing that search results are positively affected by social signals such as tweets, facebook likes etc.
 - Web pages shared by users in twitter, facebook etc affect regular search results [12].
- I). *Site load time*
- Time a website takes in loading is an important factor for some search engines. Several user experience studies evaluate how page load times impact user satisfaction, which eventually lead to page rank of search engines.
 - High ranking sites know the strategy to load site. For example, many popular news websites load a higher number of objects but in a way that the user does not gets frustrated of loading them. They know what content to load first and carry on with other content to load.

IX. CASE STUDY

I have taken two sites which were not designed considering SEO factors. Both the sites are running continuously from their launch. It will take time and money to re develop these sites to be SEO enabled, rather than designing again, these sites can be re-engineered for SEO.

- A). <http://www.amrapaliinstitute.ac.in> – is a website of an institute which is running from last 6-7 years. This site can be searched in google for following queries –
- Hotel management course in Haldwani – first search engine result page.
 - Institutions of Haldwani – Third search engine result page (links from other sites appear on first, second page also).
 - Page rank for this site comes out to be – 5/10 [8]
- B). <http://www.nainitalrudrapur.com> – is a commercial site which is running from last y years. This site can be searched in google for following queries –
- Bakery shops in Haldwani – first search engine result page.
 - Hotel management course in Haldwani – Third search engine result page.
 - Schools in Haldwani – 7th search engine result page.
 - Page rank of this site comes out to be – 0/10 [8]

Both the sites can be modified without designing them again, by applying all of the solutions given above.

X. CONCLUSION

Online presence makes an impact on the society; a business can reach much more users by being online rather than working in a manual approach of business. E-commerce has become a need of every business today. Getting users to your site needs a lot of advertising and promotion activities. Search engines are the entry point for most of the users to find information on huge web. Search engines should be targeted while the development of site. I have presented some standards which an already developed site can follow, to get on first page search result of search engines.

Future scope of this paper is the research work going on for the site www.nainitalrudrapur.com to increase page rank.

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