Increasing the Visibility of an E-Commerce Website in the Search Results of a Search Engine

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Abstract: **Information technology is being drastically developed in recent years, using search engines to search information has become an evident part of one's everyday life. The positioning of a web site in the first place in the search results of a search engine is a tedious job, to make this easy we use various search engine optimization techniques. These techniques help us to increase the ranking of our web site and make it visible to the search engine. Based on the rankings our web site will be positioned in the search results. Our aim is to make our web site be visible in the first ten positions of the search result. In order to improve their visibility quantity of a website, SEO make use of better ranking in the search result using the keyword selection and usage, high quality back links, rational website constitution, meta tags and rich content. The most common SEO technique is the On page and Off page SEO. The On page SEO deals with the keyword analysis, how a specific keyword is to be used and the competition level of the keyword used. It also includes writing Meta tags, the purpose of meta tag is to provide a description to the search engine about the content of a web page. The Meta tags include meta title, meta keyword and meta description. The Off page SEO deals with link building with which a web site is promoted to other web sites. In this paper we discuss many optimization tactics used for increasing the visibility of a website.**

Keywords: Ranking, ON Page SEO, OFF Page SEO.

I. INTRODUCTION

Search engines mainly operate on two functions, crawling and indexing and providing answers. Crawling is done with the usage of robots called crawlers or spiders. Robots finds webpage and decipher the code from them storing the code in the massive drivers. When a query is submitted it is searched from the stored code. The result are provided based on the relevance and importance. The relevance is determined based on the mathematical equations and algorithm ,often referred to as ranking factors. When a query is submitted to a search engine, the results are expected to be displayed in no time. Although search engines use many algorithms and techniques to produce the results on time, it is difficult to crawl around billions and billions of pages. To help the search engines retrieve the results faster the website developers use many search engine optimization tactics.

Search engine optimization (SEO) is a process of making a website easy for both user and search engines robots to understand. The activities that are performed by SEO to increase the amount of targeted traffic that comes to a website through a search engine. It includes things like making changes to the text and the HTML code. It also includes direct communication with the search engine by making requests for listings or links. SEO is a technique which helps all search engines to find a site and rank them higher than the millions of other sites in response to the given search term. By which SEO helps to get traffic from search engines. The most important SEO element for every search engine is the *keyword* with which the search strings are matched. Choosing the right keyword is the first and the most critical step to a successful SEO.

Even though search engines have been increasingly sophisticated in many ways, it cannot see and understand a webpage as the human does. To overcome this problem we go to various search engine optimization techniques. The most common SEO technique is the On page and Off page SEO. The On page SEO deals with the keyword analysis, how a specific keyword is to be used and the competition level of the keyword used. It also includes writing Meta tags, the purpose of meta tag is to provide a description to the search engine about the content of a web page. The Meta tags include meta title, meta keyword and meta description. The Off page SEO deals with link building with which a web site is promoted to other web sites. It also includes back links which is

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helpful to check the interestingness of the users who visit the web site.

II. TECHNIQUES USED FOR SEO

A. *On Page SEO:*

On Page search engine optimization is the most vital part in the process of SEO. If an on page SEO is done perfectly 70% of the SEO job is done and the rest depends on off page SEO. On-page SEO mainly makes use of the SEO factors that web designers have direct influence. These SEO factors are analyzed more by search engines, than to off-page factors, to determine search result rankings. The factors include content, HTML code, and architecture of website. This SEO factor enhances the opportunity for marketers to increase the chances of having their website at the top of a search results page. On-page SEO comprises of all the techniques that are used in the overall design and development of a website. This makes the website transparent and easily ranked by the Internet search engines, and it always focuses on increasing a website's rank in the natural search results for a particular set of search terms. On page optimization also refers to the corrective measures that can be taken directly within a website in order to improve its position in the search rankings.

On Page SEO is the art of rearranging the contents of a website such that it becomes search engine friendly. This technique includes the optimization of texts, graphics, HTML tags, URL structure, hyper links, headings etc. Optimizing anything in the website for search engine that is uploaded to the website's domain is termed as on page SEO. For instance selecting the proper ALT tag keyword for an image on a webpage. In a simple definition On Page Optimization is what that can be done on the webpage's of a website in order to make it more friendlier search engine to achieve good search engine ranking for targeted keywords.

Important Components of On-Page SEO

- H1 tags for title
- ALT Tags with proper description for images
- Structure of the URL
- Meta Tags
- Density of the keyword
- XML sitemap
- Unique Content
- Internal Linking from home page
- Right HTML and CSS
- Title Tags

B. *Off Page SEO:*

Off page Search engine optimization almost holds 30% of the overall SEO process. Off-page SEO comprises many techniques that are used for creating inbound links to a webpage to increase the anticipated popularity of the page with regard to search engine algorithms. The goal lies in moving the search result position for the page to the top level in the natural search results for a specific set of search query. Off page optimization is a process which includes all the measures that are to be taken outside the website in order to improve its position in search results. These are measures that assist to create as many high-quality back links (incoming links) as possible. Off-page optimization (off-page SEO) is what can be done off the pages of a website to maximize its performance in the search engines for targeted keywords related to the on-page content and keywords in off-page direct-links. Off page optimization is mainly controlling how the internet portrays a website.

A professional off-page SEO will be able to employ their own resources to control how search engines view a website and thereby control the ranking. Most off-page SEO techniques done well, will result in very high Return on Investment and high ranking in MSN, Google, Bing and Yahoo. Off page SEO is defined as the things done offline to a website in order to achieve good search engine positioning. In simple definition off page optimization does not involve any optimization with the contents of the webpage instead it is the optimization which is done offsite the web contents. For instance building quality links to improve the page rank of your website is such type of optimization.

Important components of Off Page SEO

- Link Building
- Article Writing
- Blog Publishing
- Social Media Bookmarking

    This means how active is the website among various social media like Digg, Facebook, Google+, Twitter, Linked and many other. The active presence of a website over popular social media increases the brand value as well as reputation of the website.

- Directory Submission Sites
- Forum Postings

    Forum posting impacts a lot in offsite optimization. Participate in forum posting and posting questions or answering to any

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question is getting a chance to get a good quality link from the forum to the website which improves the page ranking.

III. PROPOSED WORK

An ecommerce content management website is being proposed for a company which is based on online sports accessories. This website development includes getting all the customer requirements based on their needs and preparing a design lowest which satisfies all their requirements. It also includes the designing of the web site and uploading the products for online shopping and also including facilities for shopping cart with online payment. Search engine optimization for the created website is being done. The process includes all the On page optimization methodology to make our website visible to the search engine. Necessary robots for the search engine spiders have also been included to crawl around the website. The results of the proposed work is being formulated with the help of Google analytics and Webmaster tools. Which helps in checking the correctness of the keyword usage, the search query term, crawl errors, page indexing etc.
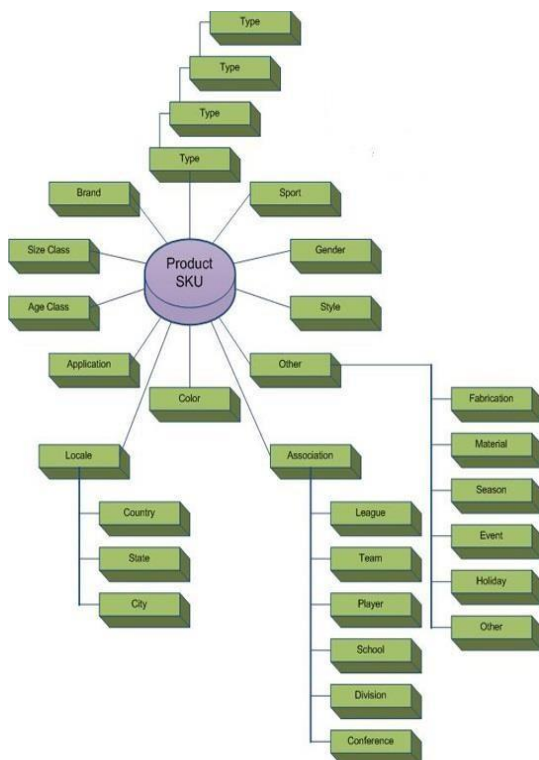
A. *System Architecture*:

Fig.1 Products included in the ecommerce website

IV. MODULES INVOLVED

A. *Website Development:*

An ecommerce content management website for our client gotiger for an online sports accessories store is being developed. The website is being developed using Magento an open source content management solution (CMS).Magento is being installed in the company server manually. A MySQL Database is created for Magento to use and store the product details.

Users are added and their permissions and roles are assigned. A proper template is selected for portraying the list of goods. The products are being inserted one by one using the Magento manage products tab. All the product details are provided correctly and the product is being enabled to be displayed in the home page. The products are categorized based on their type. The necessary formatting plugins and themes are used to display the products in the catalog in an attractive manner.

B. *Keyword Analysis:*

Keywords are analysed for optimization. Before optimizing the site for the search engines, know which terms must be targeted. A good start would be to choose 3 or 4 keywords of the website to rank well for. With these keywords in the mind set a goal to rank in the top 10 results on Google for each of them. These keywords can be either broad or specific, but we'll want to study our list of pros and cons of each before choosing.

A specific keyword is something that contains many adjectives or words that make the search very targeted. The keywords should be much less competitive and are easier to rank for on search engines. The downside is that they receive a great deal less volume of searches per month. In terms of traffic, it will need to have several rankings for specific keywords to equal one ranking broad keyword.

C. *Writing Meta Tags:*

Meta tags are included for each and every page. The title tag and the meta description tag is the first introduction that many new visitors will have to see, as they encounter this information in the website's snippet in the natural search results, the user intend to visit the site based on this description. Character limits for the meta tags are,

- Page title – 70 characters
- Meta description – 160 characters
- Meta keywords – No more than 10 keyword phrases

D. *Sitemap and Robot Generation:*

Sitemaps and the robots are generated. Sitemaps make navigating the site easier and having an updated sitemap on the site is good both for the users and for search engines. Sitemaps are an important way of communication with search engines. While in robots.txt tells the search engines which parts of the site to exclude from indexing.

Using sitemaps has many benefits, not only easier navigation and better visibility by search engines. Sitemaps offer the opportunity to inform search engines immediately about any changes on the site. The sitemap should be an xml document and it can be generated by submitting the web site URL to webmaster tools.

V. RESULTS AND DISCUSSION

Google Webmaster Tools are used to formulate a website and promote a website. To do this first the site need to join and need to go through the verification process, so that Google knows the legit owner of the site. Once verified the ownership and have Google code in place on the site. Now log into the Google Webmaster Tools account, the first thing is the Dashboard. From here it is possible to access all the major sections - Search Queries, Links to The Site, Crawl Errors, Keywords, and Sitemaps. Clicking on any of these will open the respective section.

Google Analytics is used to analysis the results. Google Analytics is one of the top, most powerful tools for monitoring and analyzing traffic on the website. It gives us an enormous amount of information about who is visiting the site, what they are looking for, and how they are getting to the site. Any business that wants to expand and grow their business on the internet should definitely be using Google Analytics.
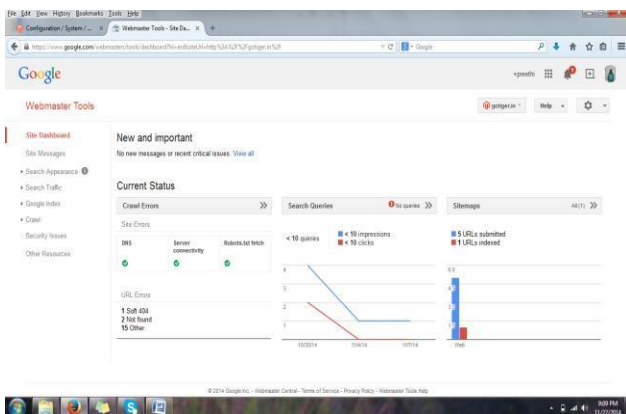

Fig.2 Results in Google Webmaster tools

VI. CONCLUSION

Search engine optimization is the best process to attract the internet users and gain traffic to a website. It is also useful in positioning a site to the top level in the search engine result page. The different techniques helps the web site designers and promoters to make their site's visible to the search engine. If all these techniques are followed in a correct manner the web site will be promoted among a vast range of people and the return on investment for the site would also be high. Search engine optimization is an effective practice when it is followed correctly.

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