KEYWORD OPTIMIZATION: RELEVANT KEYWORD EXTRACTION

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Abstract- **The way business happens is changing rapidly; also users or customers have shifted their priority to e-business from traditional business. Therefore it is very important for every company to appear online. It is not just enough to have a website, to be online. One has to make sure that the website is visible to the searchers who are searching for the product or service. To make the website more visible, the website needs to be friendlier to the search engines. As the search engines are the bridge between the searchers and the website. Only if the search engine feels that the website is relevant to the search pattern entered by the user, then the website will be shown in the top search results. Making a website visible to the customer is all Search Engine Optimization (SEO) concerned about. This paper surveys some of the SEO techniques to improve visibility and specifically concentrates about keyword optimization.**

Keywords: Search Engine Optimization (SEO), keyword optimization, on-page optimization, keyword extraction

I. INTRODUCTION

Using electronic media and promoting a product or service is what called as digital marketing. The marketing trend that is most popular and has overtaken the traditional marketing is digital marketing. The important key component that makes digital marketing successful is Search Engine Optimization. The main tool that is used by the customers in digital marketing is nothing but the search engines. When searching for a product or service using search engines like Google, bing or any other; the user are more interested or concerned only in the first page of results.

If a company has a website and if it is not visible in the first page then it is of no use. The reason why the website is not in the top result is that it is not optimized as the search engine's algorithm.

To appear in top results different SEO techniques can be used so that the website is well optimized and hence the visibility is enhanced.

II. LITERATURE SURVEY

This section surveys some of the optimization techniques that can be used to bring the website to the top positions in the search results.

Survey1: Overview on Link, Structure, Keyword and Content Optimization

In e-commerce the most prominent action is online search. The preeminent place in the online world is occupied by the search engines [5].

The mechanism of enhancing the number of visits, that is; traffic to a website using the search results is called as SEO. The authors [4] in their paper aim at analyzing the effect of different SEO techniques and also to study which technique is the most effective one. There are different SEO techniques whose main intension is to make the website dominant in the results of search engine and bring more visitors to website. The paper here considers four important SEO techniques they are link optimization, structure optimization, content optimization, and key optimization.

Link optimization or link popularity: To a website, increasing the number of webpages linking is all the link optimization concerned about. This is one of the most important factors used by the search engines to decide the site's position in the search results. Link popularity includes the number of internals inlinks within a website, external inlinks from the outside site, and overall inlinks. The overall inlinks is a combination of internal and external inlinks.

Structure optimization: Under this different aspect are present.

The first factor is *customization of 404 error pages:* The error message "page not found" is displayed whenever a visitor tries to find a page

that is not found in the website. Usually when a visitor sees these kinds of error messages it is rare case that the visitor makes a second try to find the page. This kind of error can be customized by providing an immediate feedback to the visitor that gives information about the next operation [1].

The second factor under structure optimization is *page size*. The summation of size of all elements that constitute a page including the html file is called the page size. If the page size cross a certain limit then the search engines will not index the pages. Also if the page size is small it can be downloaded faster.

The third factor considered is the *web directory structure*. Optimizing the web directory structure can have good outcome on page interest. Web directory is nothing but series of webpages that is *designed* as per the relationship between the link position and content relevance.

Keyword optimization: The website must have selected keywords in its content that is related to the product or service of that website. As the search engines use these keywords to determine what the website is about. Only if these keywords match the searcher's search term then the website will be shown in the search result.

Content optimization: It is where the title tag optimization is studied. Title tags will provide information to the engines about the website's product or service. Also this tag gives brief information to the user about the site.

Survey2: Different SEO Techniques

The technique of studying and understanding the working of search engine to find a webpage is called as SEO. Making a website friendlier to a search engine is also the aim of Search Engine Optimization. SEO concentrates more on optimizing the webpage content and webpage code to achieve the previously said aim. The website marketing or sales can be enhanced with the help of SEO, as it improves the natural ranking of the website. The authors in [3] provide a formula for SEO optimization as shown below

SEO=C+L+K+O

Where C= content optimization, L=link optimization, K=keyword optimization, O=others.

Content optimization: exclusive and excellent quality content is always the most loved factor by the search engines. The basic condition for the development and survival of a website is that the content of the website should be updated periodically, so that the webpage content always remains fresh. The search engines will not index the webpages if at all the contents of the pages are just copied from the other websites.

Keeping the content as fresh and unique as much as possible will influence the search engines to frequently visit the website and grab more pages from the site.

Link optimization: for a website consists for three main factors they are incoming links, outgoing links, and internal links. Incoming links are also called as external links, and a website must always try to have as many possible external links. Rather than the website itself, submitting to the search engine. It would be more effective if the website is garbed by the search engine because of the external link it had received. Outgoing links is the links to other websites and always when linking to other sites it is suggested to link to a site where the content is relevant. Internal links is the links within the website; it is needed to make sure that each page is reachable from the home page.

Keyword optimization: is one of the main and important SEO techniques where the core keywords related to the product or service provided by the website has to be determined. Then using the core keywords key phrases needs to be derived and must be scattered through the webpage content. While selecting the keywords one has to make sure that related, high search volume and low competition keywords are selected. Too special or broad keyword should not be chosen.

Other optimization: techniques include optimizing the Uniform resource locator (URL), domain name, architecture of the website and many more. The paper concludes stating that series of optimization activities make a website optimized. Each aspect of the website may it be the title tag, keyword, links all need to be examined for its performance with search engine. The website developers has to continually study their website and analyze how effective is their SEO strategy.

Survey3: On-page and Off-page Optimization

The easiest way in the IT era to reach the target users is the online presence of a company. It is not just the online, but appearing in the first page of the search result is actually what matters. SEO techniques help a website to appear in the top results of search engines like Google by optimizing the website. Optimizing the website means editing the HTML codes and content to improve the relevance with keywords. The authors in [2] discuss the different types of SEO optimization that is on-page and off-page optimization.

On-page optimization involves that all the developers can do to a webpage so that the website is visible to the online searcher at the top results. It includes optimizing the meta description tags, Uniform resource locators, title tags, hyperlinks, image alt tags and content. Off-page optimization is all concerned about getting backlinks to a website and being more active in social media marketing. Optimization through off-page includes article submission, blogging, guest blogging, press release, link exchange, newsletters and video submission.

III. PROPOSED METHOD

In the previous section different SEO techniques were discussed, among those techniques this section chooses keyword optimization in particular. A keyword is a word or phrase that is used by the searcher to make a search. In fact keywords are those that help the website get recognized by the search engines and also let the customer know about the site's online presence. Keyword optimization aims at finding out these relevant keywords for the company's website and how to efficiently shuffle these keywords at different places in a site to get more targeted customers to a site. Here a method is proposed to select the keywords which need some prior text or data in order to extract the keywords.

This data is nothing but the description of the product or service the company or organization is aiming to advertise in their site.

The given document (relevant description about product or service) is first preprocessed to remove the unwanted text it contains. To accomplish this data cleaning process, a database of stop words is first created so that these words can be eliminated. The given document is compared with the stop words in the database and the matched

ones are eliminated from the original document. Once eliminated the remaining words of the document is again verified and the best related words are selected as seed keywords. The words that are rejected after the verification will be again added to the database so that the verification process in the later cases becomes easier.
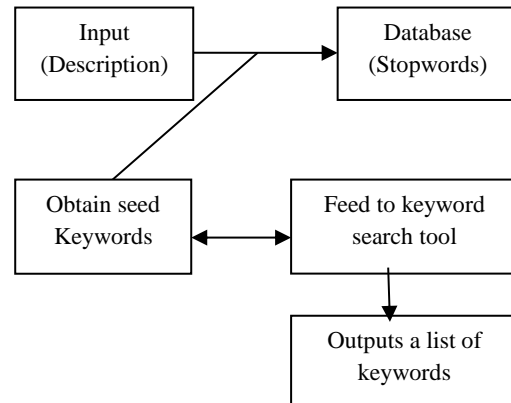

Figure1: Proposed Method

Once obtained the seed keywords, these keywords are feed into the keyword search tool. The tool outputs a list of keywords that will be related to the seed keyword that was given as input. From the output list relevant keywords that suit the product such that they are not too broad, too specific must be chosen. Figure1 shows the proposed keyword extraction method diagrammatically.

IV. CONCLUSIONS

Optimizing the website as per the norms of the search engine is very important for a company if it has a website. One such important optimization technique is keyword optimization. Identifying related and relevant keyword is an important task in keyword optimization. The work has surveyed different optimization techniques and has also proposed a new and simple that methods that can be used to extract keywords from the given text document that has description about the product or service that the company offers.

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