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This document is a working paper, summarizing a presentation at a conference. It was delivered at the SAICSIT 2012 Academic Conference in Irene, Pretoria, South Africa, at the Masters & Doctoral Symposium. The abstract has been reviewed and accepted, and it has been edited for basic grammar and accuracy. Kindly consider this document as a working paper, to be used for basic referencing. It could be useful for research in the field of Website Visibility, Search Engine Optimization, Information Retrieval and Search Engines.

APPLICATION OF LINK WHEELS TO IMPROVE SEARCH ENGINE RANKING OF COMMERCIAL WEBSITES

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ABSTRACT

The quality of webpage content has an effect on how search engine crawlers index a webpage. Also, the degree of interlinking between websites with a similar focus plays a large role in how search engines perceive them. Link building has become a popular technique in search engine optimisation (SEO). It provides an analysis of inter-document connections and quantitative analyses of the link structure. Search engines' crawlers visit webpages in order to evaluate their respective value in terms of quality, uniqueness and content richness, thereby listing them in accordance to their ranking on a search engine result page. Link wheels are identified as one method of significantly improving this ranking of commercial websites. However, some SEO practitioners maintain that link wheels should not be implemented, since they waste time to create. This raises several fundamental questions that form the basis of this research.

1. INTRODUCTION

The fast growth of the Internet has enabled an increase in the pace of conducting online business. Worldwide, there is an uptake in the promotion of business and selling of goods and services on the Internet. This resulted in a dramatic increase in Web traffic. Search engines have subsequently become a major tool for information extraction and retrieval from Web databases. Constant algorithm changes have likewise resulted in SEO strategies to be paramount to website success regarding visibility. Commercial online businesses use many SEO techniques to ensure high traffic generation to their website, hoping that this will result in customer conversion.

2. OTHER RESEARCH

2.1 Search Engine Optimization (SEO)

SEO or search engine positioning (SEP) was introduced in 1997 (Yung 2011:4). It is the process of identifying factors which will improve the amount or quality of traffic to a webpage from search engines via "natural" or unpaid ("organic" or "algorithmic") search results, which would impact the search engine accessibility of the website. A

search engine is a program that offers users interaction with the Internet through a front end, where the user can insert a search term or make successive selections from relevant directories (Weideman 2004). According to Egele *et al* (2009:51-62), search engines list websites in a sorted order using some or all of the query terms after calculating a score for every webpage in order to determine the most relevant webpage. SEO is a complex practice as careful attention is required when optimising a website - the technique attempts to produce relevant human-readable content as well as search engine crawler friendly text.

Search engines extract the important information of websites based on descriptive keywords. The choice of keywords in a website must be determined by the terms the searchers utilise when conducting searches on the Internet, thus matching the search queries used by the users when querying the search engines.

2.2 Weideman's Models

Weideman (2009) identified and linked SEO elements in order of their priority and accordingly the author listed inlinks as the first important element - see Figure 1.

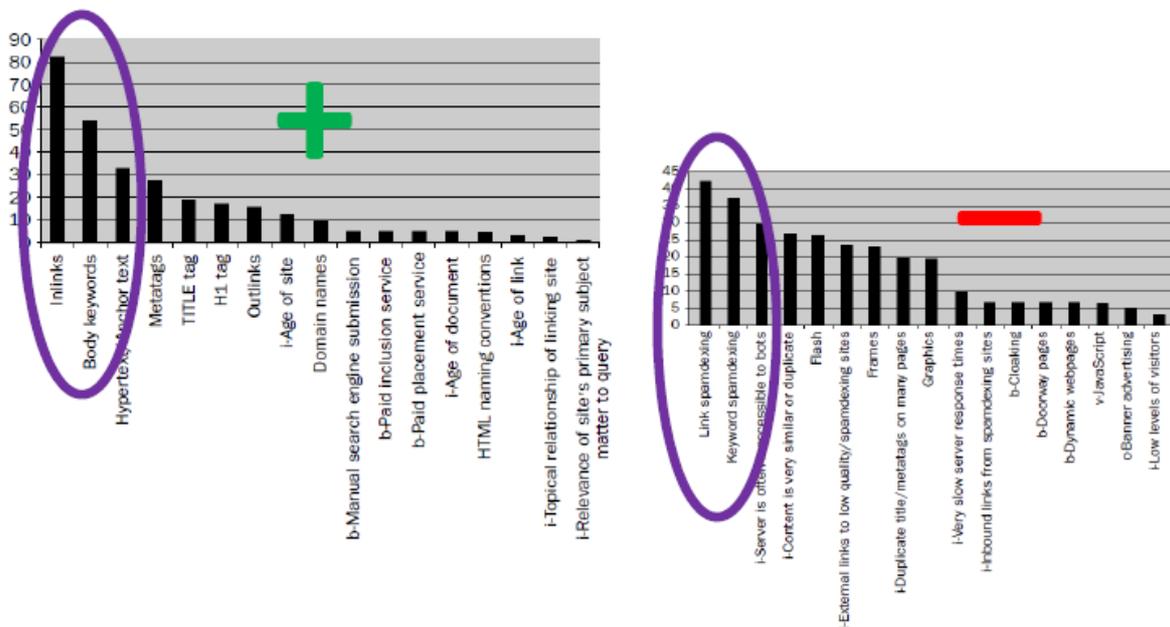


Figure 1. Positive and Negative SEO models (Adapted from Weideman, 2009)

The Web is heavily populated with interlinked pages linking to each other, hence increasing chances of webpage ranking on search engine result page (Goldsborough 2005:40-42). Search engine crawlers track links to index website hence links are an important SEO strategy that guarantees high ranking of websites. According to Mbikiwa & Weideman (2006), more links to a site better the chances of ranking higher, as the quality and quantity of links form part of the algorithms of search engines for calculating relevancy.

2.3 Link building strategies

A well-constructed and coded linking structure enhances the ease of website navigatability by search engine spiders, hence assisting visitors to easily locate website content via search engines (Paulussen 2004:449-466). High quality link popularity enables the gaining of page authority that translates into more traffic (Thelwall 2004).

Links can be divided into two major categories namely, inlinks (inbound or backlinks) and outbound links. Inbound links originate from an external site to one's site whilst outbound links are hypertext links that start from a webpage and lead to another webpage. The popularity and importance of a site is measured by the backlinks that originates from reputable sites. Zhao (2004:108-119) identified the following as benefits of inbound links to a site:

- Increases of website ranking in SERPs for queries using the keywords in the link anchor text,
- enable robots to find a site during the normal indexing process,
- can increase website's PageRank with similar algorithms and
- brings extra traffic to the site.

However, Beel and Gipp (2010:297-298) noted that link spamdexing exists, which uses dummy websites that link to the originak website. Other unsavfourey practices include exchanging false links with other webmasters, purchasing links on third party webpages and posting links to one's website. These techniques artificially boosts link popularity of a website and ultimately enhances search engine rankings.

A link farm is identified as one of such techniques that artificially increases the number of links to the webpages (Zuze and Weideman 2010).

The following are some of the link building strategies:

- Build a free tool or software that generates links
- Supplementary micro sites that provides links to one main site
- Swap services for links
- Release content on Scribd, Slideshare and Docstoc
- Testimonials for popular products
- Join a business networking group
- Establish business relationships with sites in your industry

2.4 Website visibility

Website visibility is defined as the ease with which a search engine crawler can find a webpage and then the degree of the success the crawler has in indexing the page (Weideman 2009:14). Website usability aids website visibility hence the inclusion of usability attributes will enhance conversion; therefore, effective website design should incorporate usability as a prerequisite (Visser and Weideman 2011).

2.5 Link wheel

A link wheel is an SEO strategy used to drive visitors to a commercial website by creating a circular pattern of links that can be followed through a number of interlinking websites. This ultimately provides higher exposure of the website on a SERP. The targeted website acts as a hub - see Figure 2.

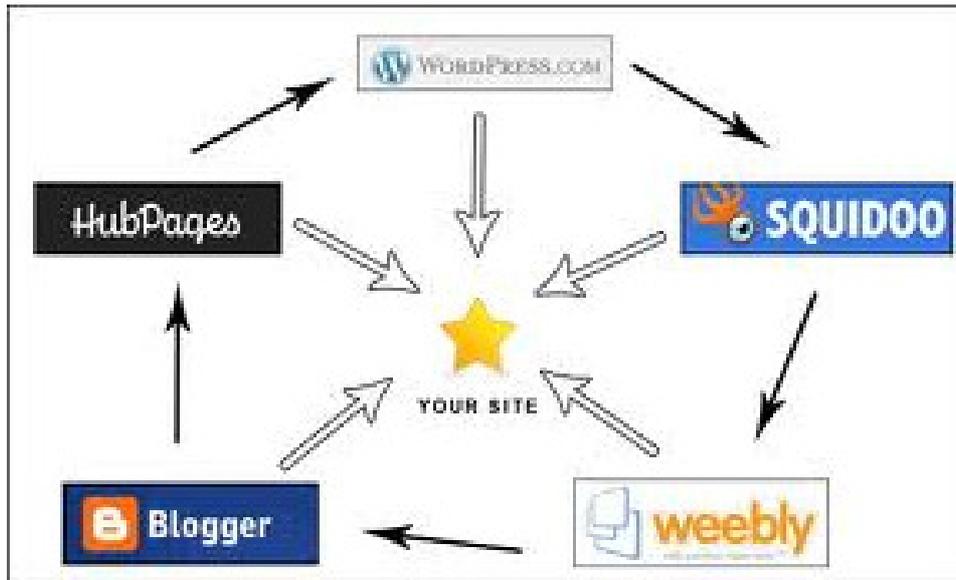


Figure 2. Graphic presentation of a typical Link Wheel

Google continuously releases updates based on their website quality requirements and websites need to conform to the standards in order to attain higher ranking. Google algorithm updates such as Panda regularly lowers the ranking of a number of websites on the SERPs, hence more SEO practices are required in order to restore the ranking. Link wheel strategies provides organic links that enhances sites to rank better. Proper link wheels require unique content to be published in various areas to ultimately accredit the main site.

3. METHODOLOGY AND RESULTS

The research shall be conducted by utilizing triangulation based on a literature study, an empirical study and SEO specialist knowledge elicitation. Interviews will be conducted to determine how SEO practitioners incorporate link wheels as a link building strategy. Commercially designed websites will be analysed by comparing their performance based on a pre-formulated linking model and results will be recorded and compared to a quantitatively based link wheel model. Also to be integrated in this study will be a comprehensive review of the academic information published in relation to link wheels and how authors differ in interpreting the importance of link wheels.

Both quantitative and qualitative research approaches shall be used to enhance the quality of the results and provide an effective evaluation of data collected. These approaches will enable adequate addressing of the research questions of the study. Also, several research methods are being explored, including procedures and models of research methodology which would assist in achieving the best research results, in line with the research objectives.

4. CONCLUSION

The purpose of this research is to develop a commercially based model with demographical representation of various link utility functions. This model will be relevant and usable to SEO specialists and online marketers - to enhance the quality and quantity of commercial website links, hence achieving a higher search engine ranking. This will further provide a research-founded perspective regarding the use of link wheels in academe and industry. The model will also contribute to the body of knowledge by providing a clear map to link building and henceforth a clear articulation of a progressive methodology attributed to facilitation of link wheels. The research shall also explore the fundamental contribution of inlink and outlink analysis and how they affect websites' positions on search engine result pages and company revenue at large.

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