A Study of How Implementing Search Engine Optimization Practices and Techniques During the

Development and Ongoing Maintenance of a Web site is a Key Factor In Its Overall Success

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CHAPTER 1

INTRODUCTION

In today's world of computer and information technology, the Internet has become the most sophisticated and widely used source of information.   The Internet is used for communication, recreation, education,   distant learning, research, banking, bill payments, shopping, marketing, and e-commerce, just to name a few. Because of the Internet, we are able to do all of these things without having to leave the house. The doorways to all these types of information and resources are called Web sites.

Although advertising in the local newspapers and yellow pages of the phone book is still a practice for some, it is one that is diminishing rapidly, due to the Internet. Advertisements in these forms can be very expensive. Especially local newspaper ads since they don't last long enough for the price you pay for them. When comparing the price of a Web site to the expense of creating and distributing more traditional forms of marketing materials, like newspapers, direct mail campaigns and magazine ads- the cost of setting up and maintaining a Web site is nominal. Having a Web presence enables businesses and organizations to advertise and remain open twenty-four hours a day, seven days a week, with the added ability to reach millions instead of just a select few. Each and every day, more businesses and organizations are going online by creating a Web presence. If a business or organization without a Web site is in direct competition with another business or organization that has a Web site, the one with the Web site has a clear advantage - especially if they are adequately marketing their Web site.

This introduction could go on and on about all the things a Web site can do, but that is not the purpose of this proposal. The purpose of this proposal is to look at a specific, and very

important, sub-topic of Web site marketing, which is called search engine optimization (SEO). The type of Web site is not an issue concerning this research. The purpose of this research is to determine what makes a Web site successful. More specifically, to determine and prove, that a strong relationship exists between search engine optimization and a successful Web site.

One must keep in mind that having a Web site does not necessarily mean the same as having a Web presence. Having a Web site with a Web presence, is the same as having a Web site that can be found. Search engine optimization (SEO) is the process of improving the visibility of a Web site or a Web page in search engines via the "natural" or un-paid ("organic" or "algorithmic") search results. Other forms of search engine marketing (SEM) target paid listings. In general, the earlier (or higher on the page), and more frequently a site appears in the search results list, the more visitors it will receive from the search engine.   This is what gives a Web site a Web presence.

STATEMENT OF THE PROBLEM

There are certain marketing strategies that must be implemented, both internally and externally, to ensure that a Web site has a fair chance at being successful. A Web site that is successful is one that has high rankings in the online directories. Search engine optimization (SEO) practices and techniques, are internal marketing strategies that can help a Web site achieve higher rankings.   Internet search engines, such as, Google, Yahoo, and MSN, are directories which search for Web sites based on relevance of the keywords or key phrases used to find them.   These online directories are different than a telephone book's alphabetical listings, because they list the search results according to rank in popularity.   While telephone books are updated yearly, online search engine directories are updated quite frequently

because thousands of Web sites are added to the Internet daily. Due to growing competition, not only are Web site owners concerned with how popular their Web sites rank, they are equally concerned with maintaining a high rank once they obtain one. Implementing ethical (white hat) search engine optimization during the development and ongoing maintenance of a Web site will help to achieve these goals.

THE PURPOSE OF THE STUDY

While there are numerous factors pertaining to the success of a Web site, the purpose of this study is to show that there is a strong relationship between search engine optimization and a successful Web site. This study will attempt to show how ethical (white hat) SEO practices and techniques are essential in the overall development and ongoing maintenance of a Web site for its ability to achieve success. This study will also explain unethical (black hat) SEO practices and techniques, and the consequences one might incur as a result of using them.

JUSTIFICATION FOR THE STUDY

Because I am a Web site developer, I have been very interested in learning as much as I can about search engine optimization (SEO). SEO is the active practice of optimizing a Web site by improving internal and external aspects in order to increase the traffic a Web site receives from search engines. Quite a few of my clients have asked me how to get their sites listed, at least, on the first page of Google's search results. Ranking high in the online directories is a concern of all businesses and organizations that want, or already have, a Web site. Ranking high in the online directories gives them a competitive edge. Why put money into a Web site if it isn't successful? The higher a site ranks the more clicks it will get. For example, say I wanted to do a search in Google using the key phrase "Best SEO Practices". When the results are

displayed, I am going to visit the first link in the list. The reason I would choose that first link is because it must be a good source on the subject or it wouldn't be first. Web sites that rank first in the search results are most likely successful. So, how does SEO fit in pertaining to page rankings?

Although prior research has been conducted pertaining to this topic, one must take into consideration that technology is constantly growing in sophistication. Therefore, new research should be conducted as technology grows, and not just for search engine optimization.

RESEARCH HYPOTHESIS

Implementing ethical (white hat) search engine optimization (SEO) practices and techniques during the overall development and ongoing maintenance of a Web site is a key factor in its ability to achieve success.

RESEARCH QUESTIONS

1. Is there a strong relationship between ethical (white hat) search engine optimization (SEO) and a successful Web site?

2. Does implementing ethical (white hat) search engine optimization (SEO) into the overall development and ongoing maintenance of a Web site guarantee its success?

DEFINITION OF TERMS

Algorithm - Set of factors and rules by which search engines determine relevance to compile their SERP rankings.

Black Hat SEO - The use of aggressive SEO strategies, techniques and tactics that focus only on search engines and not a human audience, and usually do not obey search engines rules.

Conversions - Favorable outcomes or actions that occur on a Web page. (Rushton, Kelehan, & Strong, 2008)

Delicious - (formerly del.icio.us) is a social bookmarking web service for storing, sharing, and discovering web bookmarks.

Dmoz - Also known as Open Directory Project (ODP), (from directory.mozilla.org, its original domain name), is a multilingual open content directory of World Wide Web links. It is owned by Netscape, but it is constructed and maintained by a community of volunteer editors.

Directories - A type of search engine where listings are gathered through human efforts, rather than by automated crawling of the Web. In directories, Web sites are often reviewed, summarized in about 25 words, and placed in a particular category.

Google Analytics - A free service offered by Google that generates detailed statistics about the visitors to a website.

Inbound Links - An incoming link to a page from any other page or site.

Internet - A global network connecting millions of computers. Each Internet computer, called a host, is independent. The Internet is not synonymous with World Wide Web. The Internet and the Web are two related but separate things.

Key Phrase - Two or more words that form a 'keyword' - the words potentially used in a search query that the page has been optimized for.

Key Words - The most popular search terms identified for the subject of your search. Many different online tools can help you identify the most effective keywords.

Metadata - Metadata is actually data about data. Web pages often include metadata in the form of Meta tags. Description and keywords Meta tags are commonly used to describe the

Web page's content. Most search engines use this data when adding pages to their search index.

Organic Listings - Listings that search engines do not sell. Instead, sites appear solely because a search engine has deemed it editorially important for them to be included, regardless of payment. Paid inclusion content is also often considered "organic" even though it is paid for. This is because that content usually appears intermixed with unpaid organic results.

PageRank - A link analysis algorithm, named after Larry Page, used by the Google Internet search engine that assigns a numerical weighting to each element of a hyperlinked set of documents, such as the World Wide Web, with the purpose of "measuring" its relative importance within the set.

Paid Listings (a.k.a. "PPC") - Listings that search engines sell to advertisers, usually through paid placement or sponsored listings on Google, Yahoo!, MSN, etc. and are commonly known as PPC (pay-per-click) programs. In contrast, organic listings are not sold.

Search Engine - A server (computer) or commonly a collection of servers dedicated to indexing Internet Web pages, storing the results in a giant database and returning lists of pages which match particular searched queries from within its database. The indexes are normally and automatically generated using spiders.

Search Engine Marketing (SEM) - The act of marketing a Web site via search engines, such as Google, Yahoo!, MSN, etc. The end-result might be to improve rank with organic listings, purchasing paid listings or a combination of the two, along with other search engine-related activities.

Search Engine Optimization (SEO) - The act of altering a Web site so that it rises higher in the organic, crawler-based listings of search engines. SEO strategies and tactics are what ultimately garner "free" traffic or drive users to a Web site, rather than paying for listings via paid listings on Google, Yahoo, etc.

Search Terms - The words a person uses when trying to find information through a search engine.

SERPs - Search engine results pages.

Spider - (a.k.a. a crawler or robot) An automated software robot that continuously crawls hyperlinks and pages on the Internet and collects data that is returned to its database for indexing. This is how Search Engines function. The process of crawling the Web, storing URLs' and indexing keywords, links and text, is the act of Spidering.

Successful Web Site - A Web site that attracts and retains visitors.

Web Presence - Term referring to an individual or business having an established existence on the World Wide Web, through a Web site, Internet advertising, blog, or a collection of Web files.

Web Site - A set of interconnected Web pages, usually including a homepage, generally located on the same server, and prepared and maintained as a collection of information by a person, group, or organization.

Web Site Marketing - Internet marketing, also referred to as I-marketing, Web-marketing, online-marketing, or e-Marketing, and is the marketing of products or services over the Internet.

Web Site Ranking - The number (order of ranking; i.e. 1 being the highest) that a Web site is listed for a specific search term in a specific search engine. Search Engines utilize a ranking algorithm (mathematical formulas, variables, and set of weights) to determine a site's ranking for a particular keyword or keyword phrase.

Web Site Traffic - Similar to a real–world sense of traffic on a road or freeway, traffic in a Web–sense is a measurement of the amount of users that visit a Web site.

White Hat SEO - SEO tactics which conform to search engine guidelines by creating content that is useful for visitors rather than focused on deceiving search engine spiders.

World Wide Web - Abbreviated as WWW and commonly known as the Web, it is a system of interlinked hypertext documents accessed via the Internet.

ASSUMPTIONS

For the purpose of this study, it is assumed that an experiment using my own Web site to implement ethical (white hat) SEO, will show higher rankings in the statistical analysis of the site, after SEO is implemented.

LIMITATIONS

This study will compare statistical analyses of the targeted Web site, before and after implementing ethical (white hat) SEO practices and techniques.

This study will explain unethical (black hat) SEO practices and techniques and list the potential consequences of using them.

DELIMITATIONS

The study will be conducted by using my own Web site to experiment with ethical (white hat) SEO practices and techniques.

Because the consequences of unethical (black hat) SEO can lead to extreme measures, this study is limited to an analysis based on the implementation of ethical (white hat) SEO practices and techniques only.

CHAPTER 2

RELATED LITERATURE

Many online businesses and organizations are becoming more aware of the importance of ranking high in the search engines. Perhaps the most overlooked method of directing Web traffic to one's site involves the very most important essential tool in WWW organization: the search function (Mamaghani, 2009). Search engines are the most important source of "new" visitors to a Website. The visibility of Web sites are maximized since millions of people use search engines to find them (Duffy, 2009). The higher a Web site ranks in the SERPs, the more clicks it will get, causing the site to become more successful. Prior research on search engine optimization (SEO) includes experimental methods that analyze a Web site's statistics, before and after optimization.

While SEO refers to the process of enhancing a Web site's ranking, as reflected in the results pages returned by search engines such as Google, Yahoo, and MSN, no single method works consistently across all search engines. There are, however, a set of evolving techniques that can be applied to optimize the alignment on an ongoing basis among specific elements. These elements include, the search engine's algorithms (as hypothesized by external observers, given that the search engine vendors do not reveal the inner workings of their techniques), the content of the Web site, keywords entered as queries into the search engine, the prominence of the site and its pages, and the behaviors of users (Valdes, 2009).

According to (Baxter, 2010), "A good, aggressive Internet marketing strategy should target natural SERPs. A natural SERP refers to those listings appearing because of their relevance to search terms (they are along the left side of the search engine results page). The non-organic SERPs are for pay-per-click (PPC) advertising and appear along the top and to the

right of the search engine results page. Studies have shown that people are more apt to click on natural results, especially high-ticket and research-oriented items."

Regular unpaid listings resulting from a search, referred to as "organic" or "natural" listings, are most valued by marketers because they are generally viewed most often and because there is no cost. However, securing a high ranking in the SERPs is not a simple task. A marketer's Web site placement may not always be optimal because search engine providers do not reveal their criteria for assigning rank of listings for various search terms. The marketing specialization of SEM and SEO were developed to help marketers improve and secure key placement of their Web sites in the SERPs (Miller & Washington, 2011).

In the year 2007, three librarians and a member of the libraries' system department at Binghamton University Libraries, conducted a search engine optimization pilot project to optimize selected pages on the libraries' Web site. Binghamton University is part of the State University of New York and the Binghamton University Libraries consists of the Glenn G. Bartle Library, the Science Library, and the University Downtown Center Library. The libraries became interested in SEO after several of their librarians attended a trade show for search engine strategies, which opened their eyes to the lucrative industry of search engine marketing and optimization. The libraries' interest in SEO increased after obtaining a recent Ohio College Library Center (OCLC) report that found 89 percent of college students started their electronic research using a search engine, while less than 2 percent started from a library Web site. When asked why they didn't use the library Web site, about 15 percent of students reported they didn't know the library had a Web site. Instead of viewing search engines as competition, Binghamton University Libraries, being more concerned that library services and resources

were being bypassed, decided to employ SEO strategies to make their Web site more visible on

the SERPs (Rushton, Kelehan, & Strong, 2008).

The concept of optimizing a Web site so that it appears toward the top of the SERPs

when a user completes a search based on a particular word or term has existed since the

1990's. The search engine landscape during that time was dominated by about six to ten

companies, including Alta Vista, Excite, Lycos, and Northern Lights. Search engine marketing

(SEM) and search engine optimization (SEO) have changed dramatically over the past few years,

with the major shift being the rise and dominance of Google. The other major search engines

used today are Yahoo and MSN. These three search engines combined are responsible for over

90 percent of all searches. In addition, recent research has revealed that 60 percent of search

engine users, click on sites that appear on the first page of the search engine results-basically

the top ten (Malaga, 2009).

Another study was conducted to access whether people are biased in their use of a

search engine. More specifically, whether they tend to click on items that are presented as

being the most relevant-that is-those listed at the top of the SERPs. To test their bias

hypothesis, the researchers simulated the Google environment systematically, reversing

Google's normal relevance ordering of the items presented to users. The key manipulation in

this study was to compare users' responses when they received results lists in their normal

ordering versus a systematically reversed order. Thirty undergraduate science students at

University College in Dublin, Ireland were paid to participate in the study. Each was asked to

answer 16 questions on computer science by running as many queries they liked on the

simulated Google environment. The interface was designed to have the look and feel of

Google, and all participants reported that they thought it was Google they were using. The results list returned to a given query were presented in either their original relevance ordering or a reversal ordering in a counterbalanced way across trails of the experiment. The results of the study showed definite evidence of bias in peoples' Google searches; they tend to click on first listed items, though they also sometimes seek out highly relevant results lower down the list. The results also showed that the items Google presents as the best are considered by people to be the best too (Keane, O'Brien, & Smyth, 2008).

Those conducting the Binghamton University Libraries SEO pilot project, despite having little knowledge of SEO theory and practice, decided to form an SEO task force to optimize four selected pages on the libraries' Web site. The selected four pages were chosen because they either represented a prominent library collection or were considered high profiles and central pages on the library Web site. In order to develop their strategy, the task force consulted several valuable resources pertaining to SEO techniques. The pilot was organized into three phases, which were to take place over a period of seven weeks. In order to gauge the relative success of optimization, it was important to establish a foundation of activity before implementing optimization. Therefore, the first phase consisted of establishing a baseline of Web activity on the chosen pages, outlining the goals of the project assumed to maximize the visibility of the libraries' presence online, and establishing metrics for successful conversions. During the second phase, optimization of the library Web site was completed by improving the quality and quantity of inbound links, ensuring Google's bots would be able to crawl the site, editing the metadata of the target pages, and undertaking changes that would bring the pages more in line with general Web design practices. During the third phase, the task force repeated

the baseline assessment that was undertaken during the first phase to access what progress, if any, had been made toward the project goals. The libraries' outdated WebTrends statistical software and Google Analytics were the major tools used for measuring Web traffic statistics on the selected pages before and after optimization. At the completion of this pilot project, the task force concluded that optimization efforts did improve the quality of the target Web pages. However, the overall impact of optimization efforts on search results was inconclusive (Rushton, Kelehan, & Strong, 2008).

The Binghamton SEO pilot project was an excellent approach for optimizing the libraries' Web site; however, they were limited in what they could do in terms of insufficient time for completing all phases, outdated statistical software, and too few Web pages to work with since they were only allowed four. The task force for this project used white hat SEO techniques to improve all aspects of each page, which included inbound links, indexing, HTML headers, hyperlinks, metadata, size, composition, content, and download time. Although the SEO techniques they used to improve visibility of the four selected pages were good and will help those particular pages in the SERPs, they will not help the entire site. All pages of the site must be optimized and positive results do not show up immediately-that is- in just a few weeks. Results of initial optimization take longer to show and optimization must continue to be an ongoing process. My proposed study is much like the Binghamton SEO pilot project. However, since I will be using my own Web site (which I have total control of) for the experiment, updated statistical applications, and a longer tracking time, limitations should be less than those of Binghamton's project.

(Evans, 2007), conducted a study on 50 highly optimized Web pages that were created by leading SEO companies and individuals as part of and SEO competition. The Web pages created for this competition can be easily found by entering a specially constructed query into any search engine. The special query contains the keywords *V7ndotcom Elursrebmem*, which was defined by the industry-leading SEO Web site: www.v7n.com, which ran the competition between January 15, 2006 and May 16, 2006. The aim of the competition was to see who could rank highest in the search engines for this particular query by noon on the last day. The keywords in this query were carefully constructed to ensure there were no existing pages that would rank for the query before the competition began. Also, so that the only pages that could ever rank for it would be the pages of those participating in the competition.

Since the competition was fierce, and every page returned for the query is highly optimized, the top 50 results should reveal the techniques used by the top SEOs in the field. Therefore, using these top 50 results, Evans' study focused on the most popular techniques used by the SEOs in the competition to rank highest in the search engines. Those techniques included, PageRank, number of pages, number of inbound links, domain age, and the use of third party sites such as directories and social bookmarking sites. For comparison, he conducted a separate study on 50 non-optimized web pages using the query "mobile phones", and used the SEO for Firefox utility to capture the all the data.

The results of Evans' study showed that a lot of the SEOs generated many pages to influence rankings, which proved a partial, if limited, success. High PageRank in Google clearly plays a major part in a page's rankings, and attaining a high PageRank was a goal of most of the SEOs. However, a PR of a particular rank will not necessarily rank higher than a PR of a lower

rank. The more successful SEOs attracted many inbound links to their page, with a clear trend showing declining inbound links for lower rankings. Accordingly, attracting many inbound links is another technique used by SEOs that would appear to have a good deal of success. A listing in DMoz is a technique favored by the more successful SEOs. Many SEOs use older domains for higher rankings, and there may be truth that this is a successful technique. Also, the more successful pages had more del.icio.us bookmarks.

In another scenario, two separate experimental studies were conducted that focused only on two internal factors that might influence a Web page's position in the SERPs; metadata and content. The first study, part 1, focused on content. More specifically, keyword positioning within the title and content of the Web pages, layout, and a combination of these factors. Each page was created differently. One was designed to use keywords in the title only, while another was created with the keywords in the page content. Also, pages were created that included a combination of keywords in both the title and the page content, while some pages were created with just three keywords on a page and others with more than three. The primary keyword "acupuncture" was used for the derived Web pages. Once the pages were uploaded to the Internet, the researchers submitted the pages to 19 different search engines. Out of 35 search engines, the 19 used were chosen because there was no charge for submitting the pages. After 21 weeks of observation, eight search engines responded to the submissions positively. All collected data were tabulated and classified. Three different statistical techniques, which included one-way ANOVA, two-way ANOVA, and independent-sample T-test, were used to examine the four hypotheses the researchers proposed.

All four of the hypotheses were rejected; however, the findings were very positive and suggest several options to optimize a Web page's visibility in a search engine. Those findings are (1) when the number of duplicated keywords in a Web page title increases, its visibility in a search engine results list increases up to three duplications. When the duplications exceed three, there is a downturn in terms of visibility performance in a search engine results list. Therefore, a point of diminishing returns has been identified at four duplicated keywords; (2) As the number of duplicated keywords in the full-text of a webpage increases, the visibility in the results list of a search engine increases. No diminishing returns were found with full-text keywords; (3) Web pages with keywords in both title and full-text achieved better visibility performance than the Web pages with keywords only in full-texts and the Web pages with keywords only in titles in light of returned position in a search engine results list. Web pages with keywords only in full-texts achieved better performance than Web pages with keywords only in titles; and (4) There is no significant difference between the original webpage and Web pages with font color changes, font case changes, font size changes, plural form changes, or adjectival changes in terms of their visibility performance. Search engines are apparently blind to design features that, while not important in terms of retrieval, are important in terms of positive affective response to Web page design (Zhang & Dimitroff, (Part I), 2005).

The second study, part 2, focused on metadata. This study identified both internal and external factors of metadata implementation that affect a Web page's visibility in a search engine. Metadata is structured data about digital and non-digital resources that can be used to support a wide range of operations. Basic metadata elements include Title, Creator, Subject, Description, Publisher, Contributor, Date, Format, Identifier, Source, Language, Relation,

Coverage, and Rights. These elements are created in the head tags of a Web page and cannot be seen on the Web page itself. In other words, it is not the data you see on the Web page, but data about the data you see on the Web page. Of the basic elements listed; Title, Subject, and Description are the most important in terms of a Web page's visibility in the search engines. For this experiment, the researchers chose these three metadata elements because their content is directly related to the subject content of a webpage and keywords in these fields have the most potential to be crawled by search engines and further indexed as indexing terms in their databases. For this experiment, an original Web page was modified based on content characteristics and 46 Web pages were derived for the study. The content of the original Web page was slightly revised when some of the Web pages were generated. These changes included discarding or adding some keywords to title, full-text, or other defined metadata fields, changing term forms, and inserting the investigator names into each of the test Web pages. The keyword "acupuncture" was used as the indexing term for the derived Web pages. After submitting all pages to the same free search engines used in the first study and 21 weeks of observation, 28 of the 46 test pages ultimately showed up in eight search engines. The same statistical techniques that were used in the first study were also used to examine and test the five proposed hypotheses of this study.

Although all hypotheses were rejected in this study as well, the findings nevertheless suggest several options to optimize Web page visibility, (1) Keywords in metadata should come directly from the Web page. If they don't appear in either the title or full-text of the page, don't use them; (2) Web pages posted in a public domain will eventually be crawled and indexed by search engines. However, Web pages with metadata elements achieved better visibility than

those without; (4) Web pages with keywords appearing in all three metadata fields used,

achieved better visibility than any of the other combinations that only included two of the

metadata fields; (5) All the Web pages that included the metadata subject field, achieved

better visibility than all those that didn't, therefore, metadata subject plays an important role in

the visibility of a Web page; and (6) Keywords in the metadata elements extracted from title,

and keywords in metadata elements extracted from both title and full-text achieved better

visibility than keywords of metadata elements extracted from just full-text. (Zhang & Dimitroff,

(Part II), 2005)

The study I am proposing will be an experiment using my own Web site in hopes of

proving that a strong relationship does exist between ethical SEO and a successful Web site. To

achieve this goal, I plan to implement into the development of my site, all the SEO techniques

used in the previous studies explained in this proposal, along with other good SEO techniques

not described here. My experiment will be based on implementing, explaining, and tracking the

results of each technique as they are added. And, since SEO has become a very complex and

sophisticated practice that requires constant research, practice, and reevaluation to be

effective, this study will most likely take a good deal of time. However, in the end, it should give

support to the previously described studies, as well as, providing an updated source on the

subject, to be used for future research.

<div align="center">CHAPTER 3</div>

METHODS

This study proposes to show the effectiveness of ethical SEO practices and techniques in determining the success of a Web site. The independent variable in this study is SEO practices and techniques and the dependent variable is the Web site. For this study, I will be using an experimental design which will combine two methods: visibility analysis and treatment (implementation of SEO techniques). Because I will be using my own Web site's pages as the experimental group for this study, purposive sampling will be used to obtain subjects for the comparison group based on Web sites belonging to those I will identify as my top two competitors. The reason for this type of sampling is because the Web sites of my two top competitors should have the information I will need for comparison with my Web site. This experiment will include a pretest-posttest visibility analysis of all Web sites before and after treatment of the experimental group. However, the experimental group (my Web site), will also undergo a weekly visibility analysis during the treatment period to show the progress of the treatment. The treatment in this case will be the ongoing implementation of many ethical SEO practices and techniques.

VISIBILITY ANALYSIS METHOD

The visibility analysis method I will be using is based on another Web site visibility evaluation conducted by (Espadas, Calero, & Piattini, 2008). It is important to generate a statistical analysis of each Web site before implementing any ethical SEO techniques to the experimental group so that I have a baseline of information to compare the ending results to. The visibility analysis method will attempt to produce quality visibility by using various metrics that will focus on three aspects that will arise from a four-phase method: (1) Visitors that "visit"

the site; (2) Search engines, because they are tools which allow Internet users to look for

information; and (3) Referrers, which are sites that make recommendations to other sites as

links. Once I have the information related to these aspects, most of the necessary information

for improving the visibility of the Website will be recovered.

PHASE 1: WEBSITE VISIBILITY

The purpose of Phase 1 is to analyze my Web site's position based on visitors and search

engines. There are many free popular analysis tools on the Internet that can be used to analyze

all aspects of a Web site. Of them, I will be using SpyderMate, Majestic SEO, SEOMoz, and

Google Analytics, which are all web-based SEO analysis tool that gives very detailed reports. I

will also compare the reports I generate from these free tools with my Web server log files.

Not only is the number of visitors important to the visibility of my Web site, how they

got there is equally important. Therefore, the visitor analysis will include: Number of visitors,

Referrers, Internal search engines, Search terms, and Popularity due to traffic.

Since it is necessary to know which search engines are the most important and what

search terms or key phrases are used to find my site, the search engine analysis will include:

Indexed pages, Types of files, Topology, Popularity according to references, Robots, Invisibility,

and Keywords.

PHASE 2: COMPETITOR IDENTIFICATION

Because the Internet is a space of great competence, identifying sites with which I

compete is one of the main tasks from the point of view of positioning. Two Web sites are

competitors if their contents and/or services belong to the same knowledge or business area

and if they have a similar target public. Therefore, I will identify competitor's Web sites that are

related to mine by content, topic, preferences, and the directory category.

PHASE 3: COMPETITOR VISIBILITY

Once I have identified my competitors, I will repeat Phase 1 to analyze their Web sites. This will allow me to make comparisons of the best and worst positioned sites, as well as the practices used by such sites.

PHASE 4: EVALUATION OF RESULTS AND ACTION PLAN

Once analyses of all the previous aspects have been completed, I will have a general idea of the position of my Web site. If my Web site's visibility is low or not visible at all (which I already know is the case), I will execute my plan of action: the treatment method, which involves the implementation of ethical SEO practices and techniques.

TREATMENT METHOD: IMPLEMENTING SEO PRACTICES AND TECHNIQUES

There are many SEO techniques I will take into consideration when optimizing my Web site for search engine visibility. It is hard to say exactly which techniques I will implement before completing an extensive initial analysis on my Web site and those of my competitors. Also, before implementing any SEO techniques, I would create a list of goals that I would like to see my Website achieve. Once I start the treatment of implementing SEO techniques, each task I complete will be recorded in a journal according to Web page, date of implementation and technique used, and I will re-analyze my site's visibility every week to see if and when any results of the treatment, good or bad, show up.

There will be a separate task journal for each page that makes up my site. For example:

TABLE 1: TASK JOURNAL

Task Journal for Homepage		
Date	*Task*	*Resolved?*
11/27/2010	Too many keywords in the keyword meta tag for the homepage. Must reduce, leaving only those which appear the most in the page content and title.	Yes

Since SEO relies heavily on a Web page's title, content, internal site links, and Meta tags for keywords and description, each page will also have an SEO worksheet which reflects the following:

TABLE 2: SEO WORKSHEET

SEO Worksheet
Landing Page 1: Homepage
Page URL:
HTML Title (*Must be unique and contain target keywords.*)**:**
Meta Description:
Meta Keywords:
HTML Text/Content *(Must contain 200 or more words of HTML text and include my exact target keywords.)***:**
Internal Site Links *(If not the homepage, this page must be reached from the home page of the site by following HTML text links, not pull-downs, login screens, or pop-up windows. The HTML text links from other pages on my site to this page must contain my target keywords.)***:**

The page attributes listed in the worksheet above must all complement each other for the page they are included in. In other words, each of these attributes must contain the same keywords for that particular page. If not, they must be optimized accordingly.

Since it takes time for the results of search engine optimization to show up, and the fact that SEO is a very complex practice, I will continue to research techniques, practice them, and re-evaluate my site for at least a year. Hopefully a year from now I will see it listed on the first page of Google's SERPs. Once that time comes, I will revisit Phase 1 for a final analysis of my Web site, and those of my competitors. My final analysis should show a good relationship between search engine optimization and a successful Web site, including the facts to back it up.

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