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TO WHOM IT MAY CONCERN

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Top ranking commercial websites – search engine optimization versus pay per click

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Abstract

The primary objective of this research project was to investigate Search Engine Marketing (SEM) and compare Pay Per Click (PPC) and Search Engine Optimisation (SEO) in top ranking commercial websites.

PPC is an Internet advertising model used on search engines in which advertisers pay their host (search engines in this case) only when their ad is clicked on by an Internet user. Such advertisements are called sponsored links, and appear next to or above organic results on search engine results pages.

SEO is the process of fine-tuning the contents according to certain best practice guidelines to increasing the number of visitors to a website. SEO helps to ensure that a website is accessible to search engines and improves the chances that the website will be found by the search engines.

The methods employed in this research project include the review of literature on the current state of SEM. Secondly, an online analysis was done of the 100 most visited shopping websites in the world to determine which of SEO, PPC or both were implemented.

Results from the literature review seem to indicate that there are contradicting views on whether PPC or SEO listings are clicked on more frequently by search engine users. However, results from the online inspection showed that the majority of the global top 100 shopping websites have only SEO implemented. Furthermore, the accuracy of inlinks as the most important positive SEO factor has been confirmed.

The conclusion reached was that even though literature would suggest that there are contradicting views which of PPC or SEO are clicked on more frequently, the majority of the global top 100 shopping websites have SEO implemented. This would suggest that SEO is still the foremost method for improving a website's visibility with search engines.

Keywords: website visibility, search engine, search engine optimisation, search engine marketing, pay per click

1. Introduction

It is important that all businesses have an Internet presence (Kennedy & Kennedy, 2008). With over 1 billion users in 2006 spending an estimated \$102.1 billion in online sales, this presence cannot be ignored (Burns, 2007). For many companies however (including SMME's) developing an effective website that allows online transactions is often the easy part.

The difficulty is visibility to potential customers, and companies should do everything they can to track their ranking with search engines (Kennedy & Kennedy, 2008). The key to being found by the right people at the right time, according to the same authors, lies with search engines. There are two ways a customer will find a business website via a search engine: through an organic or a pay-per-click (PPC) listing.

Previous empirical evidence shows that most Search Engine Marketing (SEM) spending (approximately 82%) is in PPC campaigns (Sullivan, 2002, as cited by Sen, 2005). Only 12% was spent on Search Engine Optimisation (SEO) and another 4% on other SEM strategies. Research by Sen (2005) showed that even if the total cost of implementing an SEO campaign and implementing a PPC campaign were the same the PPC campaign would still prevail as the SEM strategy of choice for most on-line marketers. This appears to be a contradiction.

Research by Neethling (2008) also showed contradicting results on whether PPC listings or SEO listings are clicked on more frequently by search engine users. Research on SEM has reported that 60–86 percent of search engine users click on the displays in the main section when conducting on-line queries, whereas only 14–40 percent of search engine users click on the sponsored links (Hotchkiss, 2004, as cited by Sen, 2005). By ignoring either PPC or SEO as part of a SEM strategy a company can lose a large number of potential clients (Neethling, 2008).

SEO and PPC, according to the same author, each has their own advantages and disadvantages. PPC can ensure a website being listed immediately and furthermore can ensure top listings. One disadvantage is that PPC can be costly, especially with the growing competition for popular keywords. SEO on the other hand cannot ensure top rankings (Neethling, 2008).

Furthermore, it can take a long time to effectively implement SEO for a website and eventually achieve high search engine rankings according to Neethling (2008). The main hurdle to implementing an effective SEO program is the fact that each search engine has its own requirements, which means that a website optimised for one search engine is not necessarily optimised for the others (Sen, 2005).

Search engines also continuously change search engine ranking algorithms in order to prevent search engine spamdexing. Due to this factor, websites need to be constantly updating their SEO strategy, which can become costly. SEO also has advantages, the biggest being that SEO listings occupy the main area of a search engines result page, and thus search engine users cannot easily ignore them (Neethling, 2008).

2. Literature review

2.1 The Internet

The growth of the Internet has given rise to a wide collection of new information sources, which resulted in users being faced with the daunting task of determining which sources are valid and which not (Abels, White & Hahn, 1997). Most users rely on the Internet due to the low cost of information retrieval, as opposed to the expense of having to buy a book or make use of a library. Other advantages of the web include the convenience in terms of time and access, as well as the ability to easily record results.

According to Green (2000: 124-137) the web is not just about promoting one's work, but is also the interactive exchange of information, which has now evolved into a powerful business tool. The Internet is attracting businesses in their thousands, with the main application areas being publicity, marketing & advertising, direct online selling, research & development, communication & collaboration. This highlights the importance of ensuring that a website is visible to search engines.

2.2 Search engines

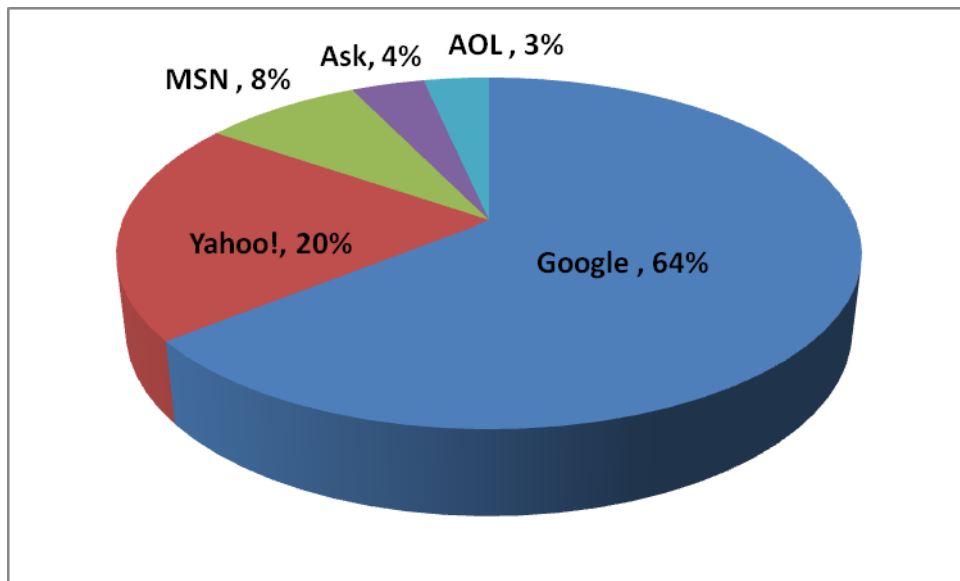
Green (2000: 125) provides a very basic definition of a search engine: 'A database that contains massive amounts of data about websites.'

Search engines are programs that offer interaction with the Internet through a front end, where the user can type in a search term, or make successive selections of relevant directories. The search engine software then compares the search term against an index file, which contains information about countless websites. Matches found are returned to the user via the front end. The index is updated regularly either by human editors or by automated programs (called spiders, robots or crawlers) (Weideman, 2005). Kritzinger & Weideman (2005) further state that search engines provide the average Internet user with a mostly free, relatively easy way to find general information on the Internet.

Search engines are the primary searching tools used for information retrieval on the Internet (Spink & Xu, 2000). Thelwall (2001) estimates that around 80% of users utilise search engines to search for information on the Internet. This highlights the fundamental importance of webpages being listed with search engines. An important strategy for any website owner is planning how visitors could find their way to their particular website (Thelwall, 2001).

According to Johnson (2009) the search engine companies that generate the most searches on the Internet are Google, Yahoo!, MSN, Ask and AOL (see Figure 1).

Figure 1: Percentage of searches done



The data was taken from the comScore Media Metrix qSearch service which measures search-specific traffic on the Internet. Data is gathered by monitoring the web activities in the USA (Johnson, 2009). Each of the search engine companies listed in Figure 1 consists of different sites whose results were combined into one overall figure for the company's entire network. For example:

- **Google:** Produces results from any Google-owned website such as google.com or Google Image Search.
- **Yahoo!:** Produces results from any Yahoo!-owned website including those of AltaVista, AllTheWeb and Overture.
- **MSN:** Produces results from any MSN-operated website such as MSN Search.
- **AOL:** Produces results from any Time Warner-owned website, including AOL Search and Netscape Search.
- **Ask:** Produces results from Ask and any site within the Ask-owned Excite Network, including Excite, iWon, MyWay.com and My Web Search.

Search engines have been praised because of their ability to quickly locate a vast array of information on an extraordinary range of topics (Rowland, 1998: 222). Despite this fact, they have fallen victim to extensive criticism as well. Many users feel that search engines tend to retrieve information that are totally irrelevant and contrary to what the users are looking for.

In addition they have been criticized for the tendency to retrieve duplicates (Green, 2000: 124-137). In view of the fact that there are many different types of search engines, the issue surfaces of what ranking criteria they use to decide which websites are good enough to be included in their database. Each has its own rules for searching and of establishing which websites to include in their database (Synder & Rosenbaum, 1999: 375-384).

2.3 Search engine marketing

The term SEM was proposed by Sullivan (2001a) to cover the variety of activities involved in performing SEO, managing PPC listings, submitting websites to directories, and developing online marketing strategies for businesses, organisations, and individuals. Curran (2004:205) claims that:

‘Some companies are budgeting enough for payment to search engines and they have to. Deciding not to, is a bit like launching a media campaign and deciding to ignore one whole media, like TV’.

SEM revenues increased from \$4 billion to \$5.75 billion in 2005 (US and Canada), a 44% increase over 2004 (SEMPO, 2006). It is predicted that search spending will increase to \$11 billion by 2010 (Clay 2006b).

A number of SEM strategies currently exist, which attempt to make websites more visible. For example, Paid Inclusion (PI) is a SEM strategy which ensures inclusion in a search engine’s index normally in exchange for a once off payment (Sullivan, 2001b). PI will furthermore ensure that changes made to a website will be updated in the search engine index more quickly, as websites using PI will be visited more regularly. However, PI also varies from one search engine to the next. Some search engines like Yahoo! offer a PI service for payment, whereas others, for example Google, do not (Neethling, 2008).

PI can, however, not guarantee high rankings in search results. In fact, PI does not even guarantee placement in search engine results (Sullivan, 2001b), although websites that do invest this way are likely to receive more traffic than websites that do not. This is due to the fact that websites can wait for weeks or even months for a search engine crawler to index their website, whereas websites using PI may see results within days. To ensure top rankings, a website owner could invest in either, one or both of the two SEM strategies (Neethling, 2008).

2.3.1 Search engine optimisation

The process of improving website visibility is referred to as SEO, which involves designing or modifying websites in order to improve Search Engine Result Page (SERP) ranking (George 2005:3). SEO can also be described as the process of improving the volume and quality of traffic to a website from search engines via ‘natural’ (‘organic’ or ‘algorithmic’) search results for targeted keywords (Anon, 2008).

Usually, the earlier a website is presented in the search results or the higher it ‘ranks’, the more searchers will visit that website. SEO can also target different kinds of search, including image search, local search, and industry-specific vertical search engines.

Within this context, according to Zhang and Dimitroff (2004: 310):

‘Every Internet web publisher wants good web page visibility in search engine results so as to increase accessibility of their web pages. Unfortunately, many websites have poor visibility in search engine rankings or may not be listed at all due to various reasons.’

There are many techniques available to achieve this goal, and many of them resulted from the way search engine algorithms operate. The importance of ranking well in a SERP for queries on specific terms is undeniable according to Clay (2006a). Recent research on user behaviour shows that 91% users will ultimately view results only within the first three pages (Weideman, 2009:47).

However, 67% of searchers only look at the first page of the search results. All this means that if a website is not on the first SERP, only 1/3 of viewers will carry on viewing other pages. If the website is not in the top 30, it has almost no chance of being read by a user (Clay 2006a).

Organic SEO is still the most popular form of SEM according to Tempo's annual `State of search engine marketing` survey (Sherman, 2007). Organic search listings outperform PPC listings three to one in click-through and are also known to achieve higher conversion rates (Clay 2006b).

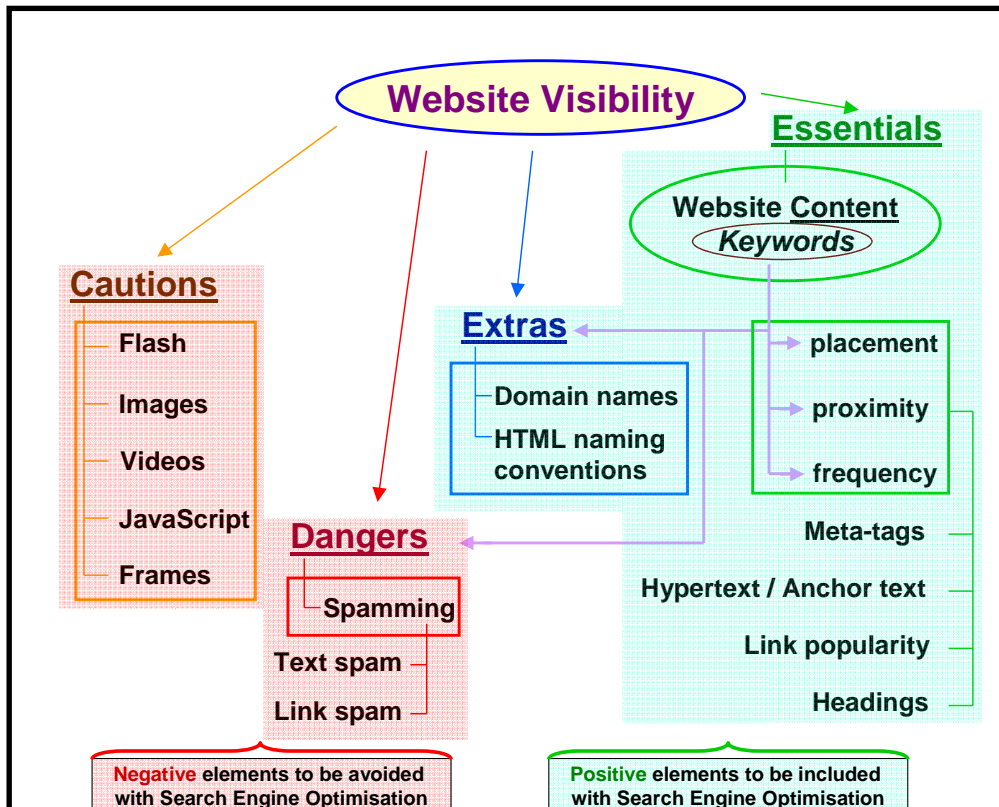
Chambers (2006) designed a model (Table 1) based on empirical experiments to improve the website visibility of a certain category of websites. This model highlighted a number of factors to consider when attempting to increase website visibility, by ranking them (a lower number represents a higher rank).

Table 1. The Chambers model for website visibility

Number	Leading Visibility Elements	Rank
1	Inclusion of meta-tags	1.5
2	Hypertext / Anchor text	2
3	No Flash or fewer than 50% of content	3
4	No visible link spamming	4
5	Prominent link popularity	4.5
6	No frames	5
7	Prominent domain names	7
8	Prominent headings	7
9	No banner advertising	8
10	Prominent HTML naming conventions	10

Another author (Visser, 2007) expanded this model to distinguish between visibility elements that must be included (`Essentials`), could be included (`Extras`), should be avoided (`Cautions`) and must be avoided (`Dangers`). This model is given in Figure 2.

Figure 2: An improved model of website visibility elements (Source: Visser, 2007:118)



2.3.2 Pay per click

PPC or Pay for Placement (PFP) is used to describe a number of overlapping practices, however in essence refers to linking individual websites to specific keywords for payment (Moxley, Blake & Maze, 2004:61). As a result, websites can immediately drive potential clients to their website, by selecting keywords that their specific target market will use in a search (Curran, 2004:204). It is also important for a webmaster to research the possible keywords that may be used in a search for their specific product or service (Curran, 2004:205). PPC could become costly as advertisers are locked in an ongoing competition for popular keywords (Sullivan, 2003). As PPC suggests, advertisers also have to pay for every click they receive via that sponsored link (Neethling, 2008).

PPC was designed as a method of creating revenue for search engines. Users have become accustomed to search engines as free services for which they are not prepared to pay (Moxley *et al.*, 2004:64; Henshaw, 2001). Search engines go through a number of steps to review, index and generate listings. Although there are a number of ways to complete these steps, all of them are costly (Wittenberg, 2004).

This leads into the requirement that search engines need some sort of income to cover such expenses, and if the user is not willing to pay, they have to look elsewhere for income. As a result, search engines take advantage of advertisers' need to be visible and visited. Having the advantage of creating the largest amount of Internet traffic they offer services that would satisfy the advertiser. Specifically they addressed these advertisers' eagerness for more visibility, enthusiasm for being placed on the first page of returned search results and impatience for

waiting to be reviewed and indexed (Thelwall, 2001:117).

Most search engines offer PPC services in order to generate revenue (Neethling, 2008:28). Google manages Google AdWords, Yahoo! has Yahoo! Search Marketing, while MSN runs Microsoft AdCentre. Companies can place bids for search terms at their preferred PPC search engine. When a user now enters this search term, the search engine will display the companies' website links in descending order of their bid price for that specific term. The bid represents the amount of money the company is prepared to pay the search engine every time a user clicks on the link to its website on the SERP (Neethling, 2008:28).

2.3.3 Dual strategy SEM campaign

SEO is very seldom part of a dual strategy SEM campaign according to Sen (2005). Even when assuming that the implementation of SEO costs the same as investing in PPC, and the benefits include the assurance of always being part of a users consideration set, SEO is still not the optimal SEM strategy for website marketers.

The possible explanation for this according to Sen (2005) is that when the probability of being listed in the main results of a search engine is high, any investment in SEO is redundant, because the likelihood of being listed in the top search results is high enough to start with. For a low probability of being ranked highly in the main results of a search engine, the website will not be listed most of the time, in which case the users will visit the sponsored links. In such a scenario, investing in PPC makes economic sense (Sen, 2005).

In addition, if it is assumed that SEO costs more than PPC (Jarboe, 2005, as cited by Sen 2005), then PPC becomes much more attractive than SEO. Therefore, it should not be surprising that SEO is not a part of the SEM strategy. This outcome is supported by the distribution of SEM dollars, which is biased toward PPC investments, and by the fact that the websites of fewer than 10% of the Fortune Magazine top 100 companies used SEO as part of their SEM strategy (Anon, 2004, as cited by Sen, 2005).

3. Methodology

An analysis was done of the global top 100 shopping websites. This was to determine in what way these top 100 shopping websites make use of the various combinations of SEO and PPC.

These global top 100 shopping websites were identified by www.alexa.com (Anon, 2009a). The rankings are based on the traffic usage patterns of Alexa Toolbar users and data collected from other, diverse sources over a rolling 3 month period. According to Anon (2009a) a website's ranking is based on a combined measure of reach and pageviews. Reach is determined by the number of unique Alexa Toolbar users who visit a website on a given day. Pageviews, on the other hand, are the total number of Alexa Toolbar user URL requests for a website. However, multiple requests for the same URL on the same day by the same user are counted as a single pageview. The website with the highest combination of users and pageviews is ranked number one (Anon, 2009a).

The traffic rankings, according to Anon (2009a) are for top level domains only (e.g.

www.domain.com). Separate rankings for subpages within a domain (e.g. www.domain.com/subpage.html) or subdomains (e.g. subdomain.domain.com) are not provided, unless it the subpages or subdomains are easily identifiable as personal homepages or blogs, like those hosted on Geocities and Tripod (Anon, 2009a).

An analysis of the global top 100 shopping websites data, as identified by www.alexa.com (Anon, 2009a, see Appendix A) has revealed clear trends (see Figure 3):

Figure 3. Traffic generators for the global top 100 shopping websites.

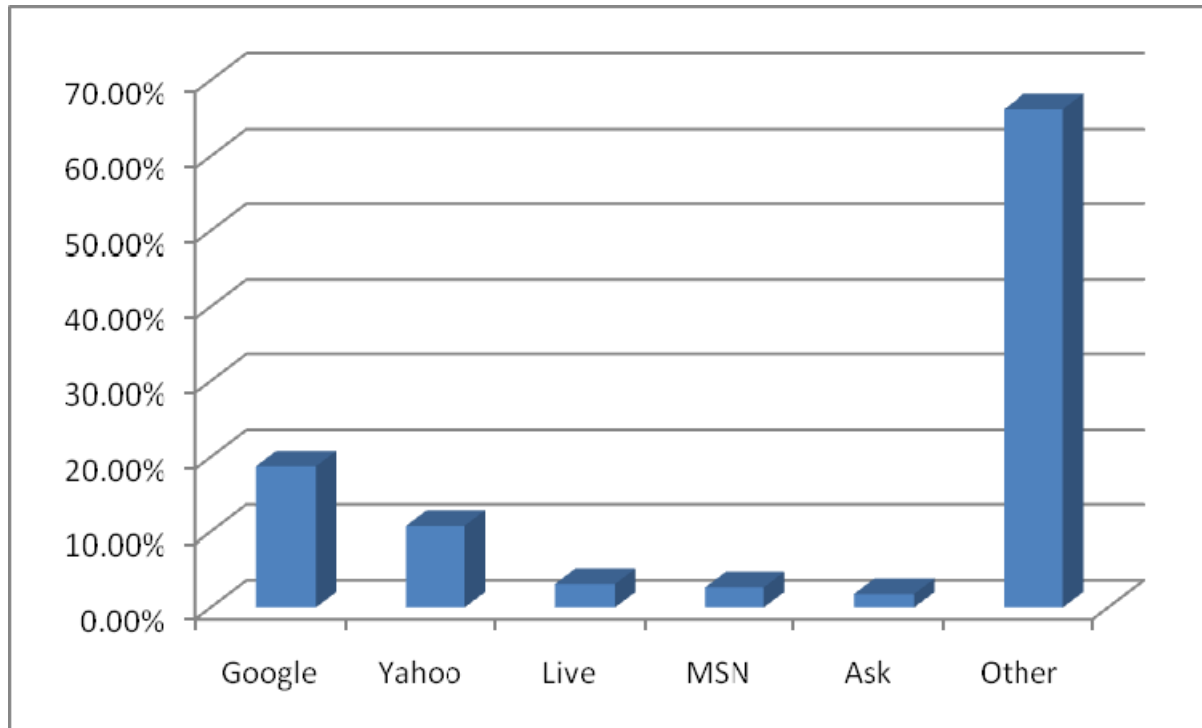


Figure 3 reveals that Google generates on average the most traffic for the global top 100 shopping websites, followed closely by Yahoo!, Live, MSN and Ask. 'Other' is defined as all traffic generated by non search engines. This include instances where users had known the URL of the specific shopping website, or where users have setup their browser homepage for the specific shopping website. It also includes links from other websites, in this case, mostly affiliate websites where these affiliate websites earn a percentage of any sales generated via their websites.

As a result the authors decided to do the inspection using the Google search engine. The authors conducted searches using various search phrases, specifically excluding the name and URL of the shopping website. Keywords and search phrases were gleaned from website body content text, using the most descriptive and repeated words and phrases. This decision was based on the fact that weight-carrying keywords were present in eight of the nine top positive website visibility elements (Weideman, 2009:69) (see Figure 4).

If the authors found the website within the first 30 results of the search engine result page, without using the website name as a keyword or keyphrase, it was concluded that the website did in fact have SEO implemented, whether intentional or not. If the website was listed in the

sponsored links section of Google, it was concluded that the website did have PPC implemented.

4. Results and conclusion

4.1 Commercial websites

From Appendix A (see an extract of Appendix A in Table 2) it was noted that 92 of the shopping websites have SEO implemented - whether it was intentional or unintentional is undetermined. Furthermore, 22 of the 100 websites have PPC implemented. It was also observed that all of these 22 shopping websites also have SEO implemented. Eight of the shopping websites do not have either SEO or PPC implemented. None of the website implemented PPC without SEO.

Table 2. First ten results from Appendix A

Rank	Website	SEO	PPC	Both	Google	Yahoo	Live	MSN	Ask	Other	Inlinks
1	www.ebay.com/	1	1	1	13.54%	9.42%	2.30%	1.91%	1.39%	71.44%	24909
2	amazon.com/	1	1	1	20.54%	5.98%	1.41%	1.14%		70.93%	249491
3	www.netflix.com/	1	0	0	17.60%	17.81%	2.58%			62.01%	6768
4	amazon.co.uk/	1	1	1	9.13%	5.49%	2.05%			83.33%	40806
5	www.walmart.com/	1	1	1	17.76%	12.80%	1.70%	2.78%		64.96%	10336
6	www.target.com/	1	1	1	23.84%	14.58%		2.22%	3.11%	56.25%	10441
7	www.bestbuy.com/	1	0	0	17.12%	9.78%		2.53%		70.57%	8487
8	www.ikea.com/	0	0	0	9.21%	4.32%	1.74%			84.73%	9236
9	www.newegg.com/	1	0	0	19.58%	6.28%	1.80%			72.34%	7179
10	www.cartoonnetwork.com	1	0	0	7.04%	10.00%		4.17%		78.79%	4797

4.2 SEO and PPC

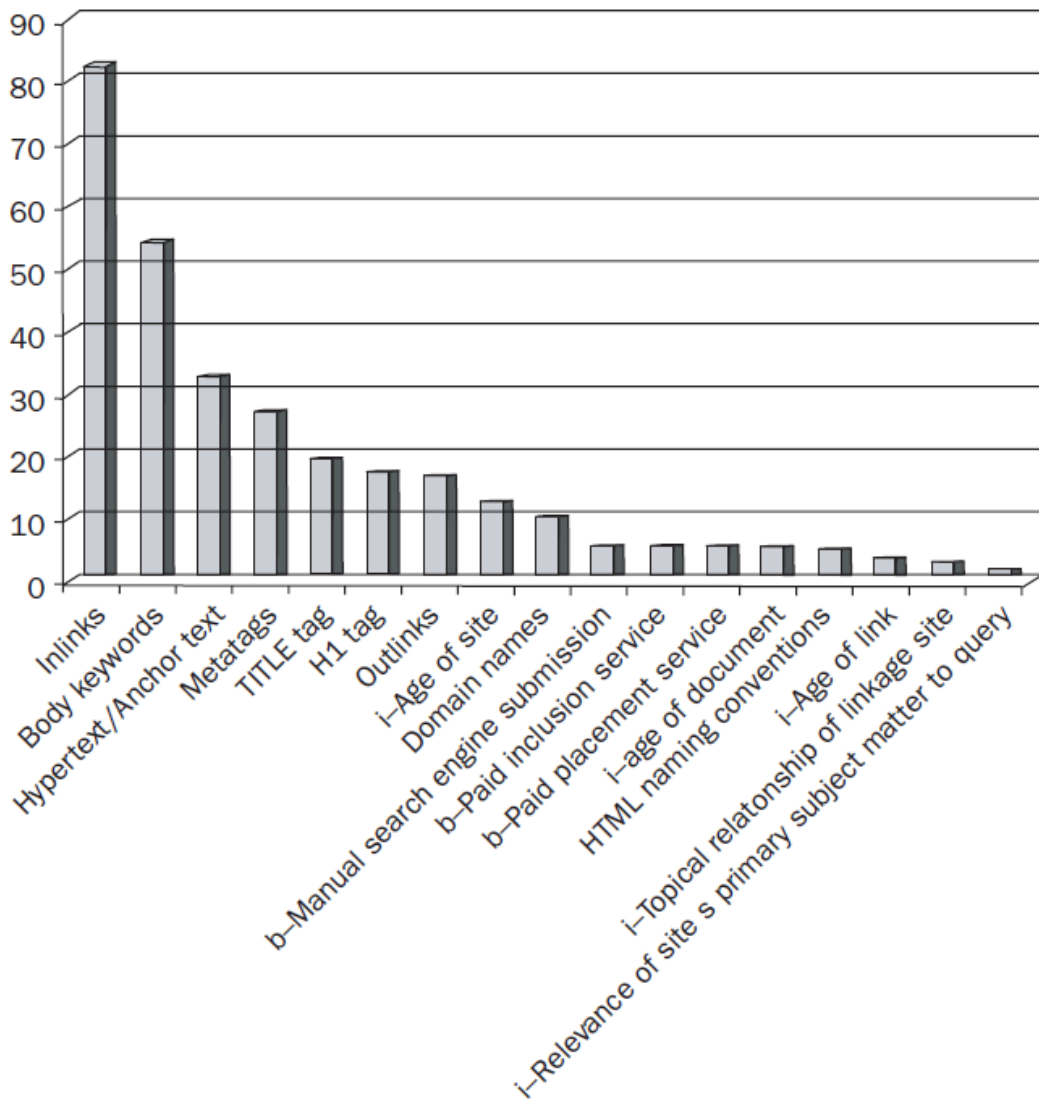
According to previous research by Sen (2005) SEO is very seldom part of a dual strategy SEM campaign. However, results indicate that 92 of the top 100 global shopping website, as identified by www.alexa.com (Anon, 2009a), has in fact SEO implemented. It is undetermined, however, if this SEO was intentional or unintentional. Also, 22 of these 92 websites also have PPC implemented. Of the global top 100 shopping websites there was none that had only PPC implemented. In conclusion, there seems to be contradiction between these results and the claims by Sen (2005) that 82% of spending is on PPC. An explanation could be that PPC is more expensive than SEO and that more spending does not imply more websites using PPC than SEO.

4.3 Website visibility

The products and services these websites aim to sell often contain very descriptive and keyword rich text. Research by Weideman (2009:69) has found that the use of keywords plays a role in eight of the nine top elements contributing to website visibility (see Figure 4). This would explain the high number of SEO instances found when the authors inspected the 100

websites.

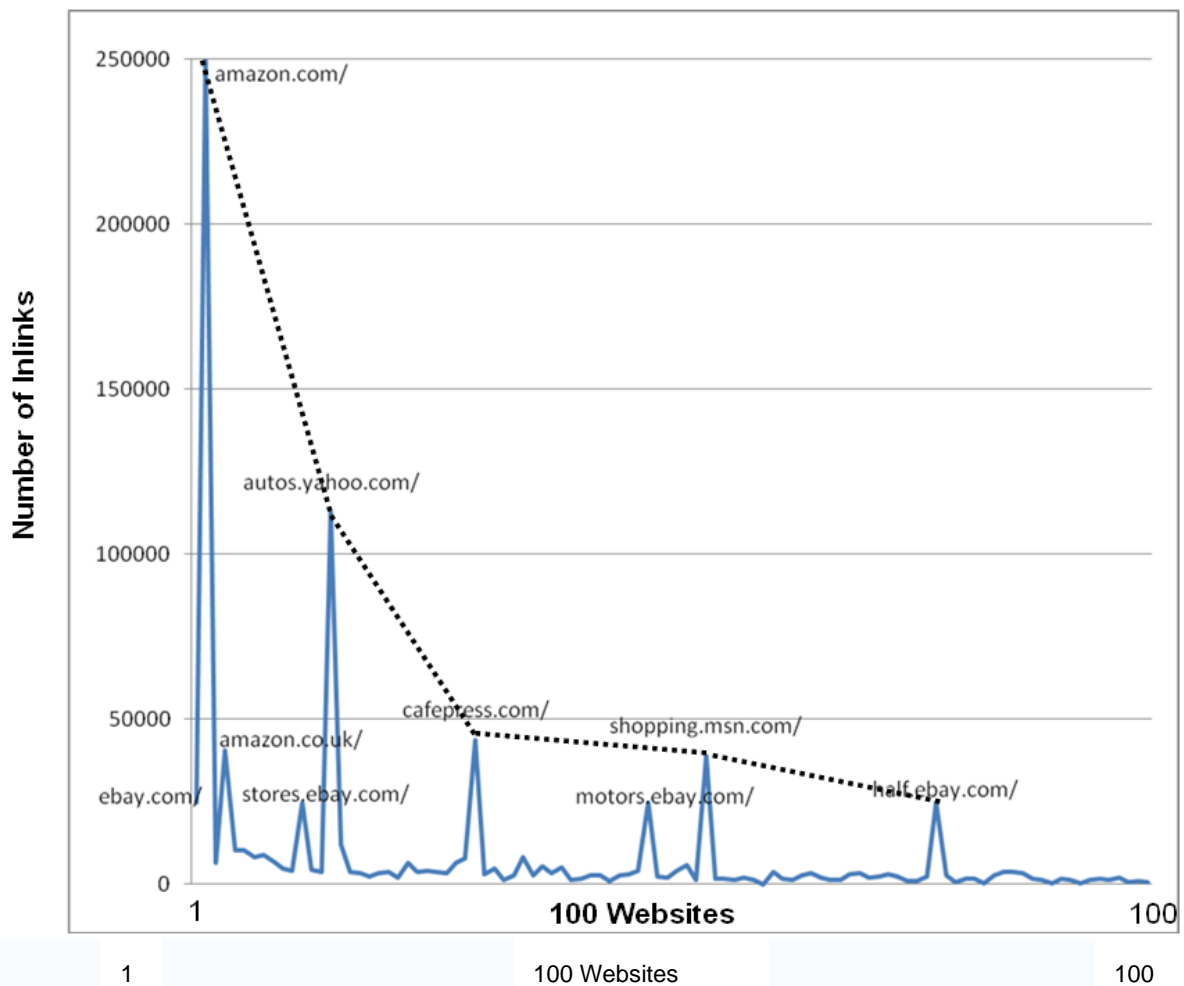
Figure 4. The Weideman model: relative magnitude of positive elements' scores



4.4 Inlinks

Another reason why these shopping websites are ranked so well is because of the high level of inlinks they have. This has been identified as the top determinant of ranking – see Figure 4. Shopping websites often make use of affiliate marketing. Affiliate marketing is an Internet-based marketing practice in which a business rewards affiliates for each visitor or customer brought about by the marketing efforts of the affiliate (Anon, 2009b). From Appendix A it can be seen that ‘Other’ generates the most incoming traffic. This can be contributed to the marketing efforts of the affiliates of these shopping websites.

Figure 5. Number of inlinks to global top 100 shopping websites



According to Anon (2009a) the websites www.ebay.com (No 1) has 24909 inlinks and www.amazon.com (No 2) has 249491 (see Figure 5). When connecting the highest five peaks, it also appears that there is a downward trend as the ranking of the websites decreases. Depending on the search engine rankings of these websites linking to the shopping websites, inlinks have the potential to boost a website's visibility with search engine significantly.

If it was considered prudent to determine if there is any statistically significant relationship between ranking and number of inlinks. The top nine (i.e. 9%) of websites from Figure 5 are, in sequence from high to low ranking:

- Ebay.com
- Amazon.com
- Amazon.co.uk
- Stores.ebay.com
- Autos.yahoo.com
- Cafepress.com
- Motors.ebay.com
- Shopping.msn.com
- Half.ebay.com

These nine had a significantly higher number of inlinks than the remaining 91 – refer to the nine

highest peaks in Figure 5. However, no pattern could be discerned from Figure 5 for the remaining 91 website rankings, i.e. 91% of the sample. This was due to the fact that the scale of the graph had to cater for the high values, thereby making the low values virtually invisible.

As a result, the top nine were removed before statistical testing was done on the remainder.

Figure 6. Relationship between ranking and number of inlinks

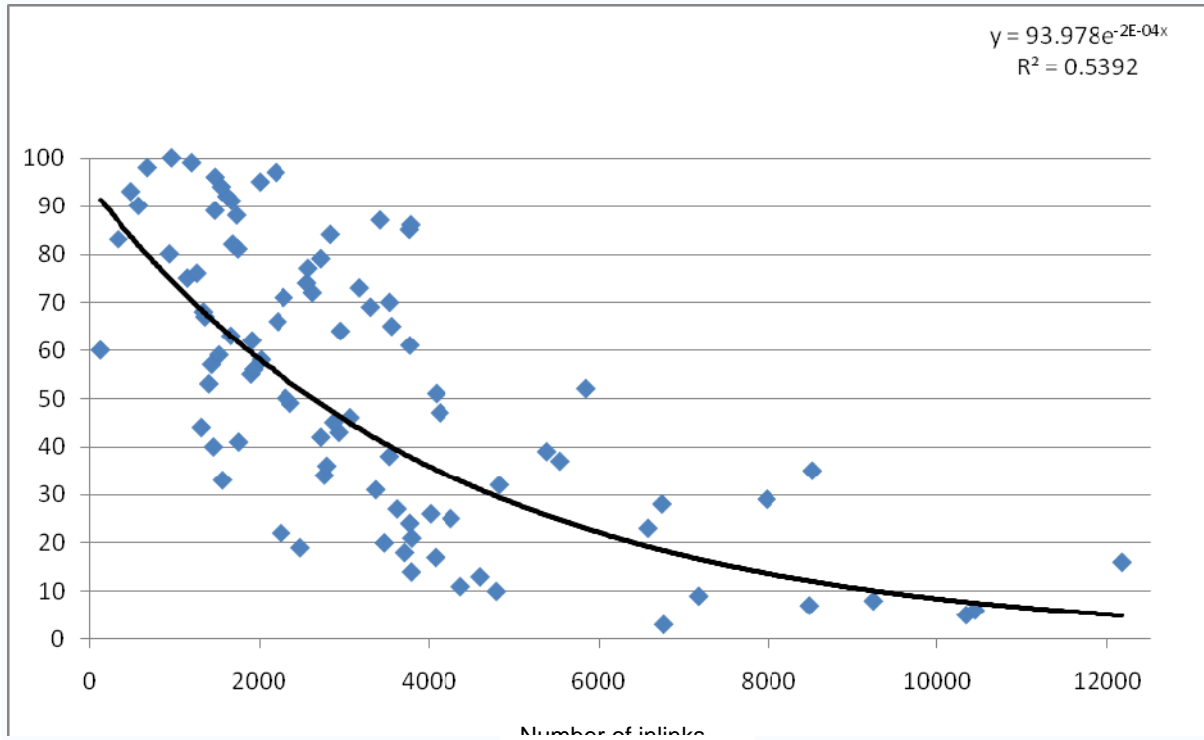


Figure 6 represents the global top 100 shopping websites, minus the nine outliers, with an added Logarithmic Curve. This curve was added by a statistical program as being the average of the plotted values, and thus represents the general trend. It is again clear that the trend is the same as in Figure 5, namely that ranking decreases in sympathy with the number of inlinks.

R-squared is the percentage change in ranks attributed to the change in inlinks. Thus, 53.9% of the change in rank is directly due to the change in inlinks.

From these results it is apparent that SEO is still the foremost method for improving a website's ranking with search engines. This is especially true in terms of keyword rich text and inlinks from other websites. It is the authors' opinion that it will be negligent for online marketers to ignore SEO and only focus on a PPC strategy. Rather, if PPC is considered, combine it with a SEO strategy to form an effective dual strategy. Not only will the website have the advantage of immediate increase in traffic (SEO), and thereby generate more sales, but will also have the added benefit of generating traffic from users (PPC) that was specifically targeted by the PPC campaign. These targeted users are more likely to transact than users that came from organic search engine results.

In final conclusion, the following were proven by this research:

- SEO seems to be implemented by nine out of 10 global top ranking commercial websites, and as such confirms the value of SEO,
- PPC is used by approximately one out of five of these same websites, but always in conjunction with SEO, and
- The quantity of inlinks as a major indicator of high ranking has been confirmed.

REFERENCES

Abels, G., White, DM., Hahn, K. 1997. Identifying user-based criteria for web pages. *Internet Research: Electronic Networking Applications and Policy*. 7(4):252 –262.

Anon. 2009a. Alexa. Available WWW: <http://www.alexa.com/> (accessed 17 May 2009).

Anon. 2009b. Affiliate marketing. Available WWW: http://en.wikipedia.org/wiki/Affiliate_marketing (accessed 18 May 2009).

Anon. 2008. Search engine optimization. Available WWW: http://en.wikipedia.org/wiki/Search_engine_optimization (accessed 2 May 2009).

Burns, E. 2007. e-Commerce spending up for 2007 holiday and year. www.clickz.com/showPage.html?page=clickz_print&id=3624408 (accessed: 26 May 2009).

Chambers, R. 2006. Search engine strategies: a model to improve website visibility for SMME websites. Unpublished Master's Thesis, Cape Peninsula University of Technology.

Clay, B. 2006a. Put SEO in your site design. Available WWW: <http://www.bruceclay.co.za> (accessed 20 March 2009).

Clay, B. 2006b. Avoiding SEO pitfalls. Available WWW: <http://www.bruceclay.co.za> (accessed 20 May 2009).

Curran, K. 2004. Tips for achieving high positioning in the results pages of the major search engines. *Information Technology Journal*, 3(2):202-205.

George, D. 2005. *The ABC of SEA*. Morrisville:Lulu Press.

Green, D. 2000. The evolution of web Searching. *Online Information Review*. 24(2):124-137.

Henshaw, R. 2001. What next for Internet journals? Implications of the trend towards paid placement in search engines. *First Monday*, 6(9). Available WWW: http://www.firstmonday.org/issues/issue6_9/henshaw/index.html (accessed: 20 May 2009).

Johnson, N. 2009. *Search Market Share Remains Stable in comScore's April 2009 Rankings*. Available WWW: <http://blog.searchenginewatch.com/090518-143709> (accessed 22 May 2009).

Kennedy, K. & Kennedy, B.B. 2008. A small company's dilemma: using search engines effectively for corporate sales. *Management Research News*. 31(10):737 – 745.

Kritzinger, W.T. & Weideman, M. 2005. A study on the correct usage of webpage keywords to improve search engine ranking. In: *Proceedings of the 7th Annual Conference on WWW Applications*. 31 August - 2 September. South Africa, Cape Town. Available WWW: <http://www.zaw3.co.za> (accessed 21 May 2007).

Moxley, D., Blake, T. & Maze, S. 2004. Web search engine advertising practices and their effect on library services. *Managing Library Finances*, 17(2):61-65.

Neethling, R. 2008. *User profiles for preferences of search engine optimisation versus paid placement*. Unpublished Masters Thesis, Cape Peninsula University of Technology, Cape Town.

Rowland, G. 1998. Getting more from the Internet. *New Library World*, 99(6):222-229.

SEMPO. 2006. *Search Engine Marketing Professional Organization survey of SEM agencies and advertisers*. <http://www.sempo.org/news/releases/02-08-07> (accessed: 08 May 2009).

Sen, R. 2005. Optimal Search Engine Marketing Strategy. *International Journal of Electronic Commerce*, 10(1):9-25.

Sherman, C. 2007. The state of search engine marketing 2006. Available WWW: <http://searchengineland.com/070208-095009.php> (accessed 20 May 2009).

Spink, A. & Xu, J.L. 2000. Selected results from a large study of Web searching: the Excite study. *Information Research*, 6(1). Available WWW: <http://informationr.net/ir/6-1/paper90.html> (accessed 28 April 2009).

Sullivan, D. 2003. *Hot trends in search engine marketing*. <http://searchenginewatch.com/showPage.html?page=2161911> (accessed: 20 May 2009).

Sullivan, D. 2001a. Congratulations! You're a search engine marketer! Available WWW: <http://searchenginewatch.com/showPage.html?page=2164351> (accessed 20 April 2009).

Sullivan, D. 2001b. The evolution of paid inclusion. Available WWW: <http://searchenginewatch.com/showPage.html?page=2163971> (accessed 25 April 2009).

Synder, H. & Rosenbaum, H. 1999. Can Search Engines be used as tools for web-Link Analysis? A Critical Review. *Journal of Documentation*, 55(4):375-384.

Thelwall, M. 2001. Commercial web site links. *Internet Research: Electronic Networking Applications and Policy*. 11(2):114-124.

Visser, E.B. 2007. Search engine optimisation elements' effect on website visibility: The Western Cape real estate SMME sector. Unpublished Masters Thesis, Cape Peninsula University of Technology, Cape Town.

Weideman, M. 2009. *Website Visibility: the theory and practice of improving rankings*. Oxford:Chandos Publishing.

Weideman, M. 2005. Internet Searching Articles. Available WWW: <http://www.mwe.co.za/html/Internet-searching-articles.htm> (accessed 13 May 2009).

Wittenberg, P. 2004. *Search engines: Economics & ethics*. <http://www.saintlouisflamenco.com/webmaster/searchengines.htm> (accessed: 20 May 2009).

Zhang, J., Dimitroff, A. 2004. Internet search engines' response to metadata Dublin Core implementation. *Journal of Information Science*, 30(4):310-320.

Appendix A

Rank	Website	SEO	PPC	Both	Google	Yahoo	Live	MSN	Ask	Other	Inlinks
1	www.ebay.com/	1	1	1	13.54%	9.42%	2.30%	1.91%	1.39%	71.44%	24909
2	amazon.com/	1	1	1	20.54%	5.98%	1.41%	1.14%		70.93%	249491
3	www.netflix.com/	1	0	0	17.60%	17.81%	2.58%			62.01%	6768
4	amazon.co.uk/	1	1	1	9.13%	5.49%	2.05%			83.33%	40806
5	www.walmart.com/	1	1	1	17.76%	12.80%	1.70%	2.78%		64.96%	10336
6	www.target.com/	1	1	1	23.84%	14.58%		2.22%	3.11%	56.25%	10441
7	www.bestbuy.com/	1	0	0	17.12%	9.78%		2.53%		70.57%	8487
8	www.ikea.com/	0	0	0	9.21%	4.32%	1.74%			84.73%	9236
9	www.newegg.com/	1	0	0	19.58%	6.28%	1.80%			72.34%	7179
10	www.cartoonnetwork.com	1	0	0	7.04%	10.00%		4.17%		78.79%	4797
11	www.sky.com	1	0	0	6.86%	5.24%	2.92%	2.08%		82.90%	4374
12	stores.ebay.com/	1	1	1	13.54%	9.42%	2.30%	1.91%	1.39%	71.44%	24909
13	www.homedepot.com	1	0	0	27.25%	11.29%	1.28%	2.72%	1.65%	55.81%	4606
14	www.macys.com/	1	0	0	18.69%	12.45%	1.61%	2.31%		64.94%	3789
15	autos.yahoo.com/	1	0	0	4.39%		2.12%	2.57%		90.92%	112634
16	www.ticketmaster.com/	1	0	0	15.18%	8.69%	2.34%	1.62%		72.17%	12173
17	www.overstock.com/	1	0	0	28.82%	12.63%	2.24%	2.14%	1.02%	53.15%	4075
18	www.lowes.com/	1	0	0	27.08%	11.06%		2.89%	1.50%	57.47%	3709
19	www.jcpenney.com/	1	0	0	16.83%	14.01%	1.52%	4.32%		63.32%	2485
20	www.gap.com	1	0	0	16.33%	9.97%	2.03%	1.98%		69.69%	3472
21	www.sears.com	1	0	0	19.05%	15.12%	2.10%	2.34%		61.39%	3793
22	www.autotrader.com	1	0	0	18.31%	12.63%		2.92%		66.14%	2257
23	www.buy.com/	1	0	0	25.66%	6.43%				67.91%	6586
24	www.victoriassecret.com/	1	0	0	16.22%	16.60%	5.06%	3.61%	2.04%	56.47%	3770
25	www.legacy.com/	1	0	0	5.57%	4.73%		0.90%		88.80%	4260
26	www.zappos.com/	1	1	1	26.14%	7.13%	1.34%	1.75%		63.64%	4017
27	www.tigerdirect.com/	1	0	0	23.04%	13.06%	3.16%	1.33%		59.41%	3622
28	www.barnesandnoble.com	1	0	0	26.64%	12.90%	1.31%	1.73%		57.42%	6749
29	www.sony.com/	1	0	0	11.51%	9.88%	2.39%	2.28%		73.94%	7980
30	www.cafepress.com/	1	1	1	21.68%	7.65%	1.12%			69.55%	43887
31	www.costco.com	1	0	0	22.82%	17.30%	3.65%	2.72%		53.51%	3373
32	www.wiley.com/	1	0	0	23.43%	2.89%				73.68%	4832
33	www.trademe.co.nz/	1	0	0	10.74%	9.14%	6.01%			74.11%	1564
34	www.bodybuilding.com/	1	1	1	23.86%	6.30%	1.71%			68.13%	2771
35	www.nike.com/	1	0	0	10.66%	6.17%	2.68%			80.49%	8521
36	www.pixmania.com/	0	0	0	5.07%	1.84%	2.96%			90.13%	2798
37	www.play.com/	1	0	0	6.45%	3.29%	2.58%			87.68%	5539
38	www.gamestop.com/	1	0	0	16.81%	11.68%	2.41%	2.72%		66.38%	3531
39	www.cduniverse.com/	1	0	0	18.03%	6.68%				75.29%	5385
40	www.kohls.com/	0	0	0	17.28%	15.44%	3.10%	3.93%		60.25%	1459
41	www.qvc.com/	1	0	0	20.10%	16.72%	1.98%	6.98%		54.22%	1753

42	www.staples.com	1	1	1	22.21%	13.04%	2.10%	2.24%		60.41%	2730
43	www.walgreens.com/	1	0	0	28.06%	17.71%	2.82%	3.04%	1.48%	46.89%	2942
44	www.nordstrom.com	1	0	0	24.36%	11.57%	1.83%	4.36%		57.88%	1317
45	www.hm.com/	0	0	0	10.32%	3.87%	3.12%			82.69%	2880
46	www.kodakgallery.com/	0	0	0	18.60%	24.94%	8.95%	1.81%		45.70%	3070
47	www.cars.com	1	1	1	24.55%	10.85%		1.94%		62.66%	4128
48	www.motors.ebay.com/	1	0	0	13.54%	9.42%	2.30%	1.91%	1.39%	71.44%	24909
49	www.shutterfly.com/	1	0	0	20.85%	20.33%	6.39%	2.30%		50.13%	2367
50	www.blockbuster.com/	1	0	0	22.69%	16.97%	2.32%	2.88%		55.14%	2314
51	www.bhphotovideo.com	1	0	0	33.44%	5.27%				61.29%	4086
52	www.emusic.com/	1	1	1	15.96%	6.81%				77.23%	5844
53	www.forever21.com/	1	0	0	12.52%	9.81%	4.27%	2.18%		71.22%	1405
54	shopping.msn.com/	1	0	0	2.40%	3.18%	28.74%			65.68%	39000
55	www.samsclub.com/	1	0	0	26.77%	12.73%		2.46%		58.04%	1898
56	www.directv.com/	1	0	0	23.63%	19.11%	2.76%	3.79%		50.71%	1932
57	www.hsn.com	1	0	0	18.22%	13.47%	1.45%	3.88%		62.98%	1437
58	www.getjar.com/	1	0	0	10.48%	8.22%				81.30%	2021
59	www.weightwatchers.com	1	1	1	22.23%	18.68%	2.78%	5.29%		51.02%	1524
60	www.shopathome.com/	1	0	0	11.43%	12.69%	1.44%	2.66%	1.24%	70.54%	121
61	www.stubhub.com	1	0	0	25.92%	8.98%		1.44%		63.66%	3771
62	www.bedbathandbeyond.com/	1	0	0	34.95%	12.07%	1.93%	1.84%		49.21%	1911
63	www.kmart.com/	1	0	0	16.56%	12.61%	1.23%	2.87%	1.58%	65.15%	1662
64	www.officedepot.com/	1	0	0	23.27%	13.81%	1.75%	2.25%		58.92%	2959
65	www.horchow.com/	1	0	0	20.85%	10.54%	1.56%	2.55%		64.50%	3558
66	www.dealextrême.com	1	0	0	12.49%	6.45%	3.56%			77.50%	2217
67	www.ae.com/	1	0	0	14.27%	12.92%	5.03%	1.98%		65.80%	1359
68	www.proflowers.com/	1	1	1	16.33%	18.95%	2.54%	10.48%		51.70%	1342
69	www.sephora.com/	1	0	0	13.40%	7.03%	3.44%			76.13%	3310
70	www.drugstore.com/	1	0	0	30.13%	12.03%	2.22%	1.57%		54.05%	3533
71	www.musiciansfriend.com	1	0	0	23.10%	6.71%		1.69%		68.50%	2288
72	www.cabelas.com/	1	1	1	31.74%	15.32%	2.53%	3.00%	2.85%	44.56%	2629
73	www.cambridge.org	1	0	0	16.35%	8.29%		2.13%		73.23%	3179
74	www.hallmark.com	1	0	0	20.27%	24.80%	13.25%	1.71%		39.97%	2563
75	www.mapsofindia.com/	1	0	0	21.84%	1.47%				76.69%	1153
76	www.movietickets.com	1	0	0	20.81%	7.69%		1.95%		69.55%	1265
77	www.audible.com	1	1	1	11.93%	12.95%				75.12%	2578
78	half.ebay.com/	1	0	0	13.54%	9.42%	2.30%	1.91%	1.39%	71.44%	24909
79	www.art.com/	1	0	0	21.62%	6.88%				71.50%	2729
80	www.gamefly.com/	1	0	0	17.73%	11.59%	1.99%	1.99%		66.70%	944
81	www.abercrombie.com/	1	0	0	13.94%	10.32%	2.18%			73.56%	1746
82	www.marksandspencer.com/	1	1	1	7.13%	8.44%	3.22%			81.21%	1684
83	www.bidz.com/	1	1	1	7.13%	7.11%	3.29%		2.92%	79.55%	339
84	www.urbanoutfitters.com/	0	0	0	21.66%	7.38%	2.63%			68.33%	2840
85	www.rei.com	1	1	1	33.05%	8.30%	1.60%	1.37%		55.68%	3764
86	www.sirius.com	1	0	0	25.60%	14.21%	3.50%	4.69%		52.00%	3782

87	www.radioshack.com	1	0	0	28.00%	10.22%			61.78%	3422	
88	www.icrew.com/	1	0	0	22.11%	14.30%	3.88%	1.45%	58.26%	1731	
89	www.futureshop.ca/	0	0	0	6.18%	5.54%	2.27%	1.74%	84.27%	1476	
90	www.carmax.com/	1	0	0	30.24%	16.86%		3.49%	49.41%	581	
91	www.cvs.com	1	1	1	27.91%	17.47%	2.86%	2.79%	48.97%	1671	
92	www.landsend.com/	1	0	0	21.47%	17.40%	3.78%	2.35%	55.00%	1614	
93	www.aeropostale.com/	0	0	0	11.75%	10.45%	2.92%	2.49%	72.39%	490	
94	www1.bloomingdales.com/	1	0	0	24.34%	11.46%	2.53%		61.67%	1551	
95	www.saksfifthavenue.com/	1	0	0	20.34%	9.55%			70.11%	2007	
96	www.dishnetwork.com/	1	0	0	23.94%	14.22%		4.65%	57.19%	1479	
97	www.net-a-porter.com/	1	1	1	11.97%	5.23%	2.30%	2.30%	78.20%	2194	
98	www.gunbroker.com	1	0	0	33.19%	9.76%	3.74%	3.34%	49.97%	684	
99	www.game.co.uk/	1	0	0	8.31%	4.33%	2.63%		84.73%	1203	
100	www.shoebuy.com	1	1	1	28.20%	9.42%	2.77%	2.79%	56.82%	968	
		92	22	22	18.75%	10.77%	3.15%	2.70%	1.82%	66.12%	8881.33
		TOTALS			AVERAGES						