Search engine optimization or paid placement systems - user preferences

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Abstract

The objective of this study was to investigate and report on user preference of natural search results, thus search engine optimisation (SEO), versus pay per click (PPC) results. This will assist online advertisers to identify their optimal search engine marketing (SEM) strategy for their specific target market.

Research shows that online advertisers perceive PPC as a more effective SEM strategy than SEO. However, empirical evidence exists that PPC may not be the best SEM strategy for online advertisers. Not all advertisers have the funds to implement a dual SEM strategy and therefore advertisers need to choose between a PPC and SEO campaign. In order for online advertisers to choose the most relevant SEM strategy, it is crucial to understand user perceptions of SEM strategies.

A quantitative research design was used to conduct this study, with the purpose to collect and analyze data. A questionnaire was designed and placed on a website for gathering data. The questionnaire focused on how search engine users perceive SEM and their click response towards PPC and SEO respectively. The data was analysed and the results inspected.

Results showed that the user perceived relevancy split is roughly 40% - 60% (PPC results to SEO results), regardless of demographic factors. This indicates that websites should invest in both PPC and SEO. Failing to invest in either one could cause a significant loss of traffic. For websites that can not afford a dual SEM strategy, advertisers should correlate the results of this study with their target market to establish their optimal SEM strategy, or invest in SEO as results showed more users click through on SEO results than on PPC results.

Keywords: search engine, paid placement, optimisation, user preference

1. Introduction

The literature indicates that it is important for e-commerce websites to be listed in search engine results in order to be visible, visited and ultimately successful (Weideman & Chambers

2005). Previous research indicates that failing to be listed on at least the first three pages of search results will lead to being invisible to 90% of potential clients. In fact, failing to be listed on the first page of results will mean 40% of potential clients will never see that webpage listing (iProspect 2006).

Various marketing strategies exist to assist e-commerce advertisers in overcoming this obstacle. Two main strategies in particular have the sole purpose of improving website ranking, namely pay per click (PPC) and search engine optimisation (SEO). Websites implementing SEO are placed among natural harvested results, unlike websites implementing PPC that are offset from natural results. PPC results however are guaranteed a high ranking, unlike SEO that has no guarantee. Both of these search engine marketing (SEM) strategies can be very costly, and with search engine advertising being such a competitive market it is often difficult to implement both of these on the same website.

Some studies show that advertisers invest more in PPC than in SEO (SEMPO 2006, Sen 2005:10). This suggests that advertisers perceive PPC as the more effective means of achieving increased click-through. However, research indicates that search engine users tend to ignore PPC results (Enquiro 2004). Furthermore some authors also claim that advertisers not investing in SEO could be missing out on up to 60% of potential clients (Enquiro 2004; iProspect 2004; Jansen & Molina 2006:1092).

Noticeably, there appears to be some contradiction involving which marketing strategy is more effective. This can easily lead to advertisers being confused when considering an online marketing strategy. This is even more relevant for advertisers that cannot afford both SEO and PPC, and who need to justify their choice between the two.

2. Literature survey

2.1 Internet

Over the last few decades the Internet users' population has constantly been growing. From 2000 to 2007 the number of Internet users has grown by 202.7% to over 1 billion at the beginning of 2007 (Anon 2007a). Companies could easily reach this huge number of potential clients through the use of webpages (Bennet 1997:325; Chambers 2005:24). Since its introduction the World Wide Web (WWW) has grown exponentially, to an estimated 11.5 billion pages in 2005 (Gulli & Signorini 2005). However, with this large amount of webpages available, it is rather difficult for Internet advertisers to attract potential clients to one specific webpage or set of pages.

2.2 Search engines

With over 11.5 billion webpages on the Internet, Internet users also find it difficult to find information for their specific need. However, search engines provide a service to users helping them to find relevant information (Machill *et al* 2003:52). In fact these large amounts of information on the web combined with the ease of search engine access and use (Weideman 2002) has largely contributed to their financial success. Furthermore, literature shows that search engines are among the most popular destination sites on the web (Green 2000:125; AliMohammadi 2003:238). Thus the large numbers of search engine users

combined with its popularity makes search engines an important marketing place for advertisers looking to attract traffic.

2.3 Search engine ranking

Search engine results are based on a mathematical algorithm used by search engines to determine how to rank and display pages. This process is called page ranking.

A leading search engine spokesman recently claimed to index more than 25 billion webpages (Anon 2006a). Even with this large volume of information it is relatively easy to produce a list of pages containing given search queries. The difficult part is to rank these pages in order of relevance to the user's query. Although the exact details are not publicly known, it is generally assumed that each search engine assigns a score to each webpage in its indexed database and ranks the webpage according to that score. The score is calculated by how well a webpage satisfies certain requirements (Bifet *et al* 2005).

According to Jansen & Spink (2006:257), 73% of search engine users never look beyond the first page of returned results. Thus it is essential for e-commerce websites to have a high ranking in popular search engines, as this will lead to more traffic and ultimately more profit. Consequently, in order for a website to achieve high ranking and attract users, an understanding of the factors that can influence a page ranking in a search engine is crucial. As a result a market has emerged for companies who perform SEM services (Sullivan 2002). The goal of these companies is to increase the ranking of their clients' webpages in search results (Sullivan 2002). SEM companies have partial knowledge of how search engines calculate page rank. Through experience and empirical tests, these companies can also reverse-engineer some important ranking factors. However, Fortunato et al (2006) state that SEM work is largely guided by guesswork, trial and error.

2.4 Search engine marketing

SEM consists of various marketing strategies, all of them with the goal of achieving top rankings in search engine results. SEM began when search engines, in need of revenue, started to sell their users' clicks to advertisers (Moxley *et al* 2004:63). Furthermore, they took advantage of the advertiser's need to be visible and visited. Having the advantage of creating the largest amount of Internet traffic (Thelwall 2001:114), they offered services that would satisfy the advertiser. Specifically they addressed these advertisers' enthusiasm for more visibility, eagerness for being placed on the first page of returned search results and impatience for waiting to be reviewed and indexed. SEM however consists of various forms that advertisers need to become acquainted with in order for them to efficiently and effectively invest in SEM.

2.5 Importance of SEM

There are over 1 billion Internet users today (Anon 2007a), and this is expected to increase to 1.8 billion by 2010 (Anon 2006b). Of these users, 80% turn to search engines to find information (BTLookSmart 2001). A survey reveals that adult Web users search the Internet more than they engage in any other activity except using email. The same author also found that half of Web users spend 70% or more of their time searching online (Nachmias & Gilad 2002:476). Furthermore, McCarthy (2006) states that over half of visitors to a given website

found it through a search engine. This underlines the importance of a website being listed in a search engine index.

It is vital for advertisers to have their website ranked on the first page of search results, or at least on the first three pages of search results (Weideman & Chambers 2005). A recent study reported that 69% of users of search engines tend to click on results within the fist page of search results, and 90% of users click on results within the first 3 pages of search results returned (iProspect 2006). Additionally, Jansen & Spink (2006:257) state that 73% of search engine users never look beyond the first page of returned results.

Thus literature indicates that search engine usage generates a large amount of Internet traffic. However, in order for website owners to attract this potential traffic they need to be listed in the first result page, as most users do not look beyond this point. Adding to this, the high number of commercial websites on the Internet contributes to the fierce competition for the top rankings. Therefore it is important for advertisers to use some sort of SEM strategy.

2.6 SEM strategies

A number of SEM strategies exist which attempt to make websites more visible, not all of them however ensure top rankings. To ensure top rankings, a website owner could invest in one or both of two SEM strategies, namely PPC and SEO. Unfortunately these SEM strategies can be rather expensive and thus not all advertisers have the funds to implement a duel SEM strategy. Furthermore, advertisers investing in SEM needs to balance the cost of their SEM campaign with their expected profits (Sen 2005:10). Thus some advertisers need to choose between which SEM strategy to implement.

2.6.1 PPC

PPC is used to describe a number of overlapping practices, but in essence refers to linking individual websites to specific keywords for payment (Moxley *et al* 2004:61). As PPC suggests, advertisers also have to pay for every click they receive via that sponsored link.

Advertisers can place bids for search terms at their preferred PPC search engine. The bid is 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 search results page. When a user now enters this search term, the search engine will display the advertisers' website links in descending order of their bid price for that specific term. The bid-amount is shown by "cost to advertiser" underneath each link in Figure 1. The search engine used in Figure.1, goClick, is a PPC-only search engine, meaning that all the results listed on goClick are paid results. The highest bidder for a given search term (in this case "shoes"), will see their website listed as the number one link; in this case www.designerapparel.com, who pays $0.05 for every click-through. The second highest bidder, www.reebnet.com who pays $0.03, will be listed second.

Figure 1: Sponsored links on goClick.com
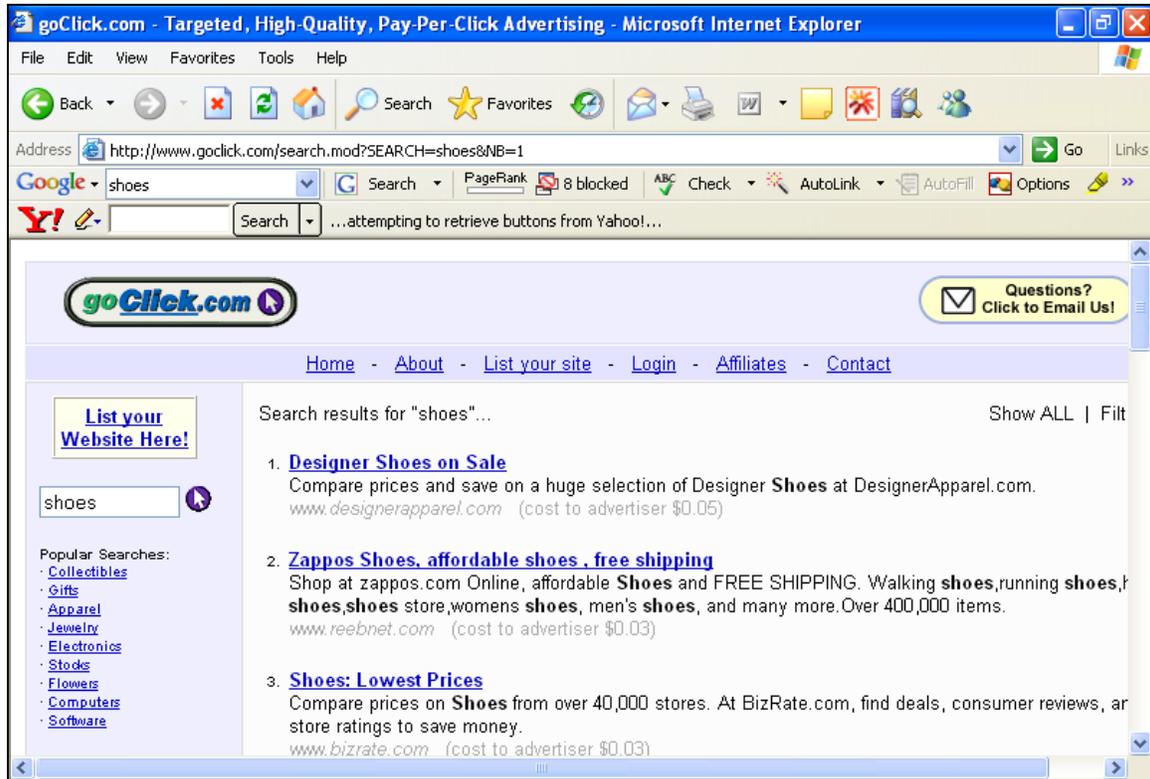
PPC can also be dynamic. For example, www.designerapparel.com who is the highest bidder at the moment for the search term "shoes" in Figure 1 can be the number one link today. Any advertiser can still at any time outbid www.designerapparel.com by offering a bid of $0.06 per click-through. That would mean www.designerapparel.com will move to the number two link and the new advertiser will move to the number one spot for the keyword "shoes".

PPC results are not mixed with naturally harvested search results and are usually offset from them in some way. PPC results appear in various places on the result screen, but never in the main viewing area, except for PPC-only search engines (Henshaw 2001). This is usually marked with a term such as "Sponsored Links" or "Featured Links" to distinguish it from natural results. Figure 2 indicates Google's search results when searching for the term "fresh fruit exports". Google's PPC is offset from their natural harvested results and is marked with the term "Sponsored Links", thereby clearly distinguishing it from other results.

Figure 2: Search results on Google.com

Due to the fact that websites pay a certain amount to search engines for every click they receive on their PPC link, click fraud has developed (Hinman 2005:20). Click fraud occurs when someone manually or through the use of software clicks on a PPC link without the intent of visiting, buying or getting information from the website. This would increase the expenses of the competitor, without the expected income increase. Hosts of PPC links, such as search engines, might use click fraud to increase their income, whilst businesses might use it to increase their competitors marketing expense. Given that click fraud is such a big threat most search engines implement anti-click fraud technology, used to filter out invalid clicks (McGann 2004).

2.6.2 SEO

SEO is the process of modifying a website to improve the chance of satisfying a ranking algorithm (see Section 2.3) (George 2005:3). Various factors are used by a ranking algorithm to rank a website and can be controlled and modified by webpage owners and designers to optimise the visibility of a webpage (Zhang & Dimitroff 2004:666). Modifying websites through SEO ensures that the ranking algorithms give the modified webpage a higher score in comparison to other websites and thus a higher ranking in search results (Sen 2005:10). However, SEO can not guarantee a top ranking as is the case with PPC. On the other hand, SEO results normally occupy the main area on search engine result pages (see Figure 2) and can thus not easily be ignored by users as they tend to do with PPC results (Enquiro 2004).

Various SEO tactics also exist that attempt to deceive search engine crawlers in order to gain a better ranking for a website (Curran 2004:203) - this process is called search engine spamming. Search engine spamming has no relation to the more well-known e-mail spam from which all Internet users suffer. The use of SEO tactics is not spamming, but the use of

unethical practices within SEO is. According to various researchers the following SEO tactics are considered to be search engine spam:

- the use of keywords unrelated to the site
- keyword stuffing
- mirror/duplicate content
- tiny text
- doorway pages
- link farms
- cloaking
- keyword stacking
- gibberish
- hidden text
- hidden links (Hunt 2005; Weideman & Chambers 2006; Mbikiwa & Weideman 2006).

Using any of the abovementioned techniques can lead to falsely boosting website rankings, and thus result in reducing the quality of search engine results (Mbikiwa & Weideman 2006). As a result, search engines now make use of various penalties if search engine spamming is detected (Mbikiwa 2005:48; Sullivan 2003).

2.7 SEM controversy

Research indicates that advertisers invest far more in PPC than on SEO. Advertisers explain that SEO is more costly to implement than PPC and does not consistently result in high rankings (Sen 2005:11). Advertisers have spent more that $9.4 billion on SEM in 2006. As Figure 3 illustrates, 86% of this amount was spend on PPC versus only 12% on SEO (SEMPO 2006). This suggests that advertisers perceive PPC as the more effective means of achieving increased click-troughs. This claim is supported by a recent study indicating that even if the cost and ranking of SEO and PPC had been the same, PPC would still be the more effective marketing strategy, because of a higher Return on Investment (ROI) (Sen 2005:22).

Figure 3: Advertiser spending on PPC vs. SEO
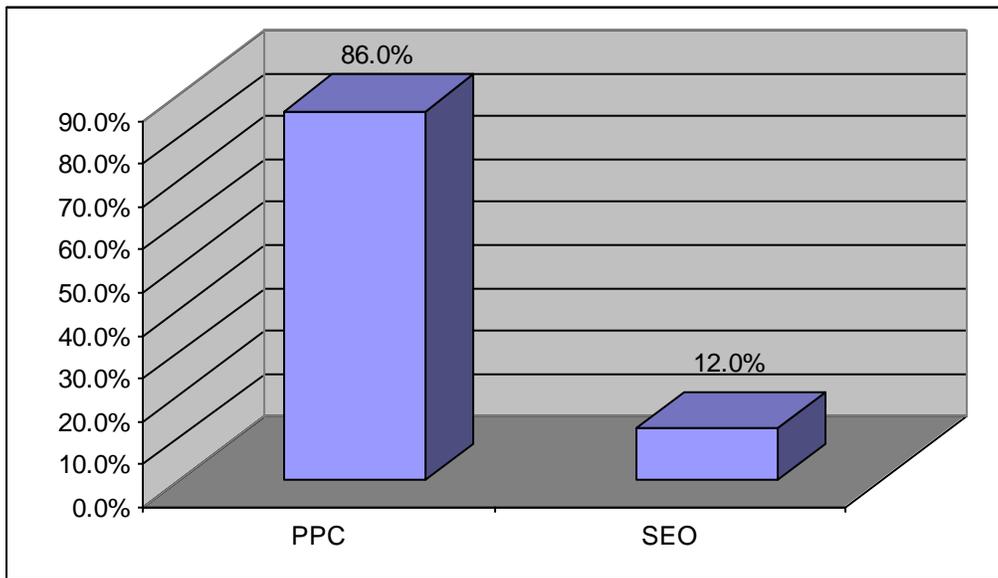
However, empirical evidence exists that PPC may not be the best SEM strategy for online advertisers. Other literature studies indicate that SEO may lead to more click-troughs than PPC (Enquiro 2004; iProspect 2004; Jansen & Molina 2006:1090). Research conducted at Enquiro (2004) has conferred that search engine users tend to ignore PPC results, as illustrated in Figure 4.

Figure 4: Click-through on PPC vs. SEO
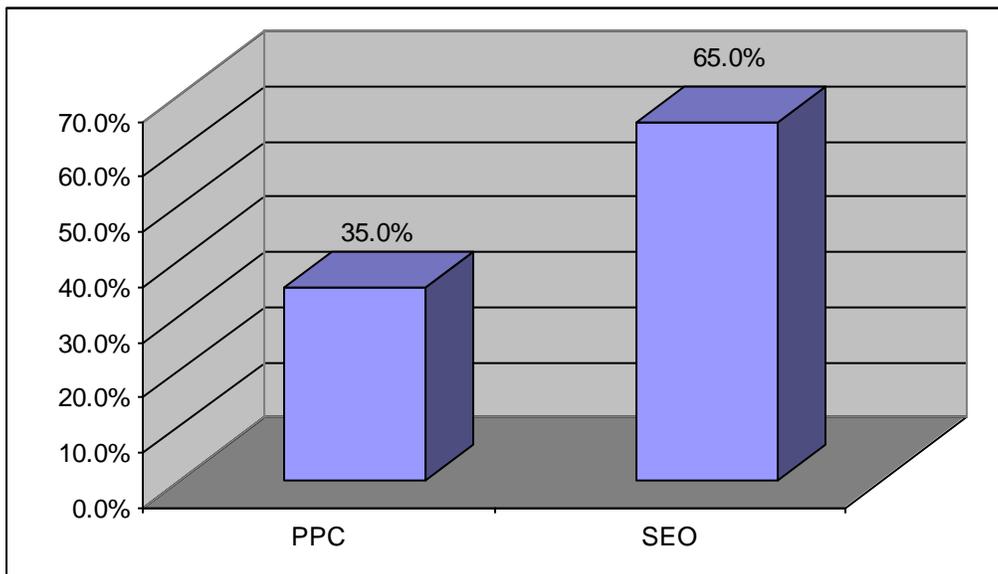
Another study indicate that marketers who are not yet investing in SEO, could be missing out on over 60% of potential clients. In the same study it was also found that over three times as many search engine marketers generate a higher return on investment (ROI) from SEO than from PPC (iProspect 2004). This is confirmed by the author of a recent study, proving that natural results, thus SEO, are more relevant to e-commerce searching than PPC results. The

author concludes by warning that online advertisers should more carefully refine their marketing campaign to potential customers, and should not ignore SEO (Jansen & Molina 2006:1092). This suggests that SEO can generate more traffic than PPC.

2.10 Importance of search engine user profiling

It has transpired so far that contradiction exists around which one of SEO or PPC is more effective. Therefore, in order for online advertisers to successfully invest in SEM, it is crucial to understand user behaviour and perception of SEM strategies. This will help online advertisers identify their optimal SEM strategy for their specific target market.

The profile of Internet shoppers can not be distinguished by demographic factors at the present time anymore (Sorce *et al* 2005:122). Although this may be true, age, gender and other demographic features do play a role in their purchasing behaviour (Lorigo *et al* 2006:1124; Sorce *et al* 2005:131; Anon 2007b; Constantinides 2004:111). Furthermore, a study was done by Iprospect (2004) on 1649 search engine users, to investigate how various demographic features including gender, education, employment status, Internet usage and experience individually influence click response. It showed that demographic features do influence user's click response to PPC and SEO.

The use of consumer demographic features can be a very useful marketing tool for advertisers. Moreover, a better understanding of the association between the demographic characteristics of search engine users and their click response towards PPC and SEO respectively can greatly assist advertisers in their choice about which SEM strategy to implement. Sherman emphasizes the importance for advertisers to build up a profile of their target market, and optimising their SEM strategies around that profile (Sherman 2004). Another author also suggests that understanding customer search behaviour will dramatically increase a search marketing campaign's success (Hotchkiss in Lloyd-Martin 2004). Thus the profiling of users opting for PPC and SEO respectively could help advertisers in selecting a SEM strategy. This can be done by correlating the profile of a website's target market with the results of this study and thereby identifying their optimal SEM strategy for their specific target market.

2.11 Conclusion

The Internet provides a rich source of potential customers. Commercial websites owners can reach these consumers by implementing a variety of advertising techniques. However, most Internet users turn to search engines to find information, making it crucial for all commercial websites to implement SEM. Search engine users also tend not to look beyond the top ranked search results, emphasizing the importance for websites to have a high search ranking. Websites can achieve top ranking through two main forms of SEM, namely PPC and SEO. Seeing that not all advertisers have the funds to implement a duel SEM strategy and need to balance the cost of their SEM campaign with their expected profits, advertisers often need to choose between a PPC and SEO campaign.

Literature has shown that online advertisers invest more in PPC than in SEO. These advertisers reason that SEO is more costly to implement than PPC and does not consistently result in high rankings. This suggests that PPC is perceived as the more effective means of achieving increased visibility and ultimately more traffic. However, empirical evidence exists

that PPC may not be the best SEM strategy for online advertisers. Literature studies show that search engine users find SEO more relevant than PPC. Furthermore, evidence also show that most search engine users ignore paid listings displayed in the PPC section.

This creates contradictions around which form of SEM is more effective. Lastly it was revealed that by investigating and reporting on user perception of SEO versus PPC, advertisers can use the profile of their target market to identify their optimal SEM strategy for their specific target market.

3. Methodology

Since it is the aim of this study to investigate how demographics influence user preference of PPC results versus SEO results, it was decided that a quantitative, descriptive research approach should be used to conduct this study. The results of this study can be correlated with an advertiser's target market profile in order to identify their optimal SEM strategy for their specific target market.

The research project was divided into six phases.

3.1 Phase 1: Design questionnaire

In order to collect the needed data for this study it was decided that an anonymous questionnaire would be used. The questionnaire consisted of 17 multiple-choice questions. Questions were designed to be simple, unambiguous and had a consistent style. The aim was to collect demographic participant data and data about how the participant interacts with search engines. This provided the authors with the necessary information to report on how demographics influence search engine user's response to PPC results and SEO results respectively.

3.2 Phase 2: Data collection

It was decided to host the questionnaire on an Internet search engine, ensuring that all participants have used the Internet and a search engine.

3.3 Phase 3: Sample selection

After hosting the questionnaire, the authors received 176 responses. All responses where an exclusion option at one the two filtering questions were selected, were discarded. The filtering questions determined the participants Internet experience and search engine usage. If the participants Internet experience was less than one month or the user has not used a search engine before, the response was discarded. Furthermore, all incomplete questionnaires were also discarded. From the initial 176 responses, two responses were discarded due to a lack of Internet experience, and five because of incomplete information. This left a total of 169 usable responses, which were used for analysis. This ensured the accuracy of the data used in the analysis phase.

3.4 Phase 4: Data Analysis

Analyses of the responses were used to determine the following about each participant:

- The frequency of search engine usage.
- The value attached to being listed high in search results in order to attract traffic.
- To what extent search engine loyalty existed.
- The preference of PPC results or SEO results.
- How awareness of SEM strategies influences users click preference of PPC and SEO results.
- How Internet and search engine experience influence users preference of PPC results and SEO results.
- How demographics influences users preference of PPC results and SEO results.

3.5 Phase 5: Finalisation

In this last phase data collected in this study was used to report on search engine user behaviour and perception of SEM strategies. Results were triangulated with information from the literature review to guide website owners in choosing their optimal SEM strategy.

4. Results and interpretation

4.1. The importance of implementing a SEM strategy

This section was used to determine the importance of SEM for advertisers.

4.1. 1. Frequency of search engine usage

Figure 5 summarises the responses to the question: "How often do you use search engines on the Internet?"

Figure 5: Search engine usage
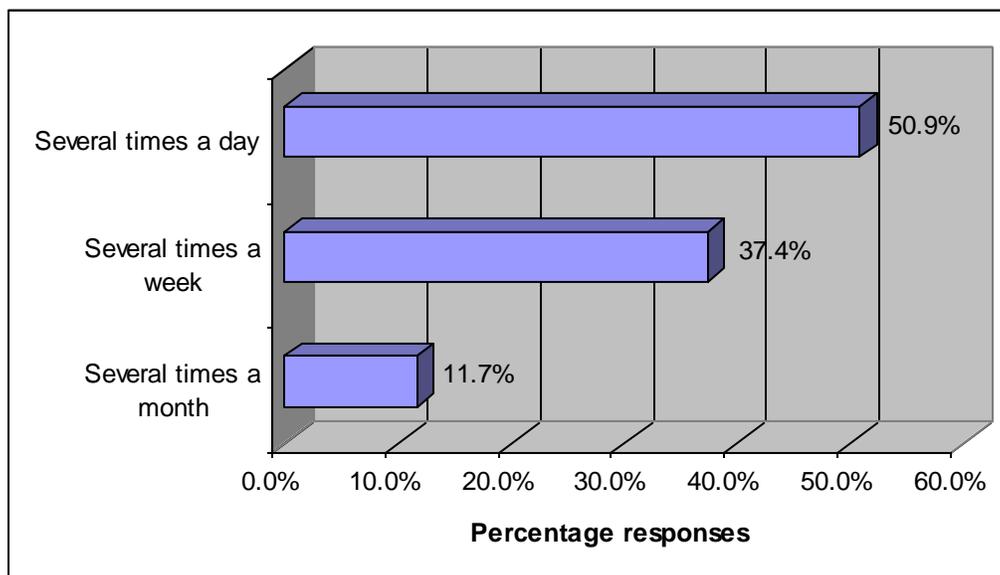
Of the participants 50.9% responded that they use search engines multiple times per day. Another 37.9% indicated that they use search engines several times a week. Only 11.7% of the participants claimed not to use search engines that often. This indicates that search engine usage is a frequent activity among Internet users, with 88.3% of all the respondents using search engines at least several times a week. Thus search engines generate a large amount of Internet traffic providing a good online advertising opportunity, supporting the findings of the literature survey.

4.1. 2. Termination point

Figure 6 summarises the responses to the question: "If you do not find what you are looking for in search engine result listings, at what point in the search results do you move on either to another search engine or to another search on the same engine?"

Figure 6: Termination point
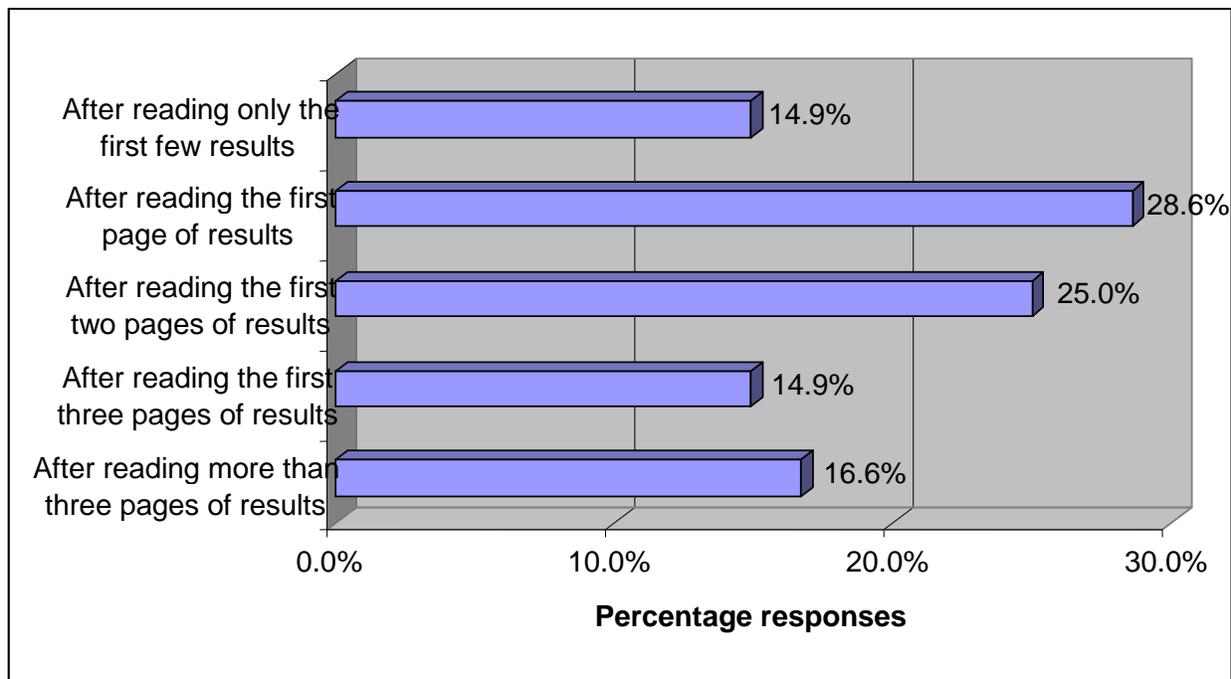
Results show that 83.4% of respondents do not look beyond the first three pages of search results. In fact 43.5%, almost half of all respondents, do not look further than the first results page. This underlines the importance for websites to be ranked in the top three pages of search results for keywords that relate to its specific service or products in order to be read by search engine users.

4.1. 3. Search engine popularity

Figure 7 summarises the responses to the question: "Which search engine do you use most often?"

Figure 7: Search engine popularity
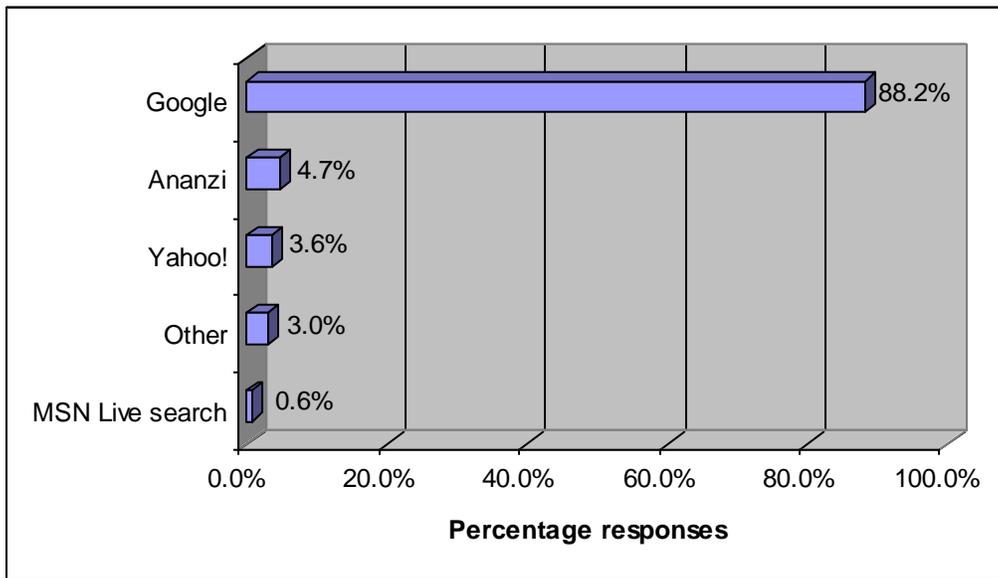
Google was chosen by 88.2% of the respondents as their favorite search engine. This shows that Google is the most used search engine among the sample, and thus attract the most traffic.

Figure 8 summarises the responses to the question: "Which option would you say best describes how you use search engines?"

Figure 8: Search engine loyalty
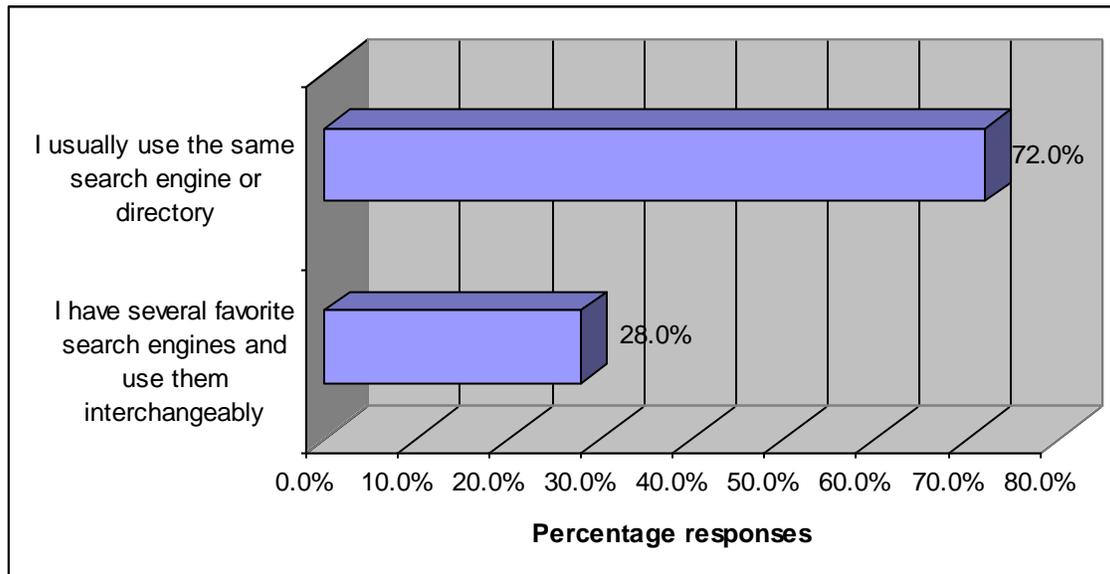
The vast majority (72.0%) of respondents indicated that they normally use the same search engine. Only 28.0% of the respondents claimed to use different search engine interchangeably. This indicates that once a user has adopted a search engine the user will most likely stay with that search engine, showing that search engine loyalty does exist.

Thus, Google has the most potential clients and it is likely that Google will retain its superior amount of traffic due to search engine loyalty. Therefore advertisers should optimise their websites around Google's page rank in order to receive maximum exposure in Google's search results. Furthermore, advertisers investing in PPC should strongly consider including Google in their PPC campaign.

4.2. Demographics and SEM preference

This section was used to determine how demographic features influences SEM preference. Three questions where used, each containing a sample page of search results from the three most used search engines, Google, Yahoo! and MSN. For each of the three questions respondents where asked to do the following:

"The screen shot below represents a sample search that was conducted on [one of the search engines], using the search term as in the search box below, by an individual who is thinking about [one of the three search terms]. Based on the search results that are presented below, please indicate which individual search result you consider to be most relevant to this query by selecting the corresponding letter from the list below."

4.2.1. Search result preference

Across the three search engines, 57.6% of the respondents selected a SEO result, while 42.3% selected a PPC search result (Figure 9). This indicates that despite the amount of money being invested by online advertisers in PPC, SEO results attract more clicks from search engine users. Therefore, websites not ranking in SEO results are potentially missing out on nearly 60% of search engine traffic. However it should also be noted that advertisers implementing only SEO should strongly consider investing in a PPC campaign as 42.3% of search engine users found PPC results more relevant than SEO results.

Figure 9: Types of search results selected
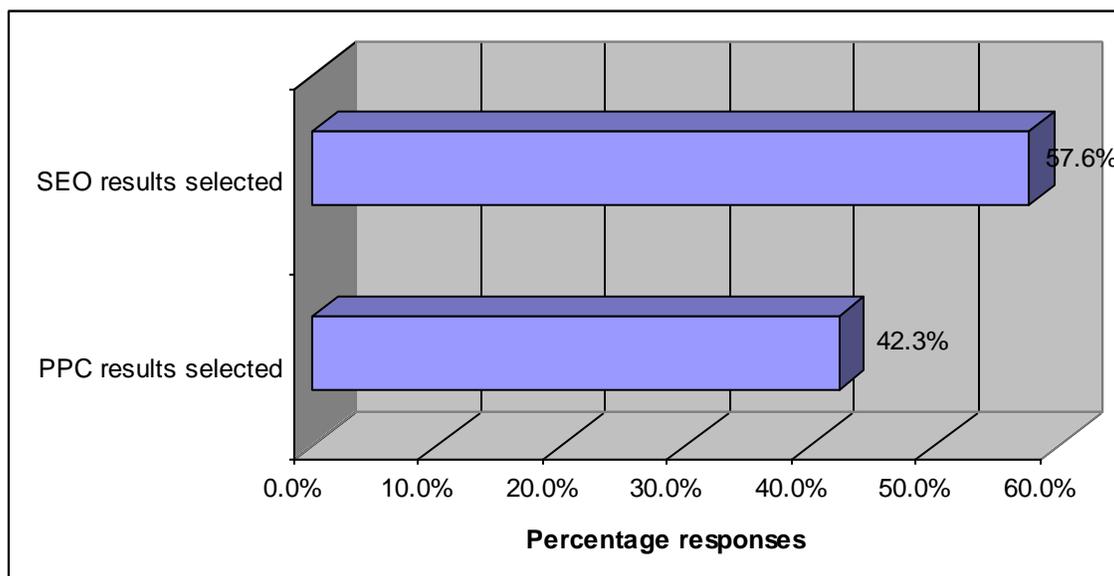
4.2.2. SEM awareness

Figure 10 indicates that 58.4% of respondents that are aware of SEM selected a SEO result as more relevant to the given search query, as apposed to 41.6% that chose PPC results. The respondents that are not aware of SEM are also more likely to choose SEO results. Of the respondents aware of SEM, 56.5% chose SEO results, while 43.5% selected PPC results. This indicates that whether search engine users are aware of SEM or not, they still perceive SEO results as more relevant. This further emphasises the importance of implementing both a SEO and PPC campaign.

Figure 10: Search engine users' awareness of SEM
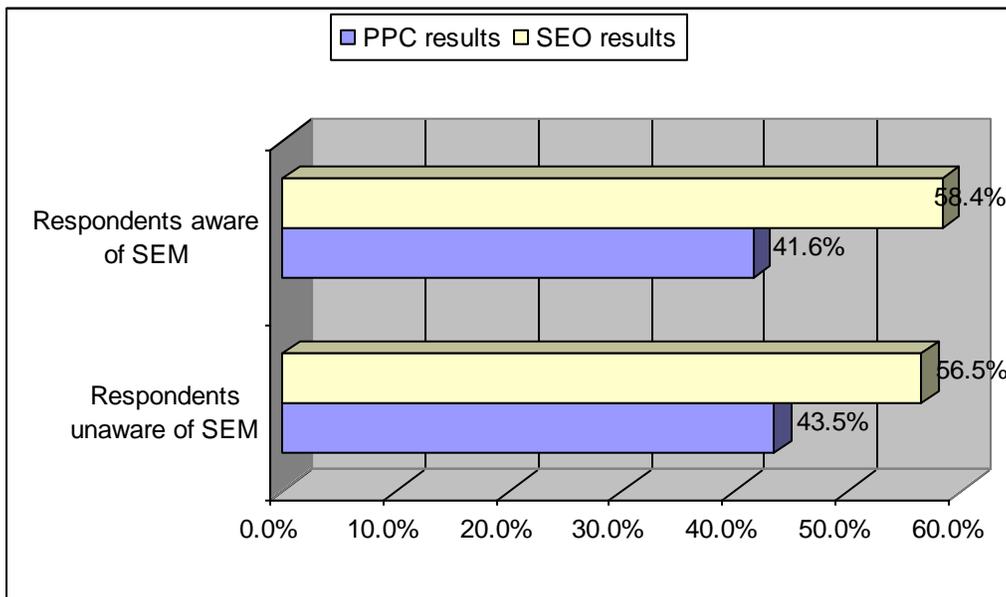
4.2.3. Internet experience

In Figure 11 it can be seen that 44.3% of respondents who have been using the Internet for longer than six years, selected a PPC result as a more relevant search result. Only 38.2% of the respondents with less Internet experience selected a PPC result as the most relevant. Although the difference is not substantial, this indicates that more experienced Internet users perceive PPC results more relevant than users with less Internet experience.

Figure 11: Influence of Internet experience on result selection
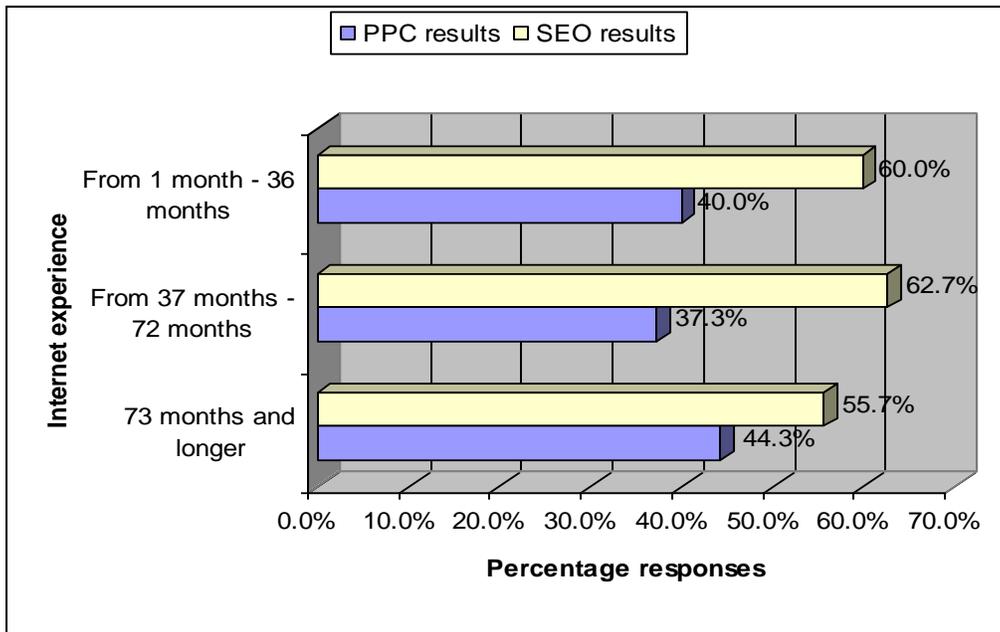
4.2.4. Gender

Female respondents selected PPC results 44.3% of the time as a more relevant result, while 41.1% of the male respondents selected a PPC result as most relevant. The results indicate that gender does not play a major role in how users perceive the relevance of search results. However the perceived relevancy split is roughly 40% - 60% (PPC results to SEO results) and thus not major enough to ignore either PPC or SEO. Thus websites failing to be found in either PPC or SEO results could lose a significant amount of potential traffic.

Figure 12: Influence of gender on result selection
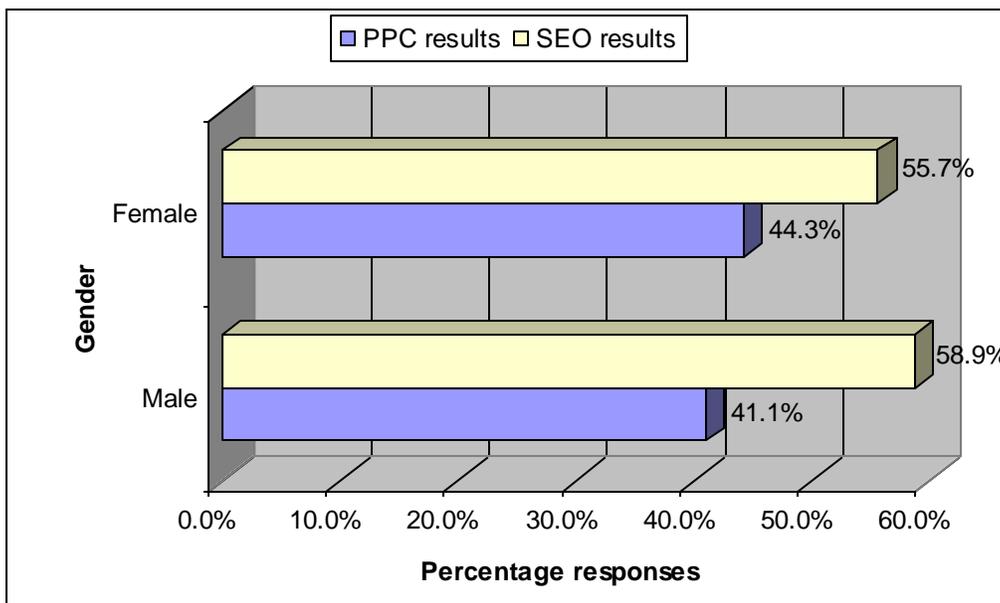
4.2.5. Age

Respondents aged 46 and above selected a PPC result as more relevant 47.9% of the time, while only 35.7% of users aged between 26 and 45 selected a PPC result as more relevant (Figure 13). This indicates that it is more important for websites which predominantly target older users to invest in a PPC campaign than websites that predominantly target middle-aged customers. Again, due to no major perceived relevancy split, roughly 40% - 60% (PPC results to SEO results), it can not be understated that failing to be listed in either PPC or SEO results could cause a significant loss of traffic.

Figure 13: Influence of age on result selection
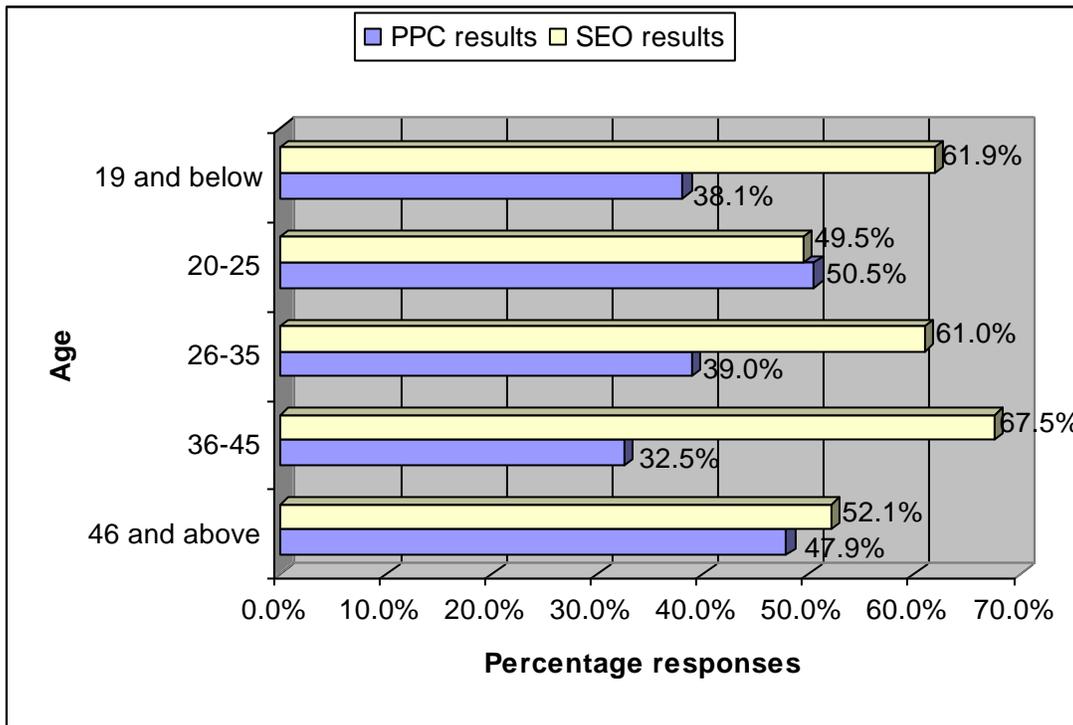
4.2.6. Marital status

Of the unmarried respondents, 48.0% selected a PPC result as more relevant, while 40.0% of married respondents selected a PPC result as more relevant (Figure 14). This indicates that it is more important for websites which predominantly target unmarried users to invest in a PPC campaign than websites that do not. However, once more with a perceived relevancy split of roughly 40% - 60% (PPC results to SEO results), the need for a website to be found in both PPC results and SEO results must be met in order to ensure optimal traffic.

Figure 14: Influence of marital status on result selection
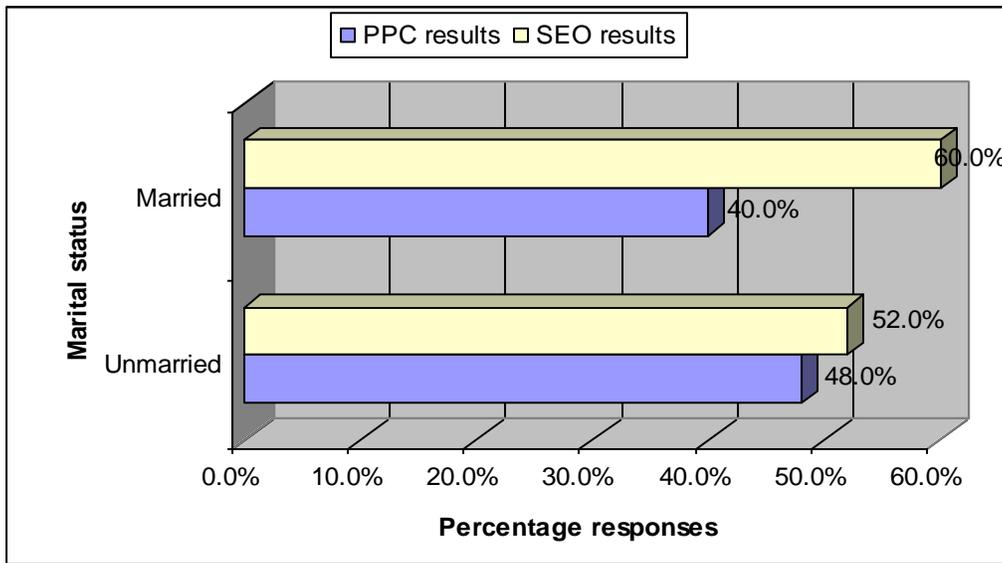
4.2.7. Education

Search engine users with a technicon, university or post graduate qualification selected a PPC result as more relevant 44.0% of the time, while only 36.2% of high school or college graduates selected a PPC result as more relevant (Figure 15). This indicates that a higher qualification level could lead to users perceiving PPC results as more relevant. This could be important for education services adverting online, as higher qualified user are more likely to select a PPC advertisement result. But be it for a higher qualified target market or not, again an investment in both PPC and SEO is needed to reach the optimal amount of potential customers.

Figure 15: Influence of education on result selection
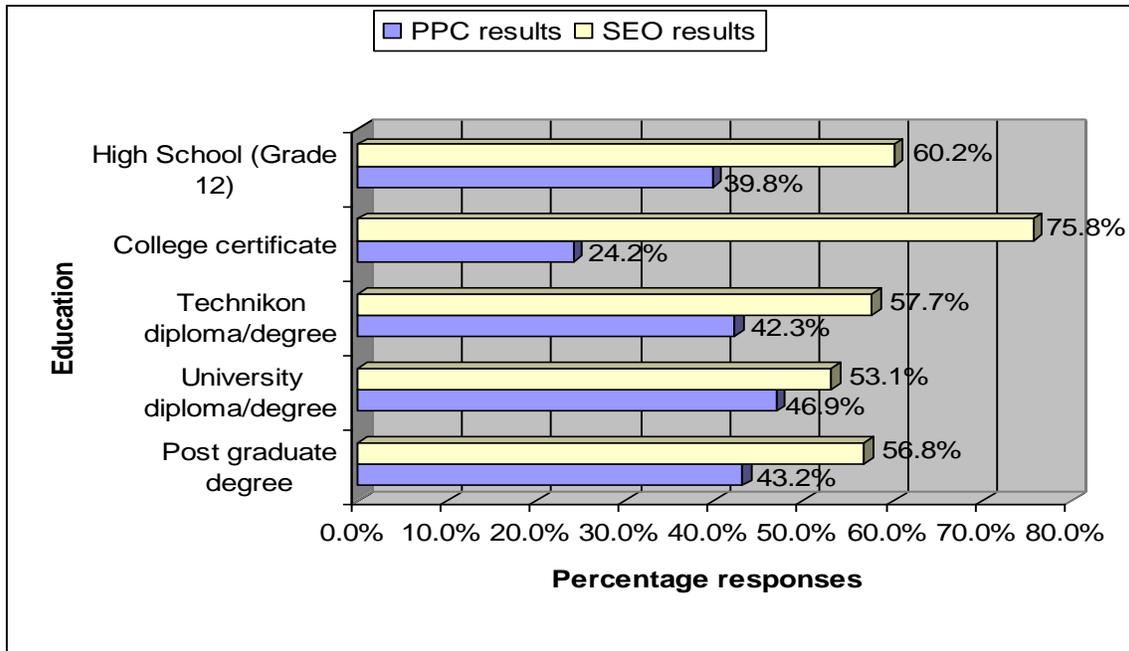
4.2.8 Employment status

Figure 16 indicates that 42.2% of the respondents that are employed full time selected a PPC result as more relevant than a SEO result, while only 27.8% of the respondents employed part time selected a PPC result as more relevant. Furthermore, 58.3% of the respondents that are unemployed selected a PPC result as the one they found most relevant to the sample query. Only 46.8% of the respondents that are unemployed selected a SEO result as a more relevant option. Thus employment companies whose websites only target part time employees need to utilise SEO advertising. Employment companies whose websites only target unemployed users need to utilise PPC. However most employment companies target market is unemployed and part time employed users. Consequently the need for combined PPC and SEO advertising strategy is again expressed.

Figure 16: Influence of employment status on result selection
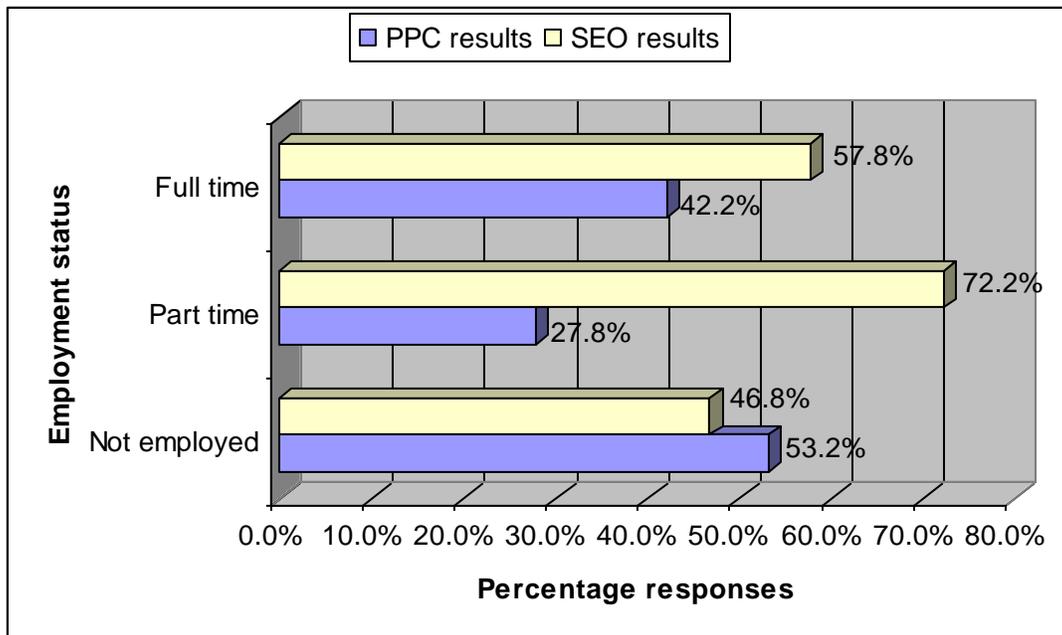
4.2.9 Study status

Of the respondents 47% that study full time picked a PPC result as the one they found most relevant to the sample query, while only 41% of the respondents that are not studying or studying part time selected a PPC result as more relevant (Figure 17). This indicates that it is more important for websites, like findastudent.co.za, which predominantly target full time students to invest in a PPC campaign than websites that target non-students.

Figure 17: Influence of study status on result selection
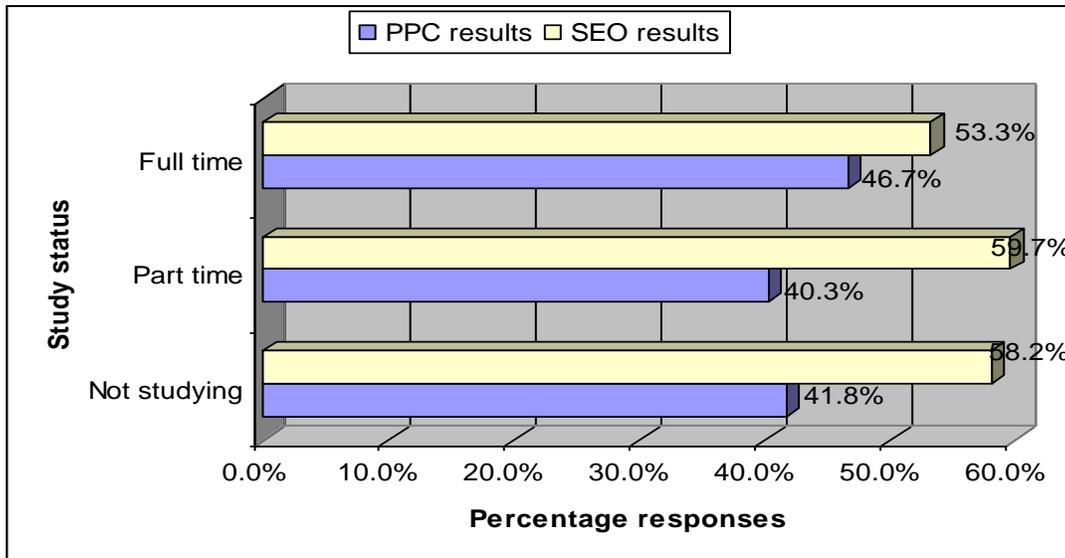
4.2.10 Income

The results indicate that respondents perceived relevancy of SEO results increase parallel with their income (Figure 18). Thus advertisers which target customers in a higher income group should invest more in a PPC campaign than those which target customers in a lower income group. This is surprising as previous results indicated that users with a higher qualification (Section 2.7) perceive PPC results as more relevant than users with lower qualifications. It was also found those users that are employed full time (Section 2.8) perceive PPC results as more relevant than users that are employed part time. Nevertheless as discussed previously the perceived relevancy split is still roughly 40% - 60% (PPC results to SEO results) and thus a combined campaign between PPC and SEO is needed to attract maximum traffic.

Figure 18: Influence of income (net per month) on result selection
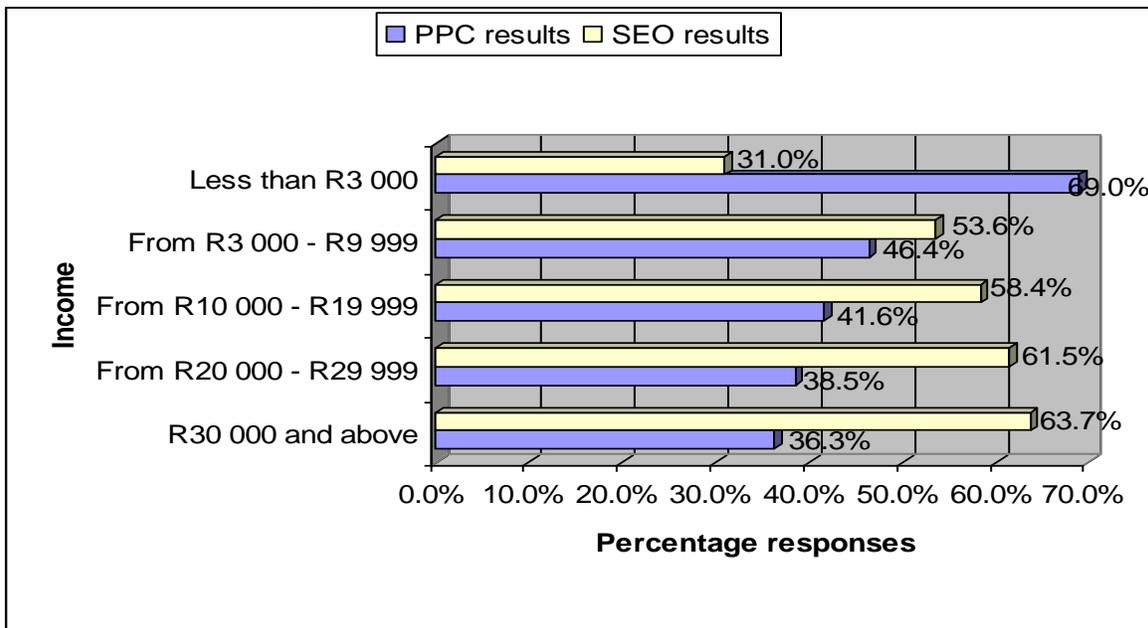
4.3 Summary

In summary, this study produced the following key findings.

- Search engines are used frequently by Internet users
- Search engine users rarely look beyond the third page of search results
- Google is the most popular search engine
- Search engine users perceive SEO results to be more relevant to their searches than PPC results
- Awareness of SEM does not greatly influence how search engine users perceive SEO results and PPC results
- Experienced Internet users perceive PPC results to be more relevant to their searches than inexperienced Internet users
- Gender does not play a major role in search result preference
- Older search engine users perceive PPC to be more relevant to their searches than middle age users
- Unmarried search engine users perceive PPC to be more relevant to their searches than married users
- Users with a technicon, university or post graduate qualification perceive PPC results to be more relevant to their searches than high school or college graduates
- Search engine users that are fully employed perceive PPC results more relevant to their searches than users who are employed part time
- Search engine users that study full time perceive PPC results more relevant to their searches than users who are not studying or studying part time
- Search engine users with a higher income perceive SEO results more relevant to their searches than users who have a lower income

5. Conclusion

During this study the importance of a SEM strategy was highlighted, and the two most popular SEM strategies was discussed. However it was found that a contradiction exists surrounding the effectiveness of the two strategies. It was also established that profiling users preferring PPC results versus users preferring SEO results could help advertisers choose their optimal SEM strategy.

Results of this study confirmed the importance of SEM, established in the literature survey. It was also found that Google produces the most traffic and would therefore be the best search engine option for a PPC or SEO campaign. Furthermore, results indicated that users perceived relevancy split is roughly 40% - 60% (PPC results to SEO results), regardless of demographic factors. Thus due to the competitive nature of many online markets, websites should invest in both PPC and SEO. Failing to invest in either one could cause a significant loss of traffic.

Unfortunately not all websites can afford a dual SEM strategy. For such websites, and where their target market is influenced by specific demographic features, advertisers can correlate the results of this study with their target market to establish their optimal SEM strategy. Furthermore, according to the results, websites that can not afford a dual SEM strategy and demographic features do not play a major role in their target market should invest in SEO.

This will be a better option as results showed more users click-through on SEO results then on PPC results.

Future research could focus on:
- using visitor logs, "stickiness" (length of time spent on a site), and other measurements to establish success of a SEM strategy,
- a comparison between return on investment for websites using only SEO and PPC respectively, and
- a comparative case study on two similar websites, each one focusing on one of the two SEM strategies only.

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